

Cyclic Aliphatic Bromides Cluster (HBCD) (CASRN: 25637-99-4; 3194-55-6; 3194-57-8) Bibliography: Supplemental File for the TSCA Scope Document

TABLE OF CONTENTS

Peer Reviewed Literature Search Results	2
Fate Literature Search Results.....	2
On Topic	2
Off Topic	10
Engineering Literature Search Results	45
On Topic	45
Off Topic	48
Exposure Literature Search Results.....	87
On Topic	87
Off Topic	106
Environmental Hazard Literature Search Results.....	130
On Topic	130
Off Topic	134
Human Health Hazard Literature Search Results.....	151
On Topic	151
Off Topic	164
OPPT Risk Assessment, Problem Formulation or Scope Document	198
On Topic	198
Gray Literature Search Results.....	218

This document provides the bibliographic citations that were identified and screened from the initial literature search and the initial categorization of whether citations are *on topic* or *off topic*. *On topic* references are those that may contain data and/or information relevant to the risk evaluation. *Off topic* references are those that do not appear to contain data or information relevant to the risk evaluation.

Because systematic review is an iterative process, EPA/OPPT expects that some references may move from the *on topic* to the *off topic* category and vice versa. Additional *on topic* references not initially identified in the initial search may also be identified as the systematic review process proceeds. Moreover, targeted supplemental searches may be conducted to address specific needs for the analysis phase (e.g., to locate specific data needed for modeling).

Some of the references supporting the “Scope of the Risk Evaluation for Cyclic Aliphatic Bromides Cluster” may not be reflected in the “OPPT Risk Assessment, Problem Formulation or Scope Document” section of this bibliography document. Thus, please refer to the bibliography included in the final scope document for the full list of references.

PEER REVIEWED LITERATURE SEARCH RESULTS

The peer reviewed literature search results include studies cited in an internal draft IRIS assessment for HBCD and results from the comprehensive searches of bibliographic databases. The combined results were reviewed and determined to either be *on topic* or *off topic* with respect to the data needs of the five topic areas presented below. The full literature search strategy is presented in the *Strategy for Conducting Literature Searches for HBCD: Supplemental File for the TSCA Scope Document*.

Citations are presented in the format returned from database searches. In some instances citations may be incomplete (e.g., publication year or journal information may be missing). Efforts to complete citation information are underway. Because each reference was considered for each topic area during screening, a citation may be listed as *on topic* or *off topic* in more than one topic area.

Fate Literature Search Results

On Topic

- Abbasi, NA; Malik, RN; Frantz, A; Jaspers, VL. (2016). A review on current knowledge and future prospects of organohalogen contaminants (OHCs) in Asian birds [Review]. *Sci Total Environ.* 542: 411-426. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.088>.
- Andersen, MS; Fuglei, E; König, M; Lipasti, I; Pedersen, ÅØ; Polder, A; Yoccoz, NG; Routti, H. (2015). Levels and temporal trends of persistent organic pollutants (POPs) in arctic foxes (*Vulpes lagopus*) from Svalbard in relation to dietary habits and food availability. *Sci Total Environ.* 511: 112-122. <http://dx.doi.org/10.1016/j.scitotenv.2014.12.039>.
- Arinaitwe, K; Muir, DC; Kiremire, BT; Fellin, P; Li, H; Teixeira, C. (2014). Polybrominated diphenyl ethers and alternative flame retardants in air and precipitation samples from the northern Lake Victoria region, East Africa. *Environ Sci Technol.* 48: 1458-1466. <http://dx.doi.org/10.1021/es403600a>.
- Aznar-Aleman, Ò; Trabalón, L; Jacobs, S; Barbosa, VL; Tejedor, MF; Granby, K; Kwadijk, C; Cunha, SC; Ferrari, F; Vandermeersch, G; Sioen, I; Verbeke, W; Vilavert, L; Domingo, JL; Eljarrat, E; Barceló, D. (2016). Occurrence of halogenated flame retardants in commercial seafood species available in European markets. *Food Chem Toxicol.* 24. <http://dx.doi.org/10.1016/j.fct.2016.12.034>.
- Barghi, M; Shin, ES; Son, MH; Choi, SD; Pyo, H; Chang, YS. (2016). Hexabromocyclododecane (HBCD) in the Korean food basket and estimation of dietary exposure. *Environ Pollut.* 213: 268-277. <http://dx.doi.org/10.1016/j.envpol.2016.02.026>.
- Barontini, F; Cozzani, V; Petarca, L. (2001). Thermal stability and decomposition products of hexabromocyclododecane. *Ind Eng Chem Res.* 40: 3270-3280.
- Boyles, E; Tan, H; Wu, Y; Nielsen, CK; Shen, L; Reiner, EJ; Chen, D. (2017). Halogenated flame retardants in bobcats from the midwestern United States. *Environ Pollut.* 221: 191-198. <http://dx.doi.org/10.1016/j.envpol.2016.11.063>.
- Bradshaw, C; Strid, A; von Stedingk, H; Gustafsson, K. (2015). Effects of benthos, temperature, and dose on the fate of hexabromocyclododecane in experimental coastal ecosystems. *Environ Toxicol Chem.* 34: 1246-1257. <http://dx.doi.org/10.1002/etc.2947>.
- Chen, D; Hale, RC; La Guardia, MJ; Luellen, D; Kim, S; Geisz, HN. (2015). Hexabromocyclododecane flame retardant in Antarctica: Research stations as sources. *Environ Pollut.* 206: 611-618. <http://dx.doi.org/10.1016/j.envpol.2015.08.024>.

Fate Literature Search Results

On Topic

- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2015). Alkylphenol ethoxylates and brominated flame retardants in water, fish (carp) and sediment samples from the Vaal River, South Africa. *Environ Sci Pollut Res Int.* 22: 11922-11929. <http://dx.doi.org/10.1007/s11356-015-4430-x>.
- Chokwe, TB; Okonkwo, OJ; Sibali, LL; Mporetji, SM. (2016). Occurrence and Distribution Pattern of Alkylphenol Ethoxylates and Brominated Flame Retardants in Sediment Samples from Vaal River, South Africa. *Bull Environ Contam Toxicol.* 97: 353-358. <http://dx.doi.org/10.1007/s00128-016-1886-4>.
- Covaci, A; Gerecke, AC; Law, RJ; Voorspoels, S; Kohler, M; Heeb, NV; Leslie, H; Allchin, CR; De Boer, J. (2006). Hexabromocyclododecanes (HBCDs) in the environment and humans: a review [Review]. *Environ Sci Technol.* 40: 3679-3688. <http://dx.doi.org/10.1021/es0602492>.
- Davis, JW; Gonsior, S; Marty, G; Ariano, J. (2005). The transformation of hexabromocyclododecane in aerobic and anaerobic soils and aquatic sediments. *Water Res.* 39: 1075-1084. <http://dx.doi.org/10.1016/j.watres.2004.11.024>.
- Davis, JW; Gonsior, SJ; Markham, DA; Friederich, U; Hunziker, RW; Ariano, JM. (2006). Biodegradation and product identification of [¹⁴C]hexabromocyclododecane in wastewater sludge and freshwater aquatic sediment. *Environ Sci Technol.* 40: 5395-5401. <http://dx.doi.org/10.1021/es060009m>.
- de Boer, J. (2004). Brominated Flame Retardants in the Environment-The Price for our Convenience? *Environ Chem.* 1: 81-85. <http://dx.doi.org/10.1071/EN04038>.
- de Wit, CA; Alaee, M; Muir, DC. (2006). Levels and trends of brominated flame retardants in the Arctic. *Chemosphere.* 64: 209-233. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.029>.
- de Wit, CA; Herzke, D; Vorkamp, K. (2010). Brominated flame retardants in the Arctic environment -- trends and new candidates [Review]. *Sci Total Environ.* 408: 2885-2918. <http://dx.doi.org/10.1016/j.scitotenv.2009.08.037>.
- Eljarrat, E; de la Cal, A; Raldua, D; Duran, C; Barcelo, D. (2005). Brominated flame retardants in *Alburnus alburnus* from Cinca River Basin (Spain). *Environ Pollut.* 133: 501-508. <http://dx.doi.org/10.1016/j.envpol.2004.06.017>.
- Eljarrat, E; de la Cal, A; Raldua, D; Duran, C; Barceló, D. (2004). Occurrence and bioavailability of polybrominated diphenyl ethers and hexabromocyclododecane in sediment and fish from the Cinca River, a tributary of the Ebro River (Spain). *Environ Sci Technol.* 38: 2603-2608.
- Fournier, A; Feidt, C; Marchand, P; Vénisseau, A; Le Bizec, B; Sellier, N; Engel, E; Ratel, J; Travel, A; Jondreville, C. (2012). Kinetic study of *γ*-hexabromocyclododecane orally given to laying hens (*Gallus domesticus*). "Transfer of HBCD in laying hens". *Environ Sci Pollut Res Int.* 19: 440-447. <http://dx.doi.org/10.1007/s11356-011-0573-6>.
- Gao, S; Wang, J; Yu, Z; Guo, Q; Sheng, G; Fu, J. (2011). Hexabromocyclododecanes in surface soils from E-waste recycling areas and industrial areas in South China: concentrations, diastereoisomer- and enantiomer-specific profiles, and inventory. *Environ Sci Technol.* 45: 2093-2099. <http://dx.doi.org/10.1021/es1033712>.
- Gerecke, AC; Giger, W; Hartmann, PC; Heeb, NV; Kohler, HP; Schmid, P; Zennegg, M; Kohler, M. (2006). Anaerobic degradation of brominated flame retardants in sewage sludge. *Chemosphere.* 64: 311-317. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.016>.
- GLCC. (1990). INTERNAL MEMO FROM MICHIGAN CHEMICAL CORPORATION REGARDING HBCD BIODEGRADATION STUDY WITH TEST DATA AND COVER LETTER. (TSCATS/407264). Great Lakes Chemical Corporation,.
- Gorga, M; Martínez, E; Ginebreda, A; Eljarrat, E; Barceló, D. (2013). Determination of PBDEs, HBB, PBEB, DBDPE, HBCD, TBBPA and related compounds in sewage sludge from Catalonia (Spain). *Sci Total Environ.* 444: 51-59. <http://dx.doi.org/10.1016/j.scitotenv.2012.11.066>.
- Guerra, P; De La Cal, A; Marsh, G; Eljarrat, E; Barcelo, D. (2009). Transfer of hexabromocyclododecane from industrial effluents to sediments and biota: Case study in Cinca river (Spain). *J Hydrol.* 369: 360-367. <http://dx.doi.org/10.1016/j.jhydrol.2009.02.024>.
- Guerra, P; de La Cal, A; Marsh, G; Raldua, D; Barata, C; Eljarrat, E; Barcelo, D. (2009). Transfer of hexabromocyclododecane from industrial effluents to sediments and biota: Case study in Cinca river (Spain) (vol 369, pg 360, 2009). *J Hydrol.* 378: 355-355. <http://dx.doi.org/10.1016/j.jhydrol.2009.09.008>.
- Hakk, H; Letcher, RJ. (2003). Metabolism in the toxicokinetics and fate of brominated flame retardants--a review [Review]. *Environ Int.* 29: 801-828. [http://dx.doi.org/10.1016/S0160-4120\(03\)00109-0](http://dx.doi.org/10.1016/S0160-4120(03)00109-0).
- Hale, RC; La Guardia, MJ; Harvey, E; Gaylor, MO; Mainor, TM. (2006). Brominated flame retardant concentrations and trends in abiotic media. *Chemosphere.* 64: 181-186. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.006>.
- Hardy, ML. (1999). Regulatory status and environmental properties of brominated flame retardants undergoing risk assessment in the EU: DBDPO, OBDPO, PeBDPO and HBCD. *Polym Degrad Stabil.* 64: 545-556.
- Hardy, ML. (2004). A comparison of the fish bioconcentration factors for brominated flame retardants with their nonbrominated analogues. *Environ Toxicol Chem.* 23: 656-661.
- Harrad, S; Abdallah, MA; Covaci, A. (2009). Causes of variability in concentrations and diastereomer patterns of hexabromocyclododecanes in indoor dust. *Environ Int.* 35: 573-579. <http://dx.doi.org/10.1016/j.envint.2008.10.005>.
- Harrad, S; Abdallah, MA; Rose, NL; Turner, SD; Davidson, TA. (2009). Current-use brominated flame retardants in water, sediment, and fish from English lakes. *Environ Sci Technol.* 43: 9077-9083. <http://dx.doi.org/10.1021/es902185u>.
- Haukås, M; Hylland, K; Berge, JA; Nygård, T; Mariussen, E. (2009). Spatial diastereomer patterns of hexabromocyclododecane (HBCD) in a Norwegian fjord. *Sci Total Environ.* 407: 5907-5913. <http://dx.doi.org/10.1016/j.scitotenv.2009.08.024>.
- Haukås, M; Hylland, K; Nygård, T; Berge, JA; Mariussen, E. (2010). Diastereomer-specific bioaccumulation of hexabromocyclododecane (HBCD) in a coastal food web, Western Norway. *Sci Total Environ.* 408: 5910-5916. <http://dx.doi.org/10.1016/j.scitotenv.2010.08.026>.
- Haukås, M; Ruus, A; Hylland, K; Berge, JA; Mariussen, E. (2010). Bioavailability of hexabromocyclododecane to the polychaete *Hediste diversicolor*: exposure through sediment and food from a contaminated fjord. *Environ Toxicol Chem.* 29: 1709-1715. <http://dx.doi.org/10.1002/etc.201>.

Fate Literature Search Results

On Topic

- Hayward, SJ; Lei, YD; Wania, F. (2006). Comparative evaluation of three high-performance liquid chromatography-based Kow estimation methods for highly hydrophobic organic compounds: polybrominated diphenyl ethers and hexabromocyclododecane. *Environ Toxicol Chem.* 25: 2018-2027.
- He, MJ; Luo, X; Yu, L, eH; Liu, J; Zhang, X; Chen, S; Mai, B, iX. (2010). Tetrabromobisphenol-A and Hexabromocyclododecane in Birds from an E-Waste Region in South China: Influence of Diet on Diastereoisomer- and Enantiomer-specific Distribution and Trophodynamics (vol 44, pg 5748, 2010). *Environ Sci Technol.* 44: 8357-8357. <http://dx.doi.org/10.1021/es1032597>.
- He, MJ; Luo, XJ; Yu, LH; Liu, J; Zhang, XL; Chen, SJ; Chen, D; Mai, BX. (2010). Tetrabromobisphenol-A and hexabromocyclododecane in birds from an e-waste region in South China: influence of diet on diastereoisomer- and enantiomer-specific distribution and trophodynamics. *Environ Sci Technol.* 44: 5748-5754. <http://dx.doi.org/10.1021/es101503r>.
- He, MJ; Luo, XJ; Yu, LH; Wu, JP; Chen, SJ; Mai, BX. (2013). Diastereoisomer and enantiomer-specific profiles of hexabromocyclododecane and tetrabromobisphenol A in an aquatic environment in a highly industrialized area, South China: vertical profile, phase partition, and bioaccumulation. *Environ Pollut.* 179: 105-110. <http://dx.doi.org/10.1016/j.envpol.2013.04.016>.
- Heeb, NV; Zindel, D; Bernd Schweizer, W; Lienemann, P. (2012). 2,5,6,9,10-Pentabromocyclododecanols (PBCDOHs): A new class of HBCD transformation products. *Chemosphere.* 88: 655-662. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.052>.
- Hermanson, MH; Isaksson, E; Forsström, S; Teixeira, C; Muir, DC; Pohjola, VA; van de Wal, RS. (2010). Deposition history of brominated flame retardant compounds in an ice core from Holtedahlfonna, Svalbard, Norway. *Environ Sci Technol.* 44: 7405-7410. <http://dx.doi.org/10.1021/es1016608>.
- Hiebl, J; Vetter, W. (2007). Detection of hexabromocyclododecane and its metabolite pentabromocyclododecene in chicken egg and fish from the official food control. *J Agric Food Chem.* 55: 3319-3324. <http://dx.doi.org/10.1021/jf063428b>.
- Hloušková, V; Lanková, D; Kalachová, K; Hrádková, P; Poustka, J; Hajšlová, J; Pulkrabová, J. (2013). Occurrence of brominated flame retardants and perfluoroalkyl substances in fish from the Czech aquatic ecosystem. *Sci Total Environ.* 461-462: 88-98. <http://dx.doi.org/10.1016/j.scitotenv.2013.04.081>.
- Hloušková, V; Lanková, D; Kalachová, K; Hrádková, P; Poustka, J; Hajšlová, J; Pulkrabová, J. (2014). Brominated flame retardants and perfluoroalkyl substances in sediments from the Czech aquatic ecosystem. *Sci Total Environ.* 470-471: 407-416. <http://dx.doi.org/10.1016/j.scitotenv.2013.09.074>.
- Hogue, C. (2016). Releases of HBCD tapped for reporting. *Chem Eng News.* 94: 17-17.
- Hoguet, J; Keller, JM; Reiner, JL; Kucklick, JR; Bryan, CE; Moors, AJ; Pugh, RS; Becker, PR. (2013). Spatial and temporal trends of persistent organic pollutants and mercury in beluga whales (*Delphinapterus leucas*) from Alaska. *Sci Total Environ.* 449: 285-294. <http://dx.doi.org/10.1016/j.scitotenv.2013.01.072>.
- Hoh, E; Hites, RA. (2005). Brominated flame retardants in the atmosphere of the East-Central United States. *Environ Sci Technol.* 39: 7794-7802. <http://dx.doi.org/10.1021/es050718k>.
- Houde, M; Wang, X; Ferguson, SH; Gagnon, P; Brown, TM; Tanabe, S; Kunito, T; Kwan, M; Muir, DC. (2017). Spatial and temporal trends of alternative flame retardants and polybrominated diphenyl ethers in ringed seals (*Phoca hispida*) across the Canadian Arctic. *Environ Pollut.* <http://dx.doi.org/10.1016/j.envpol.2017.01.023>.
- Hu, J; Jin, J; Wang, Y; Ma, Z; Zheng, W. (2011). Levels of polybrominated diphenyl ethers and hexabromocyclododecane in the atmosphere and tree bark from Beijing, China. *Chemosphere.* 84: 355-360. <http://dx.doi.org/10.1016/j.chemosphere.2011.04.002>.
- Huang, H; Zhang, S; Lv, J; Wen, B; Wang, S; Wu, T. (2016). Experimental and Theoretical Evidence for Diastereomer- and Enantiomer-Specific Accumulation and Biotransformation of HBCD in Maize Roots. *Environ Sci Technol.* 50: 12205-12213. <http://dx.doi.org/10.1021/acs.est.6b03223>.
- Hwang, IK; Kang, HH; Lee, IS; Oh, JE. (2012). Assessment of characteristic distribution of PCDD/Fs and BFRs in sludge generated at municipal and industrial wastewater treatment plants. *Chemosphere.* 88: 888-894. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.098>.
- Ichihara, M; Yamamoto, A; Takakura, K; Kakutani, N; Sudo, M. (2014). Distribution and pollutant load of hexabromocyclododecane (HBCD) in sewage treatment plants and water from Japanese Rivers. *Chemosphere.* 110: 78-84. <http://dx.doi.org/10.1016/j.chemosphere.2014.03.074>.
- Ilyas, M; Sudaryanto, A; Setiawan, IE; Riyadi, AS; Isobe, T; Tanabe, S. (2013). Characterization of polychlorinated biphenyls and brominated flame retardants in sludge, sediment and fish from municipal dumpsite at Surabaya, Indonesia. *Chemosphere.* 93: 1500-1510. <http://dx.doi.org/10.1016/j.chemosphere.2013.07.048>.
- Ilyina, T; Hunziker, RW. (2010). Scenarios of temporal and spatial evolution of hexabromocyclododecane in the North Sea. *Environ Sci Technol.* 44: 4622-4628. <http://dx.doi.org/10.1021/es9034599>.
- Ionas, AC; Covaci, A. (2013). Simplifying multi-residue analysis of flame retardants in indoor dust. *Int J Environ Anal Chem.* 93: 1074-1083. <http://dx.doi.org/10.1080/03067319.2013.763248>.
- Ismail, N; Gewurtz, SB; Pleskach, K; Whittle, DM; Helm, PA; Marvin, CH; Tomy, GT. (2009). Brominated and chlorinated flame retardants in Lake Ontario, Canada, lake trout (*Salvelinus namaycush*) between 1979 and 2004 and possible influences of food-web changes. *Environ Toxicol Chem.* 28: 910-920. <http://dx.doi.org/10.1897/08-162.1>.
- Isobe, T; Ochi, Y; Ramu, K; Yamamoto, T; Tajima, Y; Yamada, TK; Amano, M; Miyazaki, N; Takahashi, S; Tanabe, S. (2009). Organohalogen contaminants in striped dolphins (*Stenella coeruleoalba*) from Japan: present contamination status, body distribution and temporal trends (1978-2003). *Mar Pollut Bull.* 58: 396-401. <http://dx.doi.org/10.1016/j.marpolbul.2008.10.008>.
- Isobe, T; Oda, H; Takayana, N; Kunito, T; Komori, H; Arita, N; Ueda, N; Nose, M; Yamada, T; Takahashi, S; Tanabe, S. (2009). Hexabromocyclododecane in human adipose tissue from Japan. *Environ Chem.* 6: 328-333. <http://dx.doi.org/10.1071/EN09024>.
- Isobe, T; Ogawa, SP; Ramu, K; Sudaryanto, A; Tanabe, S. (2012). Geographical distribution of non-PBDE-brominated flame retardants in mussels from Asian coastal waters. *Environ Sci Pollut Res Int.* 19: 3107-3117. <http://dx.doi.org/10.1007/s11356-012-0945-6>.

Fate Literature Search Results

On Topic

- Isobe, T; Oshihoi, T; Hamada, H; Nakayama, K; Yamada, TK; Tajima, Y; Amano, M; Tanabe, S. (2011). Contamination status of POPs and BFRs and relationship with parasitic infection in finless porpoises (*Neophocaena phocaenoides*) from Seto Inland Sea and Omura Bay, Japan. *Mar Pollut Bull.* 63: 564-571. <http://dx.doi.org/10.1016/j.marpolbul.2011.01.014>.
- Isobe, T; Ramu, K; Kajiwara, N; Takahashi, S; Lam, PK; Jefferson, TA; Zhou, K; Tanabe, S. (2007). Isomer specific determination of hexabromocyclododecanes (HBCDs) in small cetaceans from the South China Sea--Levels and temporal variation. *Mar Pollut Bull.* 54: 1139-1145. <http://dx.doi.org/10.1016/j.marpolbul.2007.04.017>.
- Janák, K; Covaci, A; Voorspoels, S; Becher, G. (2005). Hexabromocyclododecane in marine species from the Western Scheldt Estuary: diastereoisomer- and enantiomer-specific accumulation. *Environ Sci Technol.* 39: 1987-1994. <http://dx.doi.org/10.1021/es0484909>.
- Janák, K; Sellström, U; Johansson, AK; Becher, G; de Wit, CA; Lindberg, P; Helander, B. (2008). Enantiomer-specific accumulation of hexabromocyclododecanes in eggs of predatory birds. *Chemosphere.* 73: S193-S200. <http://dx.doi.org/10.1016/j.chemosphere.2007.03.077>.
- Jang, M; Shim, WJ; Han, GM; Rani, M; Song, YK; Hong, SH. (2016). Styrofoam Debris as a Source of Hazardous Additives for Marine Organisms. *Environ Sci Technol.* 50: 4951-4960. <http://dx.doi.org/10.1021/acs.est.5b05485>.
- Jaspers, V; Covaci, A; Maervoet, J; Dauwe, T; Voorspoels, S; Schepens, P; Eens, M. (2005). Brominated flame retardants and organochlorine pollutants in eggs of little owls (*Athene noctua*) from Belgium. *Environ Pollut.* 136: 81-88. <http://dx.doi.org/10.1016/j.envpol.2004.12.003>.
- Jeannerat, D; Pupier, M; Schweizer, S; Mitrev, YN; Favreau, P; Kohler, M. (2016). Discrimination of hexabromocyclododecane from new polymeric brominated flame retardant in polystyrene foam by nuclear magnetic resonance. *Chemosphere.* 144: 1391-1397. <http://dx.doi.org/10.1016/j.chemosphere.2015.10.021>.
- Jenssen, BM; Sørmo, EG; Baek, K; Bytingsvik, J; Gaustad, H; Ruus, A; Skaare, JU. (2007). Brominated flame retardants in North-East Atlantic marine ecosystems. *Environ Health Perspect.* 115 Suppl 1: 35-41. <http://dx.doi.org/10.1289/ehp.9355>.
- Jeong, GH; Hwang, NR; Hwang, EH; Lee, BC; Yoon, J. (2014). Hexabromocyclododecanes in crucian carp and sediment from the major rivers in Korea. *Sci Total Environ.* 470-471: 1471-1478. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.038>.
- Johansson, AK; Sellström, U; Lindberg, P; Bignert, A; de Wit, CA. (2011). Temporal trends of polybrominated diphenyl ethers and hexabromocyclododecane in Swedish Peregrine Falcon (*Falco peregrinus peregrinus*) eggs. *Environ Int.* 37: 678-686. <http://dx.doi.org/10.1016/j.envint.2011.01.010>.
- Johansson, AK; Sellström, U; Lindberg, P; Bignert, A; De Witt, CA. (2009). Polybrominated diphenyl ether congener patterns, hexabromocyclododecane, and brominated biphenyl 153 in eggs of peregrine falcons (*Falco peregrinus*) breeding in Sweden. *Environ Toxicol Chem.* 28: 9-17. <http://dx.doi.org/10.1897/08-142.1>.
- Johnson, PI; Stapleton, HM; Mukherjee, B; Hauser, R; Meeker, JD. (2013). Associations between brominated flame retardants in house dust and hormone levels in men. *Sci Total Environ.* 445-446: 177-184. <http://dx.doi.org/10.1016/j.scitotenv.2012.12.017>.
- Johnson-Restrepo, B; Adams, DH; Kannan, K. (2008). Tetrabromobisphenol A (TBBPA) and hexabromocyclododecanes (HBCDs) in tissues of humans, dolphins, and sharks from the United States. *Chemosphere.* 70: 1935-1944. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.002>.
- Kajiwara, N; Hirata, O; Takigami, H; Noma, Y; Tachifuji, A; Matsufuji, Y. (2014). Leaching of brominated flame retardants from mixed wastes in lysimeters under conditions simulating landfills in developing countries. *Chemosphere.* 116: 46-53. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.025>.
- Kajiwara, N; Takigami, H. (2013). Emission behavior of hexabromocyclododecanes and polybrominated diphenyl ethers from flame-retardant-treated textiles. *Environ Sci Process Impacts.* 15: 1957-1963. <http://dx.doi.org/10.1039/c3em00359k>.
- Kim, GB; Stapleton, HM. (2010). PBDEs, methoxylated PBDEs and HBCDs in Japanese common squid (*Todarodes pacificus*) from Korean offshore waters. *Mar Pollut Bull.* 60: 935-940. <http://dx.doi.org/10.1016/j.marpolbul.2010.03.025>.
- Kim, JT; Son, MH; Kang, JH; Kim, JH; Jung, JW; Chang, YS. (2015). Occurrence of Legacy and New Persistent Organic Pollutants in Avian Tissues from King George Island, Antarctica. *Environ Sci Technol.* 49: 13628-13638. <http://dx.doi.org/10.1021/acs.est.5b03181>.
- Kim, UJ; Lee, IS; Oh, JE. (2016). Occurrence, removal and release characteristics of dissolved brominated flame retardants and their potential metabolites in various kinds of wastewater. *Environ Pollut.* 218: 551-557. <http://dx.doi.org/10.1016/j.envpol.2016.07.037>.
- Klamer, HJ; Leonards, PE; Lamoree, MH; Villierius, LA; Kerman, JE; Bakker, JF. (2005). A chemical and toxicological profile of Dutch North Sea surface sediments. *Chemosphere.* 58: 1579-1587. <http://dx.doi.org/10.1016/j.chemosphere.2004.11.027>.
- Klosterhaus, SL; Stapleton, HM; La Guardia, MJ; Greig, DJ. (2012). Brominated and chlorinated flame retardants in San Francisco Bay sediments and wildlife. *Environ Int.* 47: 56-65. <http://dx.doi.org/10.1016/j.envint.2012.06.005>.
- Koci, V. (2012). Hexabromocyclododecane and environment [Review]. *Chem Listy.* 106: 1116-1121.
- Kohler, M; Zennegg, M; Bogdal, C; Gerecke, AC; Schmid, P; Heeb, NV; Sturm, M; Vonmont, H; Kohler, HP; Giger, W. (2008). Temporal trends, congener patterns, and sources of octa-, nona-, and decabromodiphenyl ethers (PBDE) and hexabromocyclododecanes (HBCD) in Swiss lake sediments. *Environ Sci Technol.* 42: 6378-6384. <http://dx.doi.org/10.1021/es702586r>.
- Köppen, R; Becker, R; Esslinger, S; Nehls, I. (2010). Enantiomer-specific analysis of hexabromocyclododecane in fish from Etnefjorden (Norway). *Chemosphere.* 80: 1241-1245. <http://dx.doi.org/10.1016/j.chemosphere.2010.06.019>.
- Köppen, R; Becker, R; Jung, C; Nehls, I. (2008). On the thermally induced isomerisation of hexabromocyclododecane stereoisomers. *Chemosphere.* 71: 656-662. <http://dx.doi.org/10.1016/j.chemosphere.2007.11.009>.
- Kowalski, B; Mazur, M. (2014). The Simultaneous Determination of Six Flame Retardants in Water Samples Using SPE Pre-concentration and UHPLC-UV Method. *Water Air Soil Pollut.* 225: 1866. <http://dx.doi.org/10.1007/s11270-014-1866-4>.
- Kuang, J; Ma, Y; Harrad, S. (2016). Concentrations of "legacy" and novel brominated flame retardants in matched samples of UK kitchen and living room/bedroom dust. *Chemosphere.* 149: 224-230. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.092>.

Fate Literature Search Results

On Topic

- Kunisue, T; Takayanagi, N; Isobe, T; Takahashi, S; Nakatsu, S; Tsubota, T; Okumoto, K; Bushisue, S; Shindo, K; Tanabe, S. (2008). Regional trend and tissue distribution of brominated flame retardants and persistent organochlorines in raccoon dogs (*Nyctereutes procyonoides*) from Japan. *Environ Sci Technol.* 42: 685-691. <http://dx.doi.org/10.1021/es071565z>.
- Kupper, T; de Alencastro, LF; Gatsigazi, R; Furrer, R; Grandjean, D; Tarradellas, J. (2008). Concentrations and specific loads of brominated flame retardants in sewage sludge. *Chemosphere.* 71: 1173-1180. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.019>.
- La Guardia, MJ; Hale, RC. (2015). Halogenated flame-retardant concentrations in settled dust, respirable and inhalable particulates and polyurethane foam at gymnastic training facilities and residences. *Environ Int.* 79: 106-114. <http://dx.doi.org/10.1016/j.envint.2015.02.014>.
- La Guardia, MJ; Hale, RC; Harvey, E; Chen, D. (2010). Flame-retardants and other organohalogens detected in sewage sludge by electron capture negative ion mass spectrometry. *Environ Sci Technol.* 44: 4658-4664. <http://dx.doi.org/10.1021/es9039264>.
- La Guardia, MJ; Hale, RC; Harvey, E; Mainor, TM; Ciparis, S. (2012). In situ accumulation of HBCD, PBDEs, and several alternative flame-retardants in the bivalve (*Corbicula fluminea*) and gastropod (*Elimia proxima*). *Environ Sci Technol.* 46: 5798-5805. <http://dx.doi.org/10.1021/es3004238>.
- La Guardia, MJ; Hale, RC; Newman, B. (2013). Brominated flame-retardants in sub-Saharan Africa: burdens in inland and coastal sediments of the eThekweni metropolitan municipality, South Africa. *Environ Sci Technol.* 47: 9643-9650. <http://dx.doi.org/10.1021/es4020212>.
- Labunska, I; Abdallah, MA; Eulaers, I; Covaci, A; Tao, F; Wang, M; Santillo, D; Johnston, P; Harrad, S. (2015). Human dietary intake of organohalogen contaminants at e-waste recycling sites in Eastern China. *Environ Int.* 74: 209-220. <http://dx.doi.org/10.1016/j.envint.2014.10.020>.
- Larsen, ER; Ecker, EL. (1988). THERMAL-STABILITY OF FIRE RETARDANTS .3. DECOMPOSITION OF PENTABROMOCHLOROCYCLOHEXANE AND HEXABROMOCYCLODODECANE UNDER PROCESSING CONDITIONS. *J Fire Sci.* 6: 139-159.
- Law, K; Halldorson, T; Danell, R; Stern, G; Gewurtz, S; Alae, M; Marvin, C; Whittle, M; Tomy, G. (2006). Bioaccumulation and trophic transfer of some brominated flame retardants in a Lake Winnipeg (Canada) food web. *Environ Toxicol Chem.* 25: 2177-2186.
- Law, RJ. (2014). An overview of time trends in organic contaminant concentrations in marine mammals: Going up or down? [Review]. *Mar Pollut Bull.* 82: 7-10. <http://dx.doi.org/10.1016/j.marpolbul.2014.03.024>.
- Law, RJ; Allchin, CR; de Boer, J; Covaci, A; Herzke, D; Lepom, P; Morris, S; Tronczynski, J; de Wit, CA. (2006). Levels and trends of brominated flame retardants in the European environment. *Chemosphere.* 64: 187-208. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.007>.
- Law, RJ; Bersuder, P; Allchin, CR; Barry, J. (2006). Levels of the flame retardants hexabromocyclododecane and tetrabromobisphenol A in the blubber of harbor porpoises (*Phocoena phocoena*) stranded or bycaught in the U.K., with evidence for an increase in HBCD concentrations in recent years. *Environ Sci Technol.* 40: 2177-2183. <http://dx.doi.org/10.1021/es052416o>.
- Law, RJ; Covaci, A; Harrad, S; Herzke, D; Abdallah, MA; Fernie, K; Toms, LM; Takigami, H. (2014). Levels and trends of PBDEs and HBCDs in the global environment: status at the end of 2012 [Review]. *Environ Int.* 65: 147-158. <http://dx.doi.org/10.1016/j.envint.2014.01.006>.
- Law, RJ; Kohler, M; Heeb, NV; Gerecke, AC; Schmid, P; Voorspoels, S; Covaci, A; Becher, G; Janák, K; Thomsen, C. (2005). Hexabromocyclododecane challenges scientists and regulators [Review]. *Environ Sci Technol.* 39: 281A-287A. <http://dx.doi.org/10.1021/es053302f>.
- Le, TT; Son, MH; Nam, IH; Yoon, H; Kang, YG; Chang, YS. (2017). Transformation of hexabromocyclododecane in contaminated soil in association with microbial diversity. *J Hazard Mater.* 325: 82-89. <http://dx.doi.org/10.1016/j.jhazmat.2016.11.058>.
- Lee, SC; Sverko, E; Harner, T; Pozo, K; Barresi, E; Schachtschneider, J; Zaruk, D; Dejong, M; Narayan, J. (2016). Retrospective analysis of "new" flame retardants in the global atmosphere under the GAPS Network. *Environ Pollut.* 217: 62-69. <http://dx.doi.org/10.1016/j.envpol.2016.01.080>.
- Leslie, HA; Leonards, PE; Shore, RF; Walker, LA; Bersuder, PR; Morris, S; Allchin, CR; Boer, J, d. (2011). Decabromodiphenylether and hexabromocyclododecane in wild birds from the United Kingdom, Sweden and The Netherlands: Screening and time trends. *Chemosphere.* 82: 88-95. <http://dx.doi.org/10.1016/j.chemosphere.2010.09.073>.
- Letcher, RJ; Gebbink, WA; Sonne, C; Born, EW; Mckinney, MA; Dietz, R. (2009). Bioaccumulation and biotransformation of brominated and chlorinated contaminants and their metabolites in ringed seals (*Pusa hispida*) and polar bears (*Ursus maritimus*) from East Greenland. *Environ Int.* 35: 1118-1124. <http://dx.doi.org/10.1016/j.envint.2009.07.006>.
- Letcher, RJ; Lu, Z; Chu, S; Haffner, GD; Drouillard, K; Marvin, CH; Ciborowski, JJ. (2015). Hexabromocyclododecane Flame Retardant Isomers in Sediments from Detroit River and Lake Erie of the Laurentian Great Lakes of North America. *Bull Environ Contam Toxicol.* 95: 31-36. <http://dx.doi.org/10.1007/s00128-015-1491-y>.
- Li, B; Yao, T; Sun, H; Zhang, Y; Yang, J. (2016). Diastereomer- and enantiomer-specific accumulation, depuration, bioisomerization, and metabolism of hexabromocyclododecanes (HBCDs) in two ecologically different species of earthworms. *Sci Total Environ.* 542: 427-434. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.100>.
- Li, F; Jin, J; Tan, D; Wang, L; Geng, N; Cao, R; Gao, Y; Chen, J. (2016). Hexabromocyclododecane and tetrabromobisphenol A in sediments and paddy soils from Liaohe River Basin, China: Levels, distribution and mass inventory. *J Environ Sci.* 48: 209-217. <http://dx.doi.org/10.1016/j.jes.2016.03.018>.
- Li, H; Zhang, Q; Wang, P; Li, Y; Lv, J; Chen, W; Geng, D; Wang, Y; Wang, T; Jiang, G. (2012). Levels and distribution of hexabromocyclododecane (HBCD) in environmental samples near manufacturing facilities in Laizhou Bay area, East China. *J Environ Monit.* 14: 2591-2597. <http://dx.doi.org/10.1039/c2em30231d>.
- Li, WL; Huo, CY; Liu, LY; Song, WW; Zhang, ZF; Ma, WL; Qiao, LN; Li, YF. (2016). Multi-year air monitoring of legacy and current-use brominated flame retardants in an urban center in northeastern China. *Sci Total Environ.* 571: 633-642. <http://dx.doi.org/10.1016/j.scitotenv.2016.07.031>.

Fate Literature Search Results

On Topic

- Li, Y; Zhou, Q; Wang, Y; Xie, X. (2011). Fate of tetrabromobisphenol A and hexabromocyclododecane brominated flame retardants in soil and uptake by plants. *Chemosphere*. 82: 204-209. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.021>.
- Malarvannan, G; Isobe, T; Covaci, A; Prudente, M; Tanabe, S. (2013). Accumulation of brominated flame retardants and polychlorinated biphenyls in human breast milk and scalp hair from the Philippines: levels, distribution and profiles. *Sci Total Environ*. 442: 366-379. <http://dx.doi.org/10.1016/j.scitotenv.2012.10.005>.
- Marvin, CH; Tomy, GT; Armitage, JM; Arnot, JA; Mccarty, L; Covaci, A; Palace, V. (2011). Hexabromocyclododecane: current understanding of chemistry, environmental fate and toxicology and implications for global management. *Environ Sci Technol*. 45: 8613-8623. <http://dx.doi.org/10.1021/es201548c>.
- MCC. (1990). INTERNAL MEMO FROM MICHIGAN CHEMICAL CORPORATION REGARDING HBCD BIODEGRADATION STUDY WITH TEST DATA AND COVER SHEET. (TSCATS/407265). MICHIGAN CHEMICAL CORPORATION,.
- Morris, S; Allchin, CR; Zegers, BN; Haftka, JJ; Boon, JP; Belpaire, C; Leonards, PE; Van Leeuwen, SP; De Boer, J. (2004). Distribution and fate of HBCD and TBBPA brominated flame retardants in North Sea estuaries and aquatic food webs. *Environ Sci Technol*. 38: 5497-5504. <http://dx.doi.org/10.1021/es049640i>.
- Pawar, G; Abdallah, MA; de Sáa, EV; Harrad, S. (2016). Dermal bioaccessibility of flame retardants from indoor dust and the influence of topically applied cosmetics. *J Expo Sci Environ Epidemiol*. 27: 100-105. <http://dx.doi.org/10.1038/jes.2015.84>.
- Qi, H; Li, WL; Liu, LY; Song, WW; Ma, WL; Li, YF. (2014). Brominated flame retardants in the urban atmosphere of Northeast China: Concentrations, temperature dependence and gas-particle partitioning. *Sci Total Environ*. 491-492: 60-66. <http://dx.doi.org/10.1016/j.scitotenv.2014.03.002>.
- Rauert, C; Harrad, S; Stranger, M; Lazarov, B. (2014). Test chamber investigation of the volatilization from source materials of brominated flame retardants and their subsequent deposition to indoor dust. *Indoor Air*. 25: 393-404. <http://dx.doi.org/10.1111/ina.12151>.
- Rauert, C; Harrad, S; Suzuki, G; Takigami, H; Uchida, N; Takata, K. (2014). Test chamber and forensic microscopy investigation of the transfer of brominated flame retardants into indoor dust via abrasion of source materials. *Sci Total Environ*. 493: 639-648. <http://dx.doi.org/10.1016/j.scitotenv.2014.06.029>.
- Rauert, C; Kuribara, I; Kataoka, T; Wada, T; Kajiwara, N; Suzuki, G, o; Takigami, H; Harrad, S. (2016). Direct contact between dust and HBCD-treated fabrics is an important pathway of source-to-dust transfer. *Sci Total Environ*. 545: 77-83. <http://dx.doi.org/10.1016/j.scitotenv.2015.12.054>.
- Rawn, DF; Corrigan, C; Ménard, C; Breton, F; Sun, WF. (2016). A method for the analysis of multiple novel halogenated flame retardants in cow's milk. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess*. 33: 1207-1218. <http://dx.doi.org/10.1080/19440049.2016.1198049>.
- Schreder, ED; La Guardia, MJ. (2014). Flame retardant transfers from u.s. Households (dust and laundry wastewater) to the aquatic environment. *Environ Sci Technol*. 48: 11575-11583. <http://dx.doi.org/10.1021/es502227h>.
- Shaw, SD; Berger, ML; Brenner, D; Kannan, K; Lohmann, N; Päpke, O. (2009). Bioaccumulation of polybrominated diphenyl ethers and hexabromocyclododecane in the northwest Atlantic marine food web. *Sci Total Environ*. 407: 3323-3329. <http://dx.doi.org/10.1016/j.scitotenv.2009.02.018>.
- Shaw, SD; Berger, ML; Weijs, L; Covaci, A. (2012). Tissue-specific accumulation of polybrominated diphenyl ethers (PBDEs) including Deca-BDE and hexabromocyclododecanes (HBCDs) in harbor seals from the northwest Atlantic. *Environ Int*. 44: 1-6. <http://dx.doi.org/10.1016/j.envint.2012.01.001>.
- Son, MH; Kim, J; Shin, ES; Seo, SH; Chang, YS. (2015). Diastereoisomer- and species-specific distribution of hexabromocyclododecane (HBCD) in fish and marine invertebrates. *J Hazard Mater*. 300: 114-120. <http://dx.doi.org/10.1016/j.jhazmat.2015.06.023>.
- Sørmo, EG; Jenssen, BM; Lie, E; Skaare, JU. (2009). Brominated flame retardants in aquatic organisms from the North Sea in comparison with biota from the high Arctic marine environment. *Environ Toxicol Chem*. 28: 2082-2090. <http://dx.doi.org/10.1897/08-452.1>.
- Sørmo, EG; Lie, E; Ruus, A; Gaustad, H; Skaare, JU; Jenssen, BM. (2011). Trophic level determines levels of brominated flame-retardants in coastal herring gulls. *Ecotoxicol Environ Saf*. 74: 2091-2098. <http://dx.doi.org/10.1016/j.ecoenv.2011.06.012>.
- Sørmo, EG; Salmer, MP; Jenssen, BM; Hop, H; Baek, K; Kovacs, KM; Lydersen, C; Falk-Petersen, S; Gabrielsen, GW; Lie, E; Skaare, JU. (2006). Biomagnification of polybrominated diphenyl ether and hexabromocyclododecane flame retardants in the polar bear food chain in Svalbard, Norway. *Environ Toxicol Chem*. 25: 2502-2511.
- Stapleton, HM; Dodder, NG; Kucklick, JR; Reddy, CM; Schantz, MM; Becker, PR; Gulland, F; Porter, BJ; Wise, SA. (2006). Determination of HBCD, PBDEs and MeO-BDEs in California sea lions (*Zalophus californianus*) stranded between 1993 and 2003. *Mar Pollut Bull*. 52: 522-531. <http://dx.doi.org/10.1016/j.marpolbul.2005.09.045>.
- Stiborova, H; Vrkoslavova, J; Pulkrabova, J; Poustka, J; Hajslova, J; Demnerova, K. (2015). Dynamics of brominated flame retardants removal in contaminated wastewater sewage sludge under anaerobic conditions. *Sci Total Environ*. 533: 439-445. <http://dx.doi.org/10.1016/j.scitotenv.2015.06.131>.
- Su, G; Saunders, D; Yu, Y; Yu, H; Zhang, X; Liu, H; Giesy, JP. (2014). Occurrence of additive brominated flame retardants in aquatic organisms from Tai Lake and Yangtze River in Eastern China, 2009-2012. *Chemosphere*. 114: 340-346. <http://dx.doi.org/10.1016/j.chemosphere.2014.05.046>.
- Subramanian, A; Tanabe, S. (2007). Developments in Environmental Science Persistent Toxic Substances in India. [http://dx.doi.org/10.1016/S1474-8177\(07\)07009-X](http://dx.doi.org/10.1016/S1474-8177(07)07009-X).
- Sudaryanto, A; Takahashi, S; Tanabe, S. (2007). Developments in Environmental Science Persistent Toxic Substances in the Environment of Indonesia. [http://dx.doi.org/10.1016/S1474-8177\(07\)07013-1](http://dx.doi.org/10.1016/S1474-8177(07)07013-1).

Fate Literature Search Results

On Topic

- Sun, YX; Luo, XJ; Mo, L; He, MJ; Zhang, Q; Chen, SJ; Zou, FS; Mai, BX. (2012). Hexabromocyclododecane in terrestrial passerine birds from e-waste, urban and rural locations in the Pearl River Delta, South China: levels, biomagnification, diastereoisomer- and enantiomer-specific accumulation. *Environ Pollut*. 171: 191-198. <http://dx.doi.org/10.1016/j.envpol.2012.07.026>.
- Suominen, K; Verta, M; Marttinen, S. (2014). Hazardous organic compounds in biogas plant end products-Soil burden and risk to food safety. *Sci Total Environ*. 491: 192-199. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.036>.
- Svendsen, TC; Camus, L; Hargrave, B; Fisk, A; Muir, DCG; Borga, K. (2007). Polyaromatic hydrocarbons, chlorinated and brominated organic contaminants as tracers of feeding ecology in polar benthic amphipods. *Mar Ecol Prog Ser*. 337: 155-164.
- Takigami, H; Watanabe, M; Kajiwara, N. (2014). Destruction behavior of hexabromocyclododecanes during incineration of solid waste containing expanded and extruded polystyrene insulation foams. *Chemosphere*. 116: 24-33. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.082>.
- Tanabe, S. (2008). Temporal trends of brominated flame retardants in coastal waters of Japan and South China: retrospective monitoring study using archived samples from es-Bank, Ehime University, Japan. *Mar Pollut Bull*. 57: 267-274. <http://dx.doi.org/10.1016/j.marpolbul.2007.12.017>.
- Tang, B; Zeng, YH; Luo, XJ; Zheng, XB; Mai, BX. (2015). Bioaccumulative characteristics of tetrabromobisphenol A and hexabromocyclododecanes in multi-tissues of prey and predator fish from an e-waste site, South China. *Environ Sci Pollut Res Int*. 22: 12011-12017. <http://dx.doi.org/10.1007/s11356-015-4463-1>.
- Tang, L; Shao, HY; Zhu, JY; Xu, G; Han, T; Peng, BQ; Wu, MH. (2015). Hexabromocyclododecane diastereoisomers in surface sediments from river drainage basins of Shanghai, China: occurrence, distribution, and mass inventory. *Environ Sci Pollut Res Int*. 22: 11993-12000. <http://dx.doi.org/10.1007/s11356-015-4336-7>.
- Tao, F; Matsukami, H; Suzuki, G; Tue, NM; Viet, PH; Takigami, H; Harrad, S. (2016). Emerging halogenated flame retardants and hexabromocyclododecanes in food samples from an e-waste processing area in Vietnam. *Environ Sci Process Impacts*. 18: 361-370. <http://dx.doi.org/10.1039/c5em00593k>.
- Tomko, G; McDonald, KM. (2013). Environmental fate of hexabromocyclododecane from a new Canadian electronic recycling facility. *J Environ Manage*. 114: 324-327. <http://dx.doi.org/10.1016/j.jenvman.2012.10.024>.
- Tomy, GT; Budakowski, W; Halldorson, T; Whittle, DM; Keir, MJ; Marvin, C; Macinnis, G; Alae, M. (2004). Biomagnification of alpha- and gamma-hexabromocyclododecane isomers in a Lake Ontario food web. *Environ Sci Technol*. 38: 2298-2303. <http://dx.doi.org/10.1021/es034968h>.
- Tomy, GT; Palace, V; Marvin, C; Stapleton, HM; Covaci, A; Harrad, S. (2011). Biotransformation of HBCD in biological systems can confound temporal-trend studies. *Environ Sci Technol*. 45: 364-365. <http://dx.doi.org/10.1021/es1039369>.
- Tomy, GT; Pleskach, K; Ferguson, SH; Hare, J; Stern, G; Macinnis, G; Marvin, CH; Loseto, L. (2009). Trophodynamics of Some PFCs and BFRs in a Western Canadian Arctic Marine Food Web. *Environ Sci Technol*. 43: 4076-4081. <http://dx.doi.org/10.1021/es900162n>.
- Tomy, GT; Pleskach, K; Oswald, T; Halldorson, T; Helm, PA; Macinnis, G; Marvin, CH. (2008). Enantioselective bioaccumulation of hexabromocyclododecane and congener-specific accumulation of brominated diphenyl ethers in an eastern Canadian Arctic marine food web. *Environ Sci Technol*. 42: 3634-3639. <http://dx.doi.org/10.1021/es703083z>.
- van Beusekom, OC; Eljarrat, E; Barceló, D; Koelmans, AA. (2006). Dynamic modeling of food-chain accumulation of brominated flame retardants in fish from the Ebro River Basin, Spain. *Environ Toxicol Chem*. 25: 2553-2560.
- van Leeuwen, SP; van Velzen, MJ; Swart, CP; van der Veen, I; Traag, WA; de Boer, J. (2009). Halogenated contaminants in farmed salmon, trout, tilapia, pangasius, and shrimp. *Environ Sci Technol*. 43: 4009-4015. <http://dx.doi.org/10.1021/es803558r>.
- Venier, M; Hites, RA. (2011). Flame retardants in the serum of pet dogs and in their food. *Environ Sci Technol*. 45: 4602-4608. <http://dx.doi.org/10.1021/es1043529>.
- Verboven, N; Verreault, J; Letcher, RJ; Gabrielsen, GW; Evans, NP. (2009). DIFFERENTIAL INVESTMENT IN EGGS BY ARCTIC-BREEDING GLAUCOUS GULLS (LARUS HYPERBOREUS) EXPOSED TO PERSISTENT ORGANIC POLLUTANTS. *Auk*. 126: 123-133. <http://dx.doi.org/10.1525/auk.2009.08039>.
- Verreault, J; Gabrielsen, GW; Chu, S; Muir, DC; Andersen, M; Hamaed, A; Letcher, RJ. (2005). Flame retardants and methoxylated and hydroxylated polybrominated diphenyl ethers in two Norwegian Arctic top predators: glaucous gulls and polar bears. *Environ Sci Technol*. 39: 6021-6028. <http://dx.doi.org/10.1021/es050738m>.
- Verreault, J; Shahmiri, S; Gabrielsen, GW; Letcher, RJ. (2007). Organohalogen and metabolically-derived contaminants and associations with whole body constituents in Norwegian Arctic glaucous gulls. *Environ Int*. 33: 823-830. <http://dx.doi.org/10.1016/j.envint.2007.03.013>.
- Verslycke, TA; Vethaak, AD; Arijis, K; Janssen, CR. (2005). Flame retardants, surfactants and organotins in sediment and mysid shrimp of the Scheldt estuary (The Netherlands). *Environ Pollut*. 136: 19-31. <http://dx.doi.org/10.1016/j.envpol.2004.12.008>.
- Vorkamp, K; Bossi, R; Riget, FF; Skov, H; Sonne, C; Dietz, R. (2015). Novel brominated flame retardants and dechlorane plus in Greenland air and biota. *Environ Pollut*. 196: 284-291. <http://dx.doi.org/10.1016/j.envpol.2014.10.007>.
- Wang, J; Jia, X; Gao, S; Zeng, X; Li, H; Zhou, Z; Sheng, G; Yu, Z. (2016). Levels and distributions of polybrominated diphenyl ethers, hexabromocyclododecane, and tetrabromobisphenol A in sediments from Taihu Lake, China. *Environ Sci Pollut Res Int*. 23: 10361-10370. <http://dx.doi.org/10.1007/s11356-015-5511-6>.
- Wang, L; Zhao, Q; Zhao, Y; Lou, Y; Zheng, M; Yu, Y; Zhang, M. (2016). Determination of heterocyclic brominated flame retardants tris-(2, 3-dibromopropyl) isocyanurate and hexabromocyclododecane in sediment from Jiaozhou Bay wetland. *Mar Pollut Bull*. 113: 509-512. <http://dx.doi.org/10.1016/j.marpolbul.2016.08.013>.
- Wang, T; Han, S; Ruan, T; Wang, Y; Jiang, G. (2013). Spatial distribution and inter-year variation of hexabromocyclododecane (HBCD) and tris-(2,3-dibromopropyl) isocyanurate (TBC) in farm soils at a peri-urban region. *Chemosphere*. 90: 182-187. <http://dx.doi.org/10.1016/j.chemosphere.2012.06.027>.

Fate Literature Search Results

On Topic

- Wang, X; Ren, N; Qi, H; Ma, W; Li, Y. (2009). Levels and distribution of brominated flame retardants in the soil of Harbin in China. *J Environ Sci.* 21: 1541-1546.
- Wong, F; Kurt-Karakus, P; Bidleman, TF. (2012). Fate of brominated flame retardants and organochlorine pesticides in urban soil: volatility and degradation. *Environ Sci Technol.* 46: 2668-2674. <http://dx.doi.org/10.1021/es203287x>.
- Wu, JP; Guan, YT; Zhang, Y; Luo, XJ; Zhi, H; Chen, SJ; Mai, BX. (2010). Trophodynamics of hexabromocyclododecanes and several other non-PBDE brominated flame retardants in a freshwater food web. *Environ Sci Technol.* 44: 5490-5495. <http://dx.doi.org/10.1021/es101300t>.
- Wu, JP; Guan, YT; Zhang, Y; Luo, XJ; Zhi, H; Chen, SJ; Mai, BX. (2011). Several current-use, non-PBDE brominated flame retardants are highly bioaccumulative: evidence from field determined bioaccumulation factors. *Environ Int.* 37: 210-215. <http://dx.doi.org/10.1016/j.envint.2010.09.006>.
- Wu, MH; Han, T; Xu, G; Zang, C; Li, YJ; Sun, R; Xu, BT; Sun, Y; Chen, FF; Tang, L. (2016). Occurrence of Hexabromocyclododecane in soil and road dust from mixed-land-use areas of Shanghai, China, and its implications for human exposure. *Sci Total Environ.* 559: 282-290. <http://dx.doi.org/10.1016/j.scitotenv.2016.03.166>.
- Wu, MH; Zhu, JY; Tang, L; Liu, N; Peng, BQ; Sun, R; Xu, G. (2014). Hexabromocyclododecanes in surface sediments from Shanghai, China: spatial distribution, seasonal variation and diastereoisomer-specific profiles. *Chemosphere.* 111: 304-311. <http://dx.doi.org/10.1016/j.chemosphere.2014.04.031>.
- Xiang, N; Chen, L; Meng, XZ; Dai, X. (2014). Occurrence of hexabromocyclododecane (HBCD) in sewage sludge from Shanghai: Implications for source and environmental burden. *Chemosphere.* 118C: 207-212. <http://dx.doi.org/10.1016/j.chemosphere.2014.08.058>.
- Xu, J; Zhang, Y; Guo, C; He, Y; Li, L; Meng, W. (2013). Levels and distribution of tetrabromobisphenol a and hexabromocyclododecane in Taihu Lake, China. *Environ Toxicol Chem.* 32: 2249-2255. <http://dx.doi.org/10.1002/etc.2318>.
- Xu, W; Nanqi, R; Hong, Q; Wanli, M; Yifan, L. (2009). Levels and distribution of brominated flame retardants in the soil of Harbin in China. *J Environ Sci.* 21: 1541-1546. [http://dx.doi.org/10.1016/S1001-0742\(08\)62452-3](http://dx.doi.org/10.1016/S1001-0742(08)62452-3).
- Yang, C; Rose, NL; Turner, SD; Yang, H; Goldsmith, B; Losada, S; Barber, JL; Harrad, S. (2016). Hexabromocyclododecanes, polybrominated diphenyl ethers, and polychlorinated biphenyls in radiometrically dated sediment cores from English lakes, ~1950-present. *Sci Total Environ.* 541: 721-728. <http://dx.doi.org/10.1016/j.scitotenv.2015.09.102>.
- Yang, R; Wei, H; Guo, J; Li, A. (2012). Emerging brominated flame retardants in the sediment of the Great Lakes. *Environ Sci Technol.* 46: 3119-3126. <http://dx.doi.org/10.1021/es204141p>.
- Yi, S; Liu, JG; Jin, J; Zhu, J. (2016). Assessment of the occupational and environmental risks of hexabromocyclododecane (HBCD) in China. *Chemosphere.* 150: 431-437. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.047>.
- Yin, G; Asplund, L; Qiu, Y; Zhou, Y; Wang, H; Yao, Z; Jiang, J; Bergman, A. (2014). Chlorinated and brominated organic pollutants in shellfish from the Yellow Sea and East China Sea. *Environ Sci Pollut Res Int.* 22: 1713-1722. <http://dx.doi.org/10.1007/s11356-014-3198-8>.
- Yu, D; Yang, J; Li, T; Feng, J; Xian, Q; Zhu, J. (2015). Levels and distribution of dechloranes in sediments of Lake Taihu, China. *Environ Sci Pollut Res Int.* 22: 6601-6609. <http://dx.doi.org/10.1007/s11356-014-3794-7>.
- Yu, G; Bu, Q; Cao, Z; Du, X; Xia, J; Wu, M; Huang, J. (2016). Brominated flame retardants (BFRs): A review on environmental contamination in China [Review]. *Chemosphere.* 150: 479-490. <http://dx.doi.org/10.1016/j.chemosphere.2015.12.034>.
- Yu, L; Luo, X; Zheng, X; Zeng, Y; Chen, D; Wu, J; Mai, B. (2013). Occurrence and biomagnification of organohalogen pollutants in two terrestrial predatory food chains. *Chemosphere.* 93: 506-511. <http://dx.doi.org/10.1016/j.chemosphere.2013.06.023>.
- Yu, Z; Chen, L; Mai, B; Wu, M; Sheng, G; Fu, J; Peng, P. (2008). Diastereoisomer- and Enantiomer-specific Profiles of Hexabromocyclododecane in the Atmosphere of an Urban City in South China. *Environ Sci Technol.* 42: 3996-4001. <http://dx.doi.org/10.1021/es7027857>.
- Zegers, BN; Mets, A; Van Bommel, R; Minkenberg, C; Hamers, T; Kamstra, JH; Pierce, GJ; Boon, JP. (2005). Levels of hexabromocyclododecane in harbor porpoises and common dolphins from western European seas, with evidence for stereoisomer-specific biotransformation by cytochrome p450. *Environ Sci Technol.* 39: 2095-2100. <http://dx.doi.org/10.1021/es049209t>.
- Zeng, L; Yang, R; Zhang, Q; Zhang, H; Xiao, K; Zhang, H; Wang, Y; Lam, PK; Jiang, G. (2014). Current levels and composition profiles of emerging halogenated flame retardants and dehalogenated products in sewage sludge from municipal wastewater treatment plants in china. *Environ Sci Technol.* 48: 12586-12594. <http://dx.doi.org/10.1021/es503510q>.
- Zeng, YH; Luo, XJ; Zheng, XB; Tang, B; Wu, JP; Mai, BX. (2014). Species-specific bioaccumulation of halogenated organic pollutants and their metabolites in fish serum from an e-waste site, South China. *Arch Environ Contam Toxicol.* 67: 348-357. <http://dx.doi.org/10.1007/s00244-014-0040-8>.
- Zhang, X; Yang, F; Luo, C; Wen, S; Zhang, X; Xu, Y. (2009). Bioaccumulative characteristics of hexabromocyclododecanes in freshwater species from an electronic waste recycling area in China. *Chemosphere.* 76: 1572-1578. <http://dx.doi.org/10.1016/j.chemosphere.2009.05.031>.
- Zhang, X; Zhang, D; Luo, Z; Lin, L; Yan, C. (2011). Diastereoisomer- and enantiomer-specific profiles of hexabromocyclododecane in the sediment of Dongjiang River, South China. *Environ Chem.* 8: 561-568. <http://dx.doi.org/10.1071/EN10136>.
- Zhang, Y; Li, Q; Lu, Y; Jones, K; Sweetman, AJ. (2016). Hexabromocyclododecanes (HBCDDs) in surface soils from coastal cities in North China: Correlation between diastereoisomer profiles and industrial activities. *Chemosphere.* 148: 504-510. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.051>.
- Zhang, Y; Ruan, Y; Sun, H; Zhao, L; Gan, Z. (2013). Hexabromocyclododecanes in surface sediments and a sediment core from Rivers and Harbor in the northern Chinese city of Tianjin. *Chemosphere.* 90: 1610-1616. <http://dx.doi.org/10.1016/j.chemosphere.2012.08.037>.
- Zhang, Y; Sun, H; Liu, F; Dai, Y; Qin, X; Ruan, Y; Zhao, L; Gan, Z. (2013). Hexabromocyclododecanes in limnic and marine organisms and terrestrial plants from Tianjin, China: diastereomer- and enantiomer-specific profiles, biomagnification, and human exposure. *Chemosphere.* 93: 1561-1568. <http://dx.doi.org/10.1016/j.chemosphere.2013.08.004>.

Fate Literature Search Results

On Topic

- Zhang, Y; Sun, H; Zhu, H; Ruan, Y; Liu, F; Liu, X. (2014). Accumulation of hexabromocyclododecane diastereomers and enantiomers in two microalgae, *Spirulina subsalsa* and *Scenedesmus obliquus*. *Ecotoxicol Environ Saf.* 104: 136-142. <http://dx.doi.org/10.1016/j.ecoenv.2014.02.027>.
- Zhang, Y; Ye, J; Liu, M. (2016). Enantioselective biotransformation of chiral persistent organic pollutants [Review]. 17: 48-56. <http://dx.doi.org/10.2174/1389203717666160413124027>.
- Zhao, YY; Zhang, XH; Sojinu, OS. (2010). Thermodynamics and photochemical properties of alpha, beta, and gamma-hexabromocyclododecanes: a theoretical study. *Chemosphere.* 80: 150-156. <http://dx.doi.org/10.1016/j.chemosphere.2010.04.002>.
- Zheng, XB; Wu, JP; Luo, XJ; Zeng, YH; She, YZ; Mai, BX. (2012). Halogenated flame retardants in home-produced eggs from an electronic waste recycling region in South China: levels, composition profiles, and human dietary exposure assessment. *Environ Int.* 45: 122-128. <http://dx.doi.org/10.1016/j.envint.2012.04.006>.
- Zhou, DN; Chen, L; Wu, F; Wang, J; Yang, F. (2012). DEBROMINATION OF HEXABROMOCYCLODODECANE IN AQUEOUS SOLUTIONS BY UV-C IRRADIATION. *Fresen Environ Bull.* 21: 107-111.
- Zhu, C; Wang, P; Li, Y; Chen, Z; Li, H; Ssebugere, P; Zhang, Q; Jiang, G. (2017). Trophic transfer of hexabromocyclododecane in the terrestrial and aquatic food webs from an e-waste dismantling region in East China. *Environ Sci Process Impacts.* <http://dx.doi.org/10.1039/c6em00617e>.
- Zhu, H; Sun, H; Zhang, Y; Xu, J; Li, B; Zhou, Q. (2016). Uptake Pathway, Translocation, and Isomerization of Hexabromocyclododecane Diastereoisomers by Wheat in Closed Chambers. *Environ Sci Technol.* 50: 2652-2659. <http://dx.doi.org/10.1021/acs.est.5b05118>.
- Zhu, H; Zhang, K; Sun, H; Wang, F; Yao, Y. (2017). Spatial and temporal distributions of hexabromocyclododecanes in the vicinity of an expanded polystyrene material manufacturing plant in Tianjin, China. *Environ Pollut.* 222: 338-347. <http://dx.doi.org/10.1016/j.envpol.2016.12.029>.
- Zhu, J; Liu, JG; Hu, JX; Yi, S. (2016). Socio-economic analysis of the risk management of hexabromocyclododecane (HBCD) in China in the context of the Stockholm Convention. *Chemosphere.* 150: 520-527. <http://dx.doi.org/10.1016/j.chemosphere.2015.11.007>.
- Zhu, N; Fu, J; Gao, Y; Ssebugere, P; Wang, Y; Jiang, G. (2013). Hexabromocyclododecane in alpine fish from the Tibetan Plateau, China. *Environ Pollut.* 181: 7-13. <http://dx.doi.org/10.1016/j.envpol.2013.05.050>.
- Zhu, N; Li, A; Wang, T; Wang, P; Qu, G; Ruan, T; Fu, J; Yuan, B; Zeng, L; Wang, Y; Jiang, G. (2012). Tris(2,3-dibromopropyl) isocyanurate, hexabromocyclododecanes, and polybrominated diphenyl ethers in mollusks from Chinese Bohai Sea. *Environ Sci Technol.* 46: 7174-7181. <http://dx.doi.org/10.1021/es300776f>.
- Zhu, N; Schramm, KW; Wang, T; Henkelmann, B; Fu, J; Gao, Y; Wang, Y; Jiang, G. (2015). Lichen, moss and soil in resolving the occurrence of semi-volatile organic compounds on the southeastern Tibetan Plateau, China. *Sci Total Environ.* 518-519: 328-336. <http://dx.doi.org/10.1016/j.scitotenv.2015.03.024>.
- Zhu, N; Schramm, KW; Wang, T; Henkelmann, B; Zheng, X; Fu, J; Gao, Y; Wang, Y; Jiang, G. (2014). Environmental fate and behavior of persistent organic pollutants in Shergyla Mountain, southeast of the Tibetan Plateau of China. *Environ Pollut.* 191: 166-174. <http://dx.doi.org/10.1016/j.envpol.2014.04.031>.
- Zhu, ZC; Chen, SJ; Zheng, J; Tian, M; Feng, AH; Luo, XJ; Mai, BX. (2014). Occurrence of brominated flame retardants (BFRs), organochlorine pesticides (OCPs), and polychlorinated biphenyls (PCBs) in agricultural soils in a BFR-manufacturing region of North China. *Sci Total Environ.* 481: 47-54. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.023>.
- Zlamalikova, J; Demnerova, K; Mackova, M; Hajslova, J; Pulkrabova, J; Hradkova, P; Napravnikova, M; Macek, T; Stiborova, H. (2009). Plant uptake of hexabromocyclododecane (HBCD). *FEBS J.* 276: 296-296.

Fate Literature Search Results

Off Topic

- Abb, M; Stahl, B; Lorenz, W. (2011). Analysis of brominated flame retardants in house dust. *Chemosphere.* 85: 1657-1663. <http://dx.doi.org/10.1016/j.chemosphere.2011.06.022>.
- Abdallah, MA; Harrad, S. (2009). Personal exposure to HBCDs and its degradation products via ingestion of indoor dust. *Environ Int.* 35: 870-876. <http://dx.doi.org/10.1016/j.envint.2009.03.002>.
- Abdallah, MA; Harrad, S. (2011). Tetrabromobisphenol-A, hexabromocyclododecane and its degradation products in UK human milk: relationship to external exposure. *Environ Int.* 37: 443-448. <http://dx.doi.org/10.1016/j.envint.2010.11.008>.
- Abdallah, MA; Harrad, S; Covaci, A. (2008). Hexabromocyclododecanes and tetrabromobisphenol-A in indoor air and dust in Birmingham, U.K: implications for human exposure. *Environ Sci Technol.* 42: 6855-6861. <http://dx.doi.org/10.1021/es801110a>.
- Abdallah, MA; Ibarra, C; Neels, H; Harrad, S; Covaci, A. (2008). Comparative evaluation of liquid chromatography-mass spectrometry versus gas chromatography-mass spectrometry for the determination of hexabromocyclododecanes and their degradation products in indoor dust. *J Chromatogr A.* 1190: 333-341. <http://dx.doi.org/10.1016/j.chroma.2008.03.006>.
- Abdallah, MA; Pawar, G; Harrad, S. (2015). Evaluation of 3D-human skin equivalents for assessment of human dermal absorption of some brominated flame retardants. *Environ Int.* 84: 64-70. <http://dx.doi.org/10.1016/j.envint.2015.07.015>.
- Abdallah, MA; Tilston, E; Harrad, S; Collins, C. (2012). In vitro assessment of the bioaccessibility of brominated flame retardants in indoor dust using a colon extended model of the human gastrointestinal tract. *J Environ Monit.* 14: 3276-3283. <http://dx.doi.org/10.1039/c2em30690e>.
- Abdallah, MA; Uchea, C; Chipman, JK; Harrad, S. (2014). Enantioselective biotransformation of hexabromocyclododecane by in vitro rat and trout hepatic sub-cellular fractions. *Environ Sci Technol.* 48: 2732-2740. <http://dx.doi.org/10.1021/es404644s>.

Fate Literature Search Results

Off Topic

- Abdallah, MA; Zhang, J; Pawar, G; Viant, MR; Chipman, JK; D'Silva, K; Bromirski, M; Harrad, S. (2015). High-resolution mass spectrometry provides novel insights into products of human metabolism of organophosphate and brominated flame retardants. *Anal Bioanal Chem.* 407: 1871-1883. <http://dx.doi.org/10.1007/s00216-015-8466-z>.
- Abdallah, MAE; Harrad, S. (2010). Modification and Calibration of a Passive Air Sampler for Monitoring Vapor and Particulate Phase Brominated Flame Retardants in Indoor Air: Application to Car Interiors. *Environ Sci Technol.* 44: 3059-3065. <http://dx.doi.org/10.1021/es100146r>.
- Abdallah, MAE; Harrad, S. (2014). Polybrominated diphenyl ethers in UK human milk: Implications for infant exposure and relationship to external exposure. *Environ Int.* 63: 130-136. <http://dx.doi.org/10.1016/j.envint.2013.11.009>.
- Abdallah, MAE; Harrad, S; Ibarra, C; Diamond, M; Melymuk, L; Robson, M; Covaci, A. (2008). Hexabromocyclododecanes in indoor dust from Canada, the United Kingdom, and the United States. *Environ Sci Technol.* 42: 459-464. <http://dx.doi.org/10.1021/es702378t>.
- Abou-Elwafa Abdallah, M; Drage, D; Harrad, S. (2013). A one-step extraction/clean-up method for determination of PCBs, PBDEs and HBCDs in environmental solid matrices. *Environ Sci Process Impacts.* 15: 2279-2287. <http://dx.doi.org/10.1039/c3em00395g>.
- ACC. (2000). LETTER FROM AMER CHEM CNCL SUBMITTING FLOW-THROUGH BIOCONCENTRATION TEST W/RAINBOW TROUT and END-USER SURVEY-PHASE 1 STUDY OF BROMINATED FLAME RETARDANT, W/ATTCHMNTS and DATED 8/28/00. (TSCATS/446539). American Chemistry Council.
- ACC. (2002). INITIAL SUBMISSION: LTR FR ACC TO USEPA SUBMITTING ENVIRONMENTAL EFFECTS STUDIES WITH HEXABROMOCYCLODODECANE and DECABROMODIPHENYL OXIDE, W/ATTACHMENTS and DATED 121101. (TSCATS/454513). WILDLIFE INTERNATIONAL LTD.
- ACC. (2002). SUPPORT: LTR FR AMER CHEM COUNCIL TO USEPA SUBMITTING 2 ENV EFFCTS STDIES ON TETRABROMOBISPHENOL A and AN ADDENDUM TO A 90-DAY TOX STDY ON HBCD IN RATS, W/ATTCHMNTS and DTD 072502. (TSCATS/454846). WILDLIFE INTERNATIONAL LTD.
- Akiyama, E, ma; Kakutani, H; Nakao, T; Motomura, Y; Takano, Y; Sorakubo, R; Mizuno, A; Aozasa, O; Tachibana, K; Doi, T; Ohta, S. (2015). Facilitation of adipocyte differentiation of 3T3-L1 cells by debrominated tetrabromobisphenol A compounds detected in Japanese breast milk. *Environ Res.* 140: 157-164. <http://dx.doi.org/10.1016/j.envres.2015.03.035>.
- Alaee, M. (2003). An overview of commercially used brominated flame retardants, their applications, their use patterns in different countries/regions and possible modes of release [Review]. *Environ Int.* 29: 683-689. [http://dx.doi.org/10.1016/s0160-4120\(03\)00121-1](http://dx.doi.org/10.1016/s0160-4120(03)00121-1).
- Albemarle. (2000). Saytex® HP-900 Flame Retardant [Fact Sheet]. Baton Rouge, LA. http://www.albemarle.com/_filelib/FileCabinet/Products/Fire_Safety/SAYTEX_PURshield_online.pdf.
- Alcock, RE; Busby, J. (2006). Risk migration and scientific advance: The case of flame-retardant compounds. *Risk Anal.* 26: 369-381. <http://dx.doi.org/10.1111/j.1539-6924.2006.00739.x>.
- Ali, N; Dirtu, AC; Van Den Eede, N; Goosey, E; Harrad, S; Neels, H; 'T Mannelje, A; Coakley, J; Douwes, J; Covaci, A. (2012). Occurrence of alternative flame retardants in indoor dust from New Zealand: indoor sources and human exposure assessment. *Chemosphere.* 88: 1276-1282. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.100>.
- Allen, JG; Stapleton, HM; Vallarino, J; Mcneely, E; Mcclean, MD; Harrad, SJ; Rauer, CB; Spengler, JD. (2013). Exposure to flame retardant chemicals on commercial airplanes. *Environ Health.* 12: 17. <http://dx.doi.org/10.1186/1476-069X-12-17>.
- Allgood, JM; Jimah, T; Mccliskey, CM; La Guardia, MJ; Hammel, SC; Zeineddine, MM; Tang, IW; Runnerstrom, MG; Ogunseitan, OA. (2016). Potential human exposure to halogenated flame-retardants in elevated surface dust and floor dust in an academic environment. *Environ Res.* 153: 55-62. <http://dx.doi.org/10.1016/j.envres.2016.11.010>.
- Almroth, BC; Sturve, J; Berglund, A; Forlin, L. (2005). Oxidative damage in eelpout (*Zoarces viviparus*), measured as protein carbonyls and TBARS, as biomarkers. *Aquat Toxicol.* 73: 171-180. <http://dx.doi.org/10.1016/j.aquatox.2005.03.007>.
- Almughamsi, H; Whalen, M. (2015). Hexabromocyclododecane and tetrabromobisphenol A alter secretion of interferon gamma (IFN gamma) from human immune cells [Abstract]. *FASEB J.* 29: 726.724.
- Al-Odaini, NA; Shim, WJ; Han, GM; Jang, M; Hong, SH. (2015). Enrichment of hexabromocyclododecanes in coastal sediments near aquaculture areas and a wastewater treatment plant in a semi-enclosed bay in South Korea. *Sci Total Environ.* 505: 290-298. <http://dx.doi.org/10.1016/j.scitotenv.2014.10.019>.
- Al-Omran, LS; Harrad, S. (2016). Distribution pattern of legacy and "novel" brominated flame retardants in different particle size fractions of indoor dust in Birmingham, United Kingdom. *Chemosphere.* 157: 124-131. <http://dx.doi.org/10.1016/j.chemosphere.2016.05.041>.
- Al-Zaidan, AS; Al-Sarawi, HA; Massoud, MS; Al-Enezi, M; Smith, AJ; Bignell, JP; Green, MJ; Askem, C; Bolam, TP; Barber, JL; Bersuder, P; Lyons, BP. (2015). Histopathology and contaminant concentrations in fish from Kuwait's marine environment. *Mar Pollut Bull.* 100: 637-645. <http://dx.doi.org/10.1016/j.marpolbul.2015.07.030>.
- AMERIBROM INC. (1990). LETTER FROM AMERIBROM INC TO US EPA REGARDING 8D SUBMISSION FOR HEXABROMOCYCLODODECANE WITH ATTACHMENTS. (TSCATS/410157).
- An, J; Guo, P; Shang, Y; Zhong, Y; Zhang, X; Yu, Y; Yu, Z. (2016). The "adaptive responses" of low concentrations of HBCD in L02 cells and the underlying molecular mechanisms. *Chemosphere.* 145: 68-76. <http://dx.doi.org/10.1016/j.chemosphere.2015.11.071>.
- An, J; Wang, X; Guo, P; Zhong, Y; Zhang, X; Yu, Z. (2014). Hexabromocyclododecane and polychlorinated biphenyls increase resistance of hepatocellular carcinoma cells to cisplatin through the phosphatidylinositol 3-kinase/protein kinase B pathway. *Toxicol Lett.* 229: 265-272. <http://dx.doi.org/10.1016/j.toxlet.2014.06.025>.
- An, J; Zou, W; Chen, C; Zhong, FY; Yu, QZ; Wang, QJ. (2013). The cytological effects of HBCDs on human hepatocyte L02 and the potential molecular mechanism. *J Environ Sci Health A Tox Hazard Subst Environ Eng.* 48: 1333-1342. <http://dx.doi.org/10.1080/10934529.2013.781875>.
- Andersen, S; Pedersen, KM; Bruun, NH; Laurberg, P. (2002). Narrow individual variations in serum T4 and T3 in normal subjects: a clue to the understanding of subclinical thyroid disease. *J Clin Endocrinol Metab.* 87: 1068-1072. <http://dx.doi.org/10.1210/jcem.87.3.8165>.

Fate Literature Search Results

Off Topic

- Andersson, PL; Oberg, K; Orn, U. (2006). Chemical characterization of brominated flame retardants and identification of structurally representative compounds. *Environ Toxicol Chem.* 25: 1275-1282. <http://dx.doi.org/10.1897/05-342R.1>.
- Aniagu, SO; Williams, TD; Allen, Y; Katsiadaki, I; Chipman, JK. (2008). Global genomic methylation levels in the liver and gonads of the three-spine stickleback (*Gasterosteus aculeatus*) after exposure to hexabromocyclododecane and 17-beta oestradiol. *Environ Int.* 34: 310-317. <http://dx.doi.org/10.1016/j.envint.2007.03.009>.
- Anon. (1996). Hexabromocyclododecan (Aug 1995). (RISKLINE/1999030020). Anonymous.
- Anon. (1997). LETTER FROM CHEM MFGS ASSOC TO USEPA REGARDING: TOXICITY STUDIES ON HEXABROMOCYCLODODECANE, PENTABROMODIPHENYL OXIDE, AND OCTABROMODIPHENYL OXIDE WITH ATTACHMENTS, DATED 11/26/1996. (TSCATS/452961).
- ANON. (1998). HEXABROMOCYCLODODECANE (HBCD): A FLOW-THROUGH LIFE-CYCLE TOXICITY TEST WITH THE CLADOCERAN (DAPHNIA MAGNA), WITH COVER LETTER DATED 5/18/1998. (TSCATS/445631). WILDLIFE INTERNATIONAL LTD.
- Anon. (2015). Substance Monograph for 1,2,5,6,9,10-Hexabromocyclododecane (HBCDD) - HBM-levels for HBCDD in the Fatty Component of Breast Milk or of Blood Plasma. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz.* 58: 889-907. <http://dx.doi.org/10.1007/s00103-015-2193-7>.
- Anselmo, HMR; Koerting, L; Devito, S; van den Berg, JHJ; Dubbeldam, M; Kwadijk, C; Murk, AJ. (2011). Early life developmental effects of marine persistent organic pollutants on the sea urchin *Psammechinus miliaris*. *Ecotoxicol Environ Saf.* 74: 2182-2192. <http://dx.doi.org/10.1016/j.ecoenv.2011.07.037>.
- Antignac, JP; Cariou, R; Maume, D; Marchand, P; Monteau, F; Zalko, D; Berrebi, A; Cravedi, JP; Andre, F; Le Bizec, B. (2008). Exposure assessment of fetus and newborn to brominated flame retardants in France: preliminary data. *Mol Nutr Food Res.* 52: 258-265. <http://dx.doi.org/10.1002/mnfr.200700077>.
- Antignac, JP; Main, KM; Virtanen, HE; Boquien, CY; Marchand, P; Venisseau, A; Guiffard, I; Bichon, E; Wohlfahrt-Veje, C; Legrand, A; Boscher, C; Skakkebaek, NE; Toppari, J; Le Bizec, B. (2016). Country-specific chemical signatures of persistent organic pollutants (POPs) in breast milk of French, Danish and Finnish women. *Environ Pollut.* 218: 728-738. <http://dx.doi.org/10.1016/j.envpol.2016.07.069>.
- Annot, JA; Armitage, JM; Mccarty, LS; Wania, F; Cousins, IT; Toose-Reid, L. (2011). Toward a Consistent Evaluative Framework for POP Risk Characterization. *Environ Sci Technol.* 45: 97-103. <http://dx.doi.org/10.1021/es102551d>.
- Arsenault, G; Chittim, B; Mcalees, A; Mccrindle, R. (2007). Nuclear magnetic resonance spectral characterization and semi-empirical calculations of conformations of alpha- and gamma-1,2,5,6,9,10-hexabromocyclododecane. *Chemosphere.* 67: 1684-1694. <http://dx.doi.org/10.1016/j.chemosphere.2006.05.122>.
- Arsenault, G; Konstantinov, A; Marvin, CH; Macinnis, G; Mcalees, A; Mccrindle, R; Riddell, N; Tomy, GT; Yeo, B. (2007). Synthesis of the two minor isomers, delta- and epsilon-1,2,5,6,9,10-hexabromocyclododecane, present in commercial hexabromocyclododecane. *Chemosphere.* 68: 887-892. <http://dx.doi.org/10.1016/j.chemosphere.2007.02.005>.
- Asante, KA; Adu-Kumi, S; Nakahiro, K; Takahashi, S; Isobe, T; Sudaryanto, A; Devanathan, G; Clarke, E; Ansa-Asare, OD; Dapaah-Siakwan, S; Tanabe, S. (2011). Human exposure to PCBs, PBDEs and HBCDs in Ghana: Temporal variation, sources of exposure and estimation of daily intakes by infants. *Environ Int.* 37: 921-928. <http://dx.doi.org/10.1016/j.envint.2011.03.011>.
- Asante, KA; Takahashi, S; Itai, T; Isobe, T; Devanathan, G; Muto, M; Agyakwah, SK; Adu-Kumi, S; Subramanian, A; Tanabe, S. (2013). Occurrence of halogenated contaminants in inland and coastal fish from Ghana: levels, dietary exposure assessment and human health implications. *Ecotoxicol Environ Saf.* 94: 123-130. <http://dx.doi.org/10.1016/j.ecoenv.2013.05.008>.
- Asnake, S; Pradhan, A; Banjop-Kharlyngdoh, J; Modig, C; Olsson, P. (2014). 1,2-dibromo-4-(1,2 dibromoethyl) cyclohexane (TBECHE)-mediated steroid hormone receptor activation and gene regulation in chicken LMH cells. *Environ Toxicol Chem.* 33: 891-899. <http://dx.doi.org/10.1002/etc.2509>.
- Aurell, M; Cramér, K. (1966). Serum lipids and lipoproteins in human pregnancy. *Clin Chim Acta.* 13: 278-284. [http://dx.doi.org/10.1016/0009-8981\(66\)90206-3](http://dx.doi.org/10.1016/0009-8981(66)90206-3).
- Ausó, E; Lavado-Autric, R; Cuevas, E; Del Rey, FE; Morreale De Escobar, G; Berbel, P. (2004). A moderate and transient deficiency of maternal thyroid function at the beginning of fetal neocortico-genesis alters neuronal migration. *Endocrinology.* 145: 4037-4047. <http://dx.doi.org/10.1210/en.2004-0274>.
- Aylward, LL; Hays, SM. (2011). Biomonitoring-based risk assessment for hexabromocyclododecane (HBCD) [Review]. *Int J Hyg Environ Health.* 214: 179-187. <http://dx.doi.org/10.1016/j.ijheh.2011.02.002>.
- Badea, SL; Niculescu, VC; Ionete, RE; Eljarrat, E. (2016). Advances in enantioselective analysis of chiral brominated flame retardants. Current status, limitations and future perspectives [Review]. *Sci Total Environ.* 566-567: 1120-1130. <http://dx.doi.org/10.1016/j.scitotenv.2016.05.148>.
- Bailey, SA; Zidell, RH; Perry, RW. (2004). Relationships between organ weight and body/brain weight in the rat: What is the best analytical endpoint? *Toxicol Pathol.* 32: 448-466. <http://dx.doi.org/10.1080/01926230490465874>.
- Balch, GC; Vélez-Espino, LA; Sweet, C; Alaaee, M; Metcalfe, CD. (2006). Inhibition of metamorphosis in tadpoles of *Xenopus laevis* exposed to polybrominated diphenyl ethers (PBDEs). *Chemosphere.* 64: 328-338. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.019>.
- Barker, DJP. (2007). The origins of the developmental origins theory. *J Intern Med.* 261: 412-417. <http://dx.doi.org/10.1111/j.1365-2796.2007.01809.x>.
- Baron, E; Bosch, C; Manez, M; Andreu, A; Sergio, F; Hiraldo, F; Eljarrat, E; Barcelo, D. (2015). Temporal trends in classical and alternative flame retardants in bird eggs from Donana Natural Space and surrounding areas (south-western Spain) between 1999 and 2013. *Chemosphere.* 138: 316-323. <http://dx.doi.org/10.1016/j.chemosphere.2015.06.013>.
- Baron, E; Gimenez, J; Verborgh, R; Gauffier, P; De Stephanis, R; Eljarrat, E; Barcelo, D. (2015). Bioaccumulation and biomagnification of classical flame retardants, related halogenated natural compounds and alternative flame retardants in three delphinids from Southern European waters. *Environ Pollut.* 203: 107-115. <http://dx.doi.org/10.1016/j.envpol.2015.03.041>.

Fate Literature Search Results

Off Topic

- Barontini, F; Cozzani, V; Cuzzola, A; Petarca, L. (2001). Investigation of hexabromocyclododecane thermal degradation pathways by gas chromatography/mass spectrometry. *Rapid Commun Mass Spectrom.* 15: 690-698. <http://dx.doi.org/10.1002/rcm.281>.
- BASF. (1990). Determination of the acute toxicity of hexabromid S to the waterflea *Daphnia magna* straus with cover letter dated 040590. (EPA/OTS Doc #86-90000392). Wyandotte, MI.
- BASF CORP. (1990). ALGAL GROWTH INHIBITION TEST WITH COVER LETTER DATED 031290. (TSCATS/406648).
- BASF CORP. (1990). OXYGEN CONSUMPTION TEST (USING PSEUDOMONAS PUTIDA BY THE TEST METHOD OF ROBRA) WITH COVER LETTER DATED 031290. (TSCATS/406650).
- Beach, MW; Vozar, SE; Filipi, SZ; Shmakov, AG; Shvartsberg, VM; Korobeinichev, OP; Morgan, TA; Hu, TI; Sick, V. (2009). Screening approaches for gas-phase activity of flame retardants. *Proc Combust Inst.* 32: 2625-2632. <http://dx.doi.org/10.1016/j.proci.2008.07.039>.
- Becher, G. (2005). The stereochemistry of 1,2,5,6,9,10-hexabromocyclododecane and its graphic representation. *Chemosphere.* 58: 989-991. <http://dx.doi.org/10.1016/j.chemosphere.2004.09.071>.
- Behall, KM; Scholfield, DJ; Hallfrisch, JG; Kelsay, JL; Reiser, S. (1984). Seasonal variation in plasma glucose and hormone levels in adult men and women. *Am J Clin Nutr.* 40: 1352-1356.
- Bennett, DH; Moran, RE; Wu, XM; Tulve, NS; Clifton, MS; Colón, M; Weathers, W; Sjödin, A; Jones, R; Hertz-Picciotto, I. (2014). Polybrominated diphenyl ether (PBDE) concentrations and resulting exposure in homes in California: relationships among passive air, surface wipe and dust concentrations, and temporal variability. *Indoor Air.* 25: 220-229. <http://dx.doi.org/10.1111/ina.12130>.
- Berger, RD; Kasper, EK; Baughman, KL; Marban, E; Calkins, H; Tomaselli, GF. (1997). Beat-to-beat QT interval variability: novel evidence for repolarization lability in ischemic and nonischemic dilated cardiomyopathy. *Circulation.* 96: 1557-1565.
- Berger, RG; Lefèvre, PL; Ernest, SR; Wade, MG; Ma, YQ; Rawn, DF; Gaertner, DW; Robaire, B; Hales, BF. (2014). Exposure to an environmentally relevant mixture of brominated flame retardants affects fetal development in Sprague-Dawley rats. *Toxicology.* 320: 56-66. <http://dx.doi.org/10.1016/j.tox.2014.03.005>.
- Bernheim, M; Otto, P. (1990). DEGRADATION OF PYROVATEX-TREATED FABRICS DURING STORAGE - REPLY. *Text Res J.* 60: 616-616.
- Berntssen, MH; Valdernes, S; Rosenlund, G; Torstensen, BE; Zeilmaker, MJ; van Eijkeren, JC. (2011). Toxicokinetics and carry-over model of α -hexabromocyclododecane (HBCD) from feed to consumption-sized Atlantic salmon (*Salmo salar*). *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 28: 1274-1286. <http://dx.doi.org/10.1080/19440049.2011.587029>.
- Besis, A; Katsoyiannis, A; Botsaropoulou, E; Samara, C. (2014). Concentrations of polybrominated diphenyl ethers (PBDEs) in central air-conditioner filter dust and relevance of non-dietary exposure in occupational indoor environments in Greece. *Environ Pollut.* 188: 64-70. <http://dx.doi.org/10.1016/j.envpol.2014.01.021>.
- Bester, K; Vorkamp, K. (2013). A two-dimensional HPLC separation for the enantioselective determination of hexabromocyclododecane (HBCD) isomers in biota samples. *Anal Bioanal Chem.* 405: 6519-6527. <http://dx.doi.org/10.1007/s00216-013-7100-1>.
- Betts, K. (2003). More flame-proofed fish. *Environ Sci Technol.* 37: 380A-382A.
- Betts, K. (2005). More clues to HBCD isomer mystery. *Environ Sci Technol.* 39: 146A-147A.
- Betts, K. (2008). More flame retardants found in house dust [Comment]. *Environ Sci Technol.* 42: 337.
- Bezares-Cruz, J; Jafvert, CT; Hua, I. (2004). Solar photodecomposition of decabromodiphenyl ether: products and quantum yield. *Environ Sci Technol.* 38: 4149-4156. <http://dx.doi.org/10.1021/es0498608o>.
- Birnbaum, LS; Staskal, DF. (2004). Brominated flame retardants: Cause for concern? [Review]. *Environ Health Perspect.* 112: 9-17. <http://dx.doi.org/10.1289/ehp.6559>.
- Bjermo, H; Aune, M; Cantillana, T; Glynn, A; Lind, PM; Ridefelt, P; Darnerud, PO. (2017). Serum levels of brominated flame retardants (BFRs: PBDE, HBCD) and influence of dietary factors in a population-based study on Swedish adults. *Chemosphere.* 167: 485-491. <http://dx.doi.org/10.1016/j.chemosphere.2016.10.008>.
- Björklund, JA; Sellström, U; de Wit, CA; Aune, M; Lignell, S; Darnerud, PO. (2012). Comparisons of polybrominated diphenyl ether and hexabromocyclododecane concentrations in dust collected with two sampling methods and matched breast milk samples. *Indoor Air.* 22: 279-288. <http://dx.doi.org/10.1111/j.1600-0668.2011.00765.x>.
- Bjorklund, JA; Thuresson, K; Cousins, AP; Sellstrom, U; Emenius, G; de Wit, CA. (2012). Indoor Air Is a Significant Source of Tri-decabrominated Diphenyl Ethers to Outdoor Air via Ventilation Systems. *Environ Sci Technol.* 46: 5876-5884. <http://dx.doi.org/10.1021/es204122v>.
- Boerescu, I. (1991). Interrelationships between the metabolism of thyroid hormones and the liver. Part one [Review]. 28: 123-132.
- Bogdal, C; Naef, M; Schmid, P; Kohler, M; Zennegg, M; Bernet, D; Scheringer, M; Hungerbühler, K. (2009). Unexplained gonad alterations in whitefish (*Coregonus* spp.) from Lake Thun, Switzerland: levels of persistent organic pollutants in different morphs. *Chemosphere.* 74: 434-440. <http://dx.doi.org/10.1016/j.chemosphere.2008.09.058>.
- Bogdal, C; Schmid, P; Kohler, M; Müller, CE; Iozza, S; Bucheli, TD; Scheringer, M; Hungerbühler, K. (2008). Sediment record and atmospheric deposition of brominated flame retardants and organochlorine compounds in Lake Thun, Switzerland: lessons from the past and evaluation of the present. *Environ Sci Technol.* 42: 6817-6822. <http://dx.doi.org/10.1021/es800964z>.
- Bongers-Schokking, JJ; Koot, HM; Wiersma, D; Verkerk, PH; de Muinck Keizer-Schrama, SM. (2000). Influence of timing and dose of thyroid hormone replacement on development in infants with congenital hypothyroidism. *J Pediatr.* 136: 292-297. <http://dx.doi.org/10.1067/mpd.2000.103351>.
- Brabant, G; Prank, K; Hoang-Vu, C; Hesch, RD; von Zur Mühlen, A. (1991). Hypothalamic regulation of pulsatile thyrotropin secretion. *J Clin Endocrinol Metab.* 72: 145-150. <http://dx.doi.org/10.1210/jcem-72-1-145>.
- Bradley, PW; Wan, Y, i; Jones, PD; Wiseman, S; Chang, H; Lam, MHW; Long, DT; Giesy, JP. (2011). PBDES AND METHOXYLATED ANALOGUES IN SEDIMENT CORES FROM TWO MICHIGAN, USA, INLAND LAKES. *Environ Toxicol Chem.* 30: 1236-1242. <http://dx.doi.org/10.1002/etc.500>.
- Bradshaw, C; Näslund, J; Hansen, J; Kozłowski-Suzuki, B; Sundström, B; Gustafsson, K. (2015). Hexabromocyclododecane affects benthic-pelagic coupling in an experimental ecosystem. *Environ Pollut.* 206: 306-314. <http://dx.doi.org/10.1016/j.envpol.2015.07.012>.

Fate Literature Search Results

Off Topic

- Branchi, I; Alleva, E; Costa, LG. (2002). Effects of perinatal exposure to a polybrominated diphenyl ether (PBDE 99) on mouse neurobehavioural development. *Neurotoxicology*. 23: 375-384. [http://dx.doi.org/10.1016/S0161-813X\(02\)00078-5](http://dx.doi.org/10.1016/S0161-813X(02)00078-5).
- Brandli, RC; Kupper, T; Bucheli, TD; Zennegg, M; Huber, S; Ortelli, D; Muller, J; Schaffner, C; Iozza, S; Schmid, P; Berger, U; Edder, P; Oehme, M; Stadelmann, FX; Tarradellas, J. (2007). Organic pollutants in compost and digestate. Part 2. Polychlorinated dibenzo-p-dioxins, and -furans, dioxin-like polychlorinated biphenyls, brominated flame retardants, perfluorinated alkyl substances, pesticides, and other compounds. *J Environ Monit*. 9: 465-472. <http://dx.doi.org/10.1039/b617103f>.
- Brandsma, SH; Leonards, PE; Leslie, HA; de Boer, J. (2014). Tracing organophosphorus and brominated flame retardants and plasticizers in an estuarine food web. *Sci Total Environ*. 505C: 22-31. <http://dx.doi.org/10.1016/j.scitotenv.2014.08.072>.
- Brandsma, SH; Van der Ven, LT; De Boer, J; Leonards, PE. (2009). Identification of hydroxylated metabolites of hexabromocyclododecane in wildlife and 28-days exposed Wistar rats. *Environ Sci Technol*. 43: 6058-6063. <http://dx.doi.org/10.1021/es900879k>.
- Braune, BM; Letcher, RJ; Gaston, AJ; Mallory, ML. (2015). Trends of polybrominated diphenyl ethers and hexabromocyclododecane in eggs of Canadian Arctic seabirds reflect changing use patterns. *Environ Res*. 142: 651-661. <http://dx.doi.org/10.1016/j.envres.2015.08.010>.
- Braune, BM; Mallory, ML; Grant Gilchrist, H; Letcher, RJ; Drouillard, KG. (2007). Levels and trends of organochlorines and brominated flame retardants in ivory gull eggs from the Canadian Arctic, 1976 to 2004. *Sci Total Environ*. 378: 403-417. <http://dx.doi.org/10.1016/j.scitotenv.2007.03.003>.
- Bu, D, an; Zhuang, H; Zhou, X; Yang, G. (2014). A heterogeneous biotin-streptavidin-amplified enzyme-linked immunosorbent assay for detecting tris(2,3-dibromopropyl) isocyanurate in natural samples. *Anal Biochem*. 462: 51-59. <http://dx.doi.org/10.1016/j.ab.2014.06.003>.
- Budakowski, W; Tomy, G. (2003). Congener-specific analysis of hexabromocyclododecane by high-performance liquid chromatography/electrospray tandem mass spectrometry. *Rapid Commun Mass Spectrom*. 17: 1399-1404. <http://dx.doi.org/10.1002/rcm.1066>.
- Bustnes, JO; Borgå, K; Dempster, T; Lie, E; Nygård, T; Uglem, I. (2012). Latitudinal distribution of persistent organic pollutants in pelagic and demersal marine fish on the Norwegian Coast. *Environ Sci Technol*. 46: 7836-7843. <http://dx.doi.org/10.1021/es301191t>.
- Bustnes, JO; Lie, E; Herzke, D; Dempster, T; Bjørn, PA; Nygård, T; Uglem, I. (2010). Salmon farms as a source of organohalogenated contaminants in wild fish. *Environ Sci Technol*. 44: 8736-8743. <http://dx.doi.org/10.1021/es102195d>.
- Bustnes, JO; Yoccoz, NG; Bangjord, G; Polder, A; Skaare, JU. (2007). Temporal trends (1986-2004) of organochlorines and brominated flame retardants in tawny owl eggs from northern Europe. *Environ Sci Technol*. 41: 8491-8497. <http://dx.doi.org/10.1021/es071581w>.
- Butt, CM; Miranda, ML; Stapleton, HM. (2016). Development of an analytical method to quantify PBDEs, OH-BDEs, HBCDs, 2,4,6-TBP, EH-TBB, and BEH-TEBP in human serum. *Anal Bioanal Chem*. 408: 2449-2459. <http://dx.doi.org/10.1007/s00216-016-9340-3>.
- Canbaz, D; Hamers, T; Logiantara, A; van Ree, R; van Rijt, L. (2012). Indoor pollutant hexabromocyclododecane promotes interleukin-17A production in a mouse model for house dust mite driven allergic asthma. *Allergy*. 67: 598-598.
- Canbaz, D; Logiantara, A; Hamers, T; van Ree, R; van Rijt, LS. (2016). Indoor Pollutant Hexabromocyclododecane Has a Modest Immunomodulatory Effect on House Dust Mite Induced Allergic Asthma in Mice. *Environ Sci Technol*. 50: 405-411. <http://dx.doi.org/10.1021/acs.est.5b05348>.
- Canton, RF; Bovee, T; Daamen, F; van Duursen, M; van Den Berg, M. (2007). In Vitro antiandrogenicity of PBDEs, HBCD, TBP and hydroxylated and methoxylated PBDEs based on a yeast bioassay. *Chem Biol Interact*. 169: 133-133. <http://dx.doi.org/10.1016/j.cbi.2007.06.007>.
- Canton, RF; Sanderson, T; Letcher, R; Bergman, A; Berg, M. (2004). Effects Of Brominated Flame Retardants On The Activity Of The Steroidogenic Enzyme Aromatase (CYP19) In H295R Human Adrenocortical Carcinoma Cells In Culture. *Toxicologist*. 78.
- Cao, Z; Xu, F; Li, W; Sun, J; Shen, M; Su, X; Feng, J; Yu, G; Covaci, A. (2015). Seasonal and Particle Size-Dependent Variations of Hexabromocyclododecanes in Settled Dust: Implications for Sampling. *Environ Sci Technol*. 49: 11151-11157. <http://dx.doi.org/10.1021/acs.est.5b01717>.
- Carignan, CC; Abdallah, MA; Wu, N; Heiger-Bernays, W; Mcclean, MD; Harrad, S; Webster, TF. (2012). Predictors of tetrabromobisphenol-A (TBBP-A) and hexabromocyclododecanes (HBCD) in milk from Boston mothers. *Environ Sci Technol*. 46: 12146-12153. <http://dx.doi.org/10.1021/es302638d>.
- Cariou, R; Antignac, JP; Marchand, P; Berrebi, A; Zalko, D; Andre, F; Le Bizec, B. (2005). New multiresidue analytical method dedicated to trace level measurement of brominated flame retardants in human biological matrices. *J Chromatogr A*. 1100: 144-152. <http://dx.doi.org/10.1016/j.chroma.2005.09.040>.
- Chandra, S; Gupta, LK. (2004). Spectroscopic characterization of tetradentate macrocyclic ligand: its transition metal complexes. *Spectrochim Acta A Mol Biomol Spectrosc*. 60: 2767-2774. <http://dx.doi.org/10.1016/j.saa.2004.01.015>.
- Cheaib, Z; Grandjean, D; Kupper, T; de Alencastro, LF. (2009). Brominated flame retardants in fish of Lake Geneva (Switzerland). *Bull Environ Contam Toxicol*. 82: 522-527. <http://dx.doi.org/10.1007/s00128-008-9628-x>.
- Chen, C; Staudinger, JL; Klaassen, CD. (2003). Nuclear receptor, pregnane X receptor, is required for induction of UDP-glucuronosyltransferases in mouse liver by pregnenolone-16 alpha-carbonitrile. *Drug Metab Dispos*. 31: 908-915. <http://dx.doi.org/10.1124/dmd.31.7.908>.
- Chen, D; La Guardia, MJ; Harvey, E; Amaral, M; Wohlfort, K; Hale, RC. (2008). Polybrominated diphenyl ethers in peregrine falcon (*Falco peregrinus*) eggs from the northeastern U.S. *Environ Sci Technol*. 42: 7594-7600. <http://dx.doi.org/10.1021/es8010749>.
- Chen, D; La Guardia, MJ; Luellen, DR; Harvey, E; Mainor, TM; Hale, RC. (2011). Do temporal and geographical patterns of HBCD and PBDE flame retardants in U.S. fish reflect evolving industrial usage? *Environ Sci Technol*. 45: 8254-8261. <http://dx.doi.org/10.1021/es201444w>.
- Chen, D; Letcher, RJ; Burgess, NM; Champoux, L; Elliott, JE; Hebert, CE; Martin, P; Wayland, M; Chip Weseloh, DV; Wilson, L. (2012). Flame retardants in eggs of four gull species (Laridae) from breeding sites spanning Atlantic to Pacific Canada [Review]. *Environ Pollut*. 168: 1-9. <http://dx.doi.org/10.1016/j.envpol.2012.03.040>.
- Chen, D; Letcher, RJ; Gauthier, LT; Chu, S. (2013). Tetradecabromodiphenoxybenzene flame retardant undergoes photolytic debromination. *Environ Sci Technol*. 47: 1373-1380. <http://dx.doi.org/10.1021/es3042252>.

Fate Literature Search Results

Off Topic

- Chen, D; Letcher, RJ; Gauthier, LT; Chu, S; Mccrindle, R; Potter, D. (2011). Novel methoxylated polybrominated diphenoxybenzene congeners and possible sources in herring gull eggs from the Laurentian Great Lakes of North America. *Environ Sci Technol.* 45: 9523-9530. <http://dx.doi.org/10.1021/es201325g>.
- Chen, D; Mai, B; Song, J; Sun, Q; Luo, Y; Luo, X; Zeng, EY; Hale, RC. (2007). Polybrominated diphenyl ethers in birds of prey from Northern China. *Environ Sci Technol.* 41: 1828-1833. <http://dx.doi.org/10.1021/es062045r>.
- Chen, LG; Mai, BX; Bi, XH; Chen, SJ; Wang, XM; Ran, Y; Luo, XJ; Sheng, GY; Fu, JM; Zeng, EY. (2006). Concentration levels, compositional profiles, and gas-particle partitioning of polybrominated diphenyl ethers in the atmosphere of an urban city in South China. *Environ Sci Technol.* 40: 1190-1196. <http://dx.doi.org/10.1021/es052123v>.
- Chen, MYY; Tang, ASP; Ho, YY; Xiao, Y. (2010). Dietary exposure of secondary school students in Hong Kong to polybrominated diphenyl ethers from foods of animal origin. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 27: 521-529. <http://dx.doi.org/10.1080/19440040903419723>.
- Chen, Y; Hu, Y; Liu, S; Zheng, H; Wu, X; Huang, Z; Li, H; Peng, B; Long, J; Pan, B; Huang, C; Dong, Q. (2016). Whole-body aerosol exposure of cadmium chloride (CdCl₂) and tetrabromobisphenol A (TBBPA) induced hepatic changes in CD-1 male mice. *J Hazard Mater.* 318: 109-116. <http://dx.doi.org/10.1016/j.jhazmat.2016.06.054>.
- Chen, Y; Sun, B; Zhang, H; Zhou, X. (2016). Synthesis and application of a sulfur-containing phosphoric amide flame retardant for nylon fabric. *Fire and Materials.* 40: 959-972. <http://dx.doi.org/10.1002/fam.2354>.
- Choi, SS; Danielewska-Nikiel, B; Ohdan, K; Kojima, I; Takata, H; Kuriki, T. (2009). Safety evaluation of highly-branched cyclic dextrin and a 1,4-alpha-glucan branching enzyme from *Bacillus stearothermophilus*. *Regul Toxicol Pharmacol.* 55: 281-290. <http://dx.doi.org/10.1016/j.yrtph.2009.07.011>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2012). Optimization and Simultaneous Determination of Alkyl Phenol Ethoxylates and Brominated Flame Retardants in Water after SPE and Heptafluorobutyric Anhydride Derivatization followed by GC/MS. *Chromatographia.* 75: 1165-1176. <http://dx.doi.org/10.1007/s10337-012-2293-6>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2014). Improved derivatization protocol for simultaneous determination of alkylphenol ethoxylates and brominated flame retardants followed by gas chromatography-mass spectrometry analyses. *Water Sci Technol.* 69: 2389-2396. <http://dx.doi.org/10.2166/wst.2014.144>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2015). Improved derivatization protocol for simultaneous determination of alkylphenol ethoxylates and brominated flame retardants followed by gas chromatography-mass spectrometry analyses. *Water SA.* 41: 189-193. <http://dx.doi.org/10.4314/wsa.v41i2.03>.
- Chou, S; Wu, CJ. (1995). EFFECT OF BROMINATED FLAME RETARDANTS ON THE PROPERTIES OF ACRYLONITRILE/VINYL ACETATE COPOLYMER FIBERS. *Text Res J.* 65: 533-539.
- Christen, V; Crettaz, P; Oberli-Schrämli, A; Fent, K. (2010). Some flame retardants and the antimicrobials triclosan and triclocarban enhance the androgenic activity in vitro. *Chemosphere.* 81: 1245-1252. <http://dx.doi.org/10.1016/j.chemosphere.2010.09.031>.
- Christensen, JH; Platz, J. (2001). Screening of polybrominated diphenyl ethers in blue mussels, marine and freshwater sediments in Denmark. *J Environ Monit.* 3: 543-547.
- Chu, S; Gauthier, LT; Letcher, RJ. (2012). Alpha and Beta Isomers of Tetrabromoethylcyclohexane (TBECH) Flame Retardant: Depletion and Metabolite Formation In Vitro Using a Model Rat Microsomal Assay. *Environ Sci Technol.* 46: 10263-10270. <http://dx.doi.org/10.1021/es301546h>.
- Coelho, SD; Sousa, A, naCA; Isobe, T; Tanabe, S; Nogueira, AJA. (2014). Flame Retardants in Indoor Dust - A Review on the Levels of Polybrominated Diphenyl Ethers and Hexabromocyclododecanes. *Current Organic Chemistry.* 18: 2218-2230.
- Coelho, SD; Sousa, AC; Isobe, T; Kim, JW; Kunisue, T; Nogueira, AJ; Tanabe, S. (2016). Brominated, chlorinated and phosphate organic contaminants in house dust from Portugal. *Sci Total Environ.* 569-570: 442-449. <http://dx.doi.org/10.1016/j.scitotenv.2016.06.137>.
- Coelho, SD; Sousa, AC; Isobe, T; Kunisue, T; Nogueira, AJ; Tanabe, S. (2016). Brominated flame retardants and organochlorine compounds in duplicate diet samples from a Portuguese academic community. *Chemosphere.* 160: 89-94. <http://dx.doi.org/10.1016/j.chemosphere.2016.06.038>.
- Colles, A; Koppen, G; Hanot, V; Nelen, V; Dewolf, MC; Noël, E; Malisch, R; Kotz, A; Kypke, K; Biot, P; Vinkx, C; Schoeters, G. (2008). Fourth WHO-coordinated survey of human milk for persistent organic pollutants (POPs): Belgian results. *Chemosphere.* 73: 907-914. <http://dx.doi.org/10.1016/j.chemosphere.2008.07.002>.
- Connell, DW; Schueuermann, G. (1988). EVALUATION OF VARIOUS MOLECULAR PARAMETERS AS PREDICTORS OF BIOCONCENTRATION IN FISH. *Ecotoxicol Environ Saf.* 15: 324-335.
- Cooper, G; Lunn, R; Agerstrand, M; Glenn, B; Kraft, A; Luke, A; Ratcliffe, J. (2016). Study sensitivity: Evaluating the ability to detect effects in systematic reviews of chemical exposures. *Environ Int.* 92-93: 605-610. <http://dx.doi.org/10.1016/j.envint.2016.03.017>.
- Cousins, AP; Holmgren, T; Remberger, M. (2014). Emissions of two phthalate esters and BDE 209 to indoor air and their impact on urban air quality. *Sci Total Environ.* 470-471: 527-535. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.023>.
- Covaci, A; Abdallah, M; Roosens, L; Harrad, S. (2010). Hexabromocyclododecane (HBCD) complex chemistry: Detection and analytical methods. *Toxicol Lett.* 196: S33-S33. <http://dx.doi.org/10.1016/j.toxlet.2010.03.149>.
- Covaci, A; Harrad, S; Abdallah, MA; Ali, N; Law, RJ; Herzke, D; de Wit, CA. (2011). Novel brominated flame retardants: a review of their analysis, environmental fate and behaviour [Review]. *Environ Int.* 37: 532-556. <http://dx.doi.org/10.1016/j.envint.2010.11.007>.
- Covaci, A; Losada, S; Roosens, L; Vetter, W; Santos, FJ; Neels, H; Storelli, A; Storelli, MM. (2008). Anthropogenic and naturally occurring organobrominated compounds in two deep-sea fish species from the Mediterranean Sea. *Environ Sci Technol.* 42: 8654-8660. <http://dx.doi.org/10.1021/es8016528>.

Fate Literature Search Results

Off Topic

- Covaci, A; Roosens, L; Dirtu, AC; Waegeneers, N; Van Overmeire, I; Neels, H; Goeyens, L. (2009). Brominated flame retardants in Belgian home-produced eggs: levels and contamination sources. *Sci Total Environ.* 407: 4387-4396. <http://dx.doi.org/10.1016/j.scitotenv.2008.09.057>.
- Covaci, A; Voorspoels, S; de Boer, J. (2003). Determination of brominated flame retardants, with emphasis on polybrominated diphenyl ethers (PBDEs) in environmental and human samples--a review [Review]. *Environ Int.* 29: 735-756. [http://dx.doi.org/10.1016/S0160-4120\(03\)00114-4](http://dx.doi.org/10.1016/S0160-4120(03)00114-4).
- Croes, K; Colles, A; Koppen, G; Govarts, E; Bruckers, L; Van de Mierop, E; Nelen, V; Covaci, A; Dirtu, AC; Thomsen, C; Haug, LS; Becher, G; Mampaey, M; Schoeters, G; Van Larebeke, N; Baeyens, W. (2012). Persistent organic pollutants (POPs) in human milk: a biomonitoring study in rural areas of Flanders (Belgium). *Chemosphere.* 89: 988-994. <http://dx.doi.org/10.1016/j.chemosphere.2012.06.058>.
- Crump, D; Chiu, S; Kennedy, SW. (2012). Effects of tris(1,3-dichloro-2-propyl) phosphate and tris(1-chloropropyl) phosphate on cytotoxicity and mRNA expression in primary cultures of avian hepatocytes and neuronal cells. *Toxicol Sci.* 126: 140-148. <http://dx.doi.org/10.1093/toxsci/kfs015>.
- Daniels, JL; Pan, I; Jones, R; Anderson, S; Patterson, DG, Jr; Needham, LL; Sjodin, A. (2010). Individual characteristics associated with PBDE levels in us human milk samples. *Environ Health Perspect.* 118: 155-160. <http://dx.doi.org/10.1289/ehp.0900759>.
- Darnerud, P; Lignell, S; Aune, M; Isaksson, M; Cantillana, T; Redeby, J; Glynn, A. (2015). Time trends of polybrominated diphenylether (PBDE) congeners in serum of Swedish mothers and comparisons to breast milk data. *Environ Res.* 138: 352-360. <http://dx.doi.org/10.1016/j.envres.2015.02.031>.
- Darnerud, PO. (2003). Toxic effects of brominated flame retardants in man and in wildlife [Review]. *Environ Int.* 29: 841-853. [http://dx.doi.org/10.1016/S0160-4120\(03\)00107-7](http://dx.doi.org/10.1016/S0160-4120(03)00107-7).
- Darnerud, PO; Aune, M; Larsson, L; Hallgren, S. (2007). Plasma PBDE and thyroxine levels in rats exposed to Bromkal or BDE-47. *Chemosphere.* 67: S386-S392. <http://dx.doi.org/10.1016/j.chemosphere.2006.05.133>.
- Darnerud, PO; Aune, M; Larsson, L; Lignell, S; Mutshatshi, T; Okonkwo, J; Botha, B; Agyei, N. (2011). Levels of brominated flame retardants and other persistent organic pollutants in breast milk samples from Limpopo Province, South Africa. *Sci Total Environ.* 409: 4048-4053. <http://dx.doi.org/10.1016/j.scitotenv.2011.05.054>.
- de Ceaurriz, J; Ban, M. (1990). Role of gamma-glutamyltranspeptidase and beta-lyase in the nephrotoxicity of hexachloro-1,3-butadiene and methyl mercury in mice. *Toxicol Lett.* 50: 249-256.
- De Vito, P; Balducci, V; Leone, S; Percario, Z; Mangino, G; Davis, PJ; Davis, FB; Affabris, E; Luly, P; Pedersen, JZ; Incerpi, S. (2012). Nongenomic effects of thyroid hormones on the immune system cells: New targets, old players [Review]. *Steroids.* 77: 988-995. <http://dx.doi.org/10.1016/j.steroids.2012.02.018>.
- De Vito, P; Incerpi, S; Pedersen, JZ; Luly, P; Davis, FB; Davis, PJ. (2011). Thyroid hormones as modulators of immune activities at the cellular level [Review]. *Thyroid.* 21: 879-890. <http://dx.doi.org/10.1089/thy.2010.0429>.
- de Wit, CA. (2002). An overview of brominated flame retardants in the environment [Review]. *Chemosphere.* 46: 583-624.
- de Wit, CA; Björklund, JA; Thuresson, K. (2012). Tri-decabrominated diphenyl ethers and hexabromocyclododecane in indoor air and dust from Stockholm microenvironments 2: indoor sources and human exposure. *Environ Int.* 39: 141-147. <http://dx.doi.org/10.1016/j.envint.2011.11.001>.
- Debenest, T; Gagné, F; Petit, AN; André, C; Kohli, M; Blaise, C. (2010). Ecotoxicity of a brominated flame retardant (tetrabromobisphenol A) and its derivatives to aquatic organisms. *Comp Biochem Physiol C Toxicol Pharmacol.* 152: 407-412. <http://dx.doi.org/10.1016/j.cbpc.2010.06.009>.
- Deng, J; Yu, L; Liu, C; Yu, K; Shi, X; Yeung, LW; Lam, PK; Wu, RS; Zhou, B. (2009). Hexabromocyclododecane-induced developmental toxicity and apoptosis in zebrafish embryos. *Aquat Toxicol.* 93: 29-36. <http://dx.doi.org/10.1016/j.aquatox.2009.03.001>.
- Deshpande, AD; Dockum, BW. (2013). Polybrominated diphenyl ether congeners in the young-of-the-year bluefish, *Pomatomus saltatrix*, from several nursery habitats along the US Atlantic coastline. *Mar Pollut Bull.* 77: 237-250. <http://dx.doi.org/10.1016/j.marpolbul.2013.09.051>.
- Desmet, K; Schelfaut, M; Sandra, P. (2005). Determination of bromophenols as dioxin precursors in combustion gases of fire retarded extruded polystyrene by sorptive sampling-capillary gas chromatography-mass spectrometry. *J Chromatogr A.* 1071: 125-129.
- Devanathan, G; Subramanian, A; Sudaryanto, A; Takahashi, S; Isobe, T; Tanabe, S. (2012). Brominated flame retardants and polychlorinated biphenyls in human breast milk from several locations in India: potential contaminant sources in a municipal dumping site. *Environ Int.* 39: 87-95. <http://dx.doi.org/10.1016/j.envint.2011.10.005>.
- D'Hollander, W; Roosens, L; Covaci, A; Cornelis, C; Reynders, H; Campenhout, KV; Voogt, P, d; Bervoets, L. (2010). Brominated flame retardants and perfluorinated compounds in indoor dust from homes and offices in Flanders, Belgium. *Chemosphere.* 81: 478-487. <http://dx.doi.org/10.1016/j.chemosphere.2010.07.043>.
- Dietz, R; Rigét, FF; Sonne, C; Born, EW; Bechshøft, T; Mckinney, MA; Drimmie, RJ; Muir, DC; Letcher, RJ. (2013). Three decades (1983-2010) of contaminant trends in East Greenland polar bears (*Ursus maritimus*). Part 2: Brominated flame retardants. *Environ Int.* 59: 494-500. <http://dx.doi.org/10.1016/j.envint.2012.09.008>.
- Ding, WW; Tian, Y; Jin, J; Wang, Y; Cui, C; Zhang, L; Gao, Y; Wang, XJ; Shi, R. (2011). [Levels of hexabromocyclododecane in human breast milk and the daily intake of newborns in a Shanghai hospital]. *Zhonghua Yufang Yixue Zazhi.* 45: 498-501.
- Dirtu, AC; Ali, N; Van den Eede, N; Neels, H; Covaci, A. (2012). Country specific comparison for profile of chlorinated, brominated and phosphate organic contaminants in indoor dust. Case study for Eastern Romania, 2010. *Environ Int.* 49: 1-8. <http://dx.doi.org/10.1016/j.envint.2012.08.002>.
- Dirtu, AC; Covaci, A. (2010). Estimation of daily intake of organohalogenated contaminants from food consumption and indoor dust ingestion in Romania. *Environ Sci Technol.* 44: 6297-6304. <http://dx.doi.org/10.1021/es101233z>.

Fate Literature Search Results

Off Topic

- Dodder, NG; Maruya, KA; Lee Ferguson, P; Grace, R; Klosterhaus, S; La Guardia, MJ; Lauenstein, GG; Ramirez, J. (2014). Occurrence of contaminants of emerging concern in mussels (*Mytilus* spp.) along the California coast and the influence of land use, storm water discharge, and treated wastewater effluent. *Mar Pollut Bull.* 81: 340-346. <http://dx.doi.org/10.1016/j.marpolbul.2013.06.041>.
- Dodder, NG; Peck, AM; Kucklick, JR; Sander, LC. (2006). Analysis of hexabromocyclododecane diastereomers and enantiomers by liquid chromatography/tandem mass spectrometry: chromatographic selectivity and ionization matrix effects. *J Chromatogr A.* 1135: 36-42. <http://dx.doi.org/10.1016/j.chroma.2006.09.024>.
- Dominguez-Romero, E; Cariou, R; Omer, M; Marchand, P; Dervilly-Pinel, G; Le Bizec, B; Travel, A; Jondreville, C. (2016). Tissue Distribution and Transfer to Eggs of Ingested α -Hexabromocyclododecane (α -HBCDD) in Laying Hens (*Gallus domesticus*). *J Agric Food Chem.* 64: 2112-2119. <http://dx.doi.org/10.1021/acs.jafc.5b05574>.
- Dong, Z; Hu, Z; Zhu, H; Li, N; Zhao, H; Mi, W, ei; Jiang, W; Hu, X; Ye, L. (2015). Tris-(2,3-dibromopropyl) isocyanurate induces depression-like behaviors and neurotoxicity by oxidative damage and cell apoptosis in vitro and in vivo. *J Toxicol Sci.* 40: 701-709.
- Dorosh, A; Ded, L; Elzeinova, F; Peknicova, J. (2009). Hexabromocyclododecane but not tetrabromobisphenol A promotes MCF-7 proliferation and TFF1 gene upregulation. *J Reprod Immunol.* 81: 153-153. <http://dx.doi.org/10.1016/j.jri.2009.06.212>.
- Drage, D; Mueller, JF; Birch, G; Eaglesham, G; Hearn, LK; Harrad, S. (2015). Historical trends of PBDEs and HBCDs in sediment cores from Sydney estuary, Australia. *Sci Total Environ.* 512-513: 177-184. <http://dx.doi.org/10.1016/j.scitotenv.2015.01.034>.
- Drage, DS; Mueller, JF; Hobson, P; Harden, FA; Toms, LL. (2017). Demographic and temporal trends of hexabromocyclododecanes (HBCDD) in an Australian population. *Environ Res.* 152: 192-198. <http://dx.doi.org/10.1016/j.envres.2016.10.015>.
- Drage, DS; Newton, S; de Wit, CA; Harrad, S. (2016). Concentrations of legacy and emerging flame retardants in air and soil on a transect in the UK West Midlands. *Chemosphere.* 148: 195-203. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.034>.
- Driffield, M; Harmer, N; Bradley, E; Fernandes, AR; Rose, M; Mortimer, D; Dicks, P. (2008). Determination of brominated flame retardants in food by LC-MS/MS: diastereoisomer-specific hexabromocyclododecane and tetrabromobisphenol A. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 25: 895-903. <http://dx.doi.org/10.1080/02652030701882999>.
- Drohmann, D. (2006). HBCD: facts and insinuations [Letter]. *Environ Sci Technol.* 40: 1; author reply 2.
- Drottar, KR; Krueger, HO. (2000). Hexabromocyclododecane (HBCD): A flow-through bioconcentration test with the rainbow trout (*Oncorhynchus mykiss*). Easton, MD: Wildlife International Ltd.
- Du, M; Fang, C; Qiu, L; Dong, S; Zhang, X; Yan, C. (2015). Diastereoisomer-specific effects of hexabromocyclododecanes on hepatic aryl hydrocarbon receptors and cytochrome P450s in zebrafish (*Danio rerio*). *Chemosphere.* 132: 24-31. <http://dx.doi.org/10.1016/j.chemosphere.2015.02.049>.
- Du, M; Lin, L; Yan, C; Wang, C; Zhang, X. (2013). Enantiomer-specific bioaccumulation and depuration of hexabromocyclododecanes in zebrafish (*Danio rerio*). *J Hazard Mater.* 248-249: 167-171. <http://dx.doi.org/10.1016/j.jhazmat.2012.12.046>.
- Du, M; Lin, L; Yan, C; Zhang, X. (2012). Diastereoisomer- and enantiomer-specific accumulation, depuration, and bioisomerization of hexabromocyclododecanes in zebrafish (*Danio rerio*). *Environ Sci Technol.* 46: 11040-11046. <http://dx.doi.org/10.1021/es302166p>.
- Du, M; Zhang, D; Yan, C; Zhang, X. (2012). Developmental toxicity evaluation of three hexabromocyclododecane diastereoisomers on zebrafish embryos. *Aquat Toxicol.* 112-113: 1-10. <http://dx.doi.org/10.1016/j.aquatox.2012.01.013>.
- Duan, H; Yu, D; Zuo, J; Yang, B; Zhang, Y; Niu, Y. (2016). Characterization of brominated flame retardants in construction and demolition waste components: HBCD and PBDEs. *Sci Total Environ.* 572: 77-85. <http://dx.doi.org/10.1016/j.scitotenv.2016.07.165>.
- Dufour, DR; Lott, JA; Nolte, FS; Gretch, DR; Koff, RS; Seeff, LB. (2000). Diagnosis and monitoring of hepatic injury. I. Performance characteristics of laboratory tests [Review]. *Clin Chem.* 46: 2027-2049.
- Dumler, R; Thoma, H; Lenoir, D; Hutzing, O. (1989). PBDF and PBDD from the Combustion of Bromine Containing Flame Retarded Polymers: A Survey. *Chemosphere.* 19: 2023-2031.
- Durmaz, V; Schmidt, S; Sabri, P; Piechotta, C; Weber, M. (2013). Hands-off Linear Interaction Energy Approach to Binding Mode and Affinity Estimation of Estrogens. *J Chem Inf Model.* 53: 2681-2688. <http://dx.doi.org/10.1021/ci400392p>.
- Durmaz, V; Weber, M; Becker, R. (2012). How to simulate affinities for host-guest systems lacking binding mode information: application to the liquid chromatographic separation of hexabromocyclododecane stereoisomers. *J Mol Model.* 18: 2399-2408. <http://dx.doi.org/10.1007/s00894-011-1239-5>.
- Earnshaw, MR; Jones, KC; Sweetman, AJ. (2013). Estimating European historical production, consumption and atmospheric emissions of decabromodiphenyl ether. *Sci Total Environ.* 447: 133-142. <http://dx.doi.org/10.1016/j.scitotenv.2012.12.049>.
- EC. (1990). PRIMARY EYE IRRITATION TEST EPA/82 WITH ATTACHMENTS AND COVER LETTER DATED 030890. (TSCATS/405819). PHARMACKON RESEARCH INTL INC.
- EFSA. (2011). Scientific opinion on hexabromocyclododecanes (HBCDDS) in food. *EFSA J.* 9: 2296. <http://dx.doi.org/10.2903/j.efsa.2011.2296>.
- Eggesbø, M; Thomsen, C; Jørgensen, JV; Becher, G; Odland, JØ; Longnecker, MP. (2011). Associations between brominated flame retardants in human milk and thyroid-stimulating hormone (TSH) in neonates. *Environ Res.* 111: 737-743. <http://dx.doi.org/10.1016/j.envres.2011.05.004>.
- Eguchi, A; Isobe, T; Ramu, K; Tue, NM; Sudaryanto, A; Devanathan, G; Viet, PH; Tana, RS; Takahashi, S; Subramanian, A; Tanabe, S. (2013). Soil contamination by brominated flame retardants in open waste dumping sites in Asian developing countries. *Chemosphere.* 90: 2365-2371. <http://dx.doi.org/10.1016/j.chemosphere.2012.10.027>.
- Eljarrat, E; Gorga, M; Gasser, M; Diaz-Ferrero, J; Barceló, D. (2014). Dietary exposure assessment of Spanish citizens to hexabromocyclododecane through the diet. *J Agric Food Chem.* 62: 2462-2468. <http://dx.doi.org/10.1021/jf405007x>.
- Eljarrat, E; Guerra, P; Martínez, E; Farré, M; Alvarez, JG; López-Teijón, M; Barceló, D. (2009). Hexabromocyclododecane in human breast milk: levels and enantiomeric patterns. *Environ Sci Technol.* 43: 1940-1946. <http://dx.doi.org/10.1021/es802919e>.
- Eljarrat, E; Labandeira, A; Marsh, G; Raldúa, D; Barceló, D. (2007). Decabrominated diphenyl ether in river fish and sediment samples collected downstream an industrial park. *Chemosphere.* 69: 1278-1286. <http://dx.doi.org/10.1016/j.chemosphere.2007.05.052>.

Fate Literature Search Results

Off Topic

- Elliott, JE; Wilson, LK; Wakeford, B. (2005). Polyhrominated diphenyl ether trends in eggs of marine and freshwater birds from British Columbia, Canada, 1979-2002. *Environ Sci Technol.* 39: 5584-5591. <http://dx.doi.org/10.1021/es050496q>.
- EMEA. (2008). Non-clinical guideline on drug induced hepatotoxicity. (Doc. Ref. EMEA/CHMP/SWP/150115/2006). London, UK. http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2009/09/WC500003355.pdf.
- Environment Canada. (2010). Draft screening assessment: Cyclododecane, 1,2,5,6,9,10-hexabromo-: Chemical abstracts service registry number 3194-55-6. Ottawa, Canada: Environment Canada, Health Canada. http://www.ec.gc.ca/lcpe-cepa/documents/substances/hbcd/draft_screening_assessment_hbcd-eng.pdf.
- Environment Canada. (2011). Proposed risk management approach for hexabromocyclododecane (HBCD) Chemical Abstracts Service Registry Number 3194-55-6. Environment Canada, Health Canada.
- Environment Canada. (2012). Consultation document. Proposed risk management measure for hexabromocyclododecane (HBCD). Chemical abstracts service registry number (CAS RN): 3194-55-6. Gatineau, QC, Canada. <http://ec.gc.ca/ese-ees/default.asp?lang=En&n=6668F8BC-1>.
- Eriksson, P; Fischer, C; Wallin, M; Jakobsson, E; Fredriksson, A. (2006). Impaired behaviour, learning and memory, in adult mice neonatally exposed to hexabromocyclododecane (HBCDD). *Environ Toxicol Pharmacol.* 21: 317-322. <http://dx.doi.org/10.1016/j.etap.2005.10.001>.
- Eriksson, P; Jakobsson, E; Fredriksson, A. (2001). Brominated flame retardants: a novel class of developmental neurotoxicants in our environment. *Environ Health Perspect.* 109: 903-908.
- Ernest, SR; Wade, MG; Lalancette, C; Ma, YQ; Berger, RG; Robaire, B; Hales, BF. (2012). Effects of chronic exposure to an environmentally relevant mixture of brominated flame retardants on the reproductive and thyroid system in adult male rats. *Toxicol Sci.* 127: 496-507. <http://dx.doi.org/10.1093/toxsci/kfs098>.
- Erratico, C; Zheng, X; van den Eede, N; Tomy, G; Covaci, A. (2016). Stereoselective Metabolism of α -, β -, and γ -Hexabromocyclododecanes (HBCDs) by Human Liver Microsomes and CYP3A4. *Environ Sci Technol.* 50: 8263-8273. <http://dx.doi.org/10.1021/acs.est.6b01059>.
- Eshraghian, A; Jahromi, AH. (2014). Non-alcoholic fatty liver disease and thyroid dysfunction: A systematic review. *World J Gastroenterol.* 20: 8102-8109. <http://dx.doi.org/10.3748/wjg.v20.i25.8102>.
- Esslinger, S; Becker, R; Jung, C; Schröter-Kermani, C; Bremser, W; Nehls, I. (2011). Temporal trend (1988-2008) of hexabromocyclododecane enantiomers in herring gull eggs from the German coastal region. *Chemosphere.* 83: 161-167. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.047>.
- Esslinger, S; Becker, R; Maul, R; Nehls, I. (2011). Hexabromocyclododecane enantiomers: microsomal degradation and patterns of hydroxylated metabolites. *Environ Sci Technol.* 45: 3938-3944. <http://dx.doi.org/10.1021/es1039584>.
- Esslinger, S; Becker, R; Müller-Belecke, A; Bremser, W; Jung, C; Nehls, I. (2010). HBCD stereoisomer pattern in mirror carps following dietary exposure to pure gamma-HBCD enantiomers. *J Agric Food Chem.* 58: 9705-9710. <http://dx.doi.org/10.1021/jf101469q>.
- Eulaers, I; Jaspers, VL; Pinxten, R; Covaci, A; Eens, M. (2014). Legacy and current-use brominated flame retardants in the Barn Owl. *Sci Total Environ.* 472: 454-462. <http://dx.doi.org/10.1016/j.scitotenv.2013.11.054>.
- Evenset, A; Christensen, GN; Carroll, J; Zaborska, A; Berger, U; Herzke, D; Gregor, D. (2007). Historical trends in persistent organic pollutants and metals recorded in sediment from Lake Ellasjoen, Bjornoya, Norwegian Arctic. *Environ Pollut.* 146: 196-205. <http://dx.doi.org/10.1016/j.envpol.2006.04.038>.
- Fång, J; Nyberg, E; Winnberg, U; Bignert, A; Bergman, Å. (2015). Spatial and temporal trends of the Stockholm Convention POPs in mothers' milk - a global review. *Environ Sci Pollut Res Int.* 22: 8989-9041. <http://dx.doi.org/10.1007/s11356-015-4080-z>.
- Fangstrom, B; Athanasiadou, M; Athanassiadis, I; Bignert, A; Grandjean, P; Weihe, P; Bergman, A. (2005). Polybrominated diphenyl ethers and traditional organochlorine pollutants in fulmars (*Fulmarus glacialis*) from the Faroe Islands. *Chemosphere.* 60: 836-843. <http://dx.doi.org/10.1016/j.chemosphere.2005.01.065>.
- Feng, AH; Chen, SJ; Chen, MY; He, MJ; Luo, XJ; Mai, BX. (2012). Hexabromocyclododecane (HBCD) and tetrabromobisphenol A (TBBPA) in riverine and estuarine sediments of the Pearl River Delta in southern China, with emphasis on spatial variability in diastereoisomer- and enantiomer-specific distribution of HBCD. *Mar Pollut Bull.* 64: 919-925. <http://dx.doi.org/10.1016/j.marpolbul.2012.03.008>.
- Feng, J; Shi, Z; Wu, Y; Li, J; Zhao, Y. (2009). DIETARY EXPOSURE ASSESSMENT OF CHINESE ADULTS AND NURSING INFANTS TO TETRABROMOBISPHENOL-A AND HEXABROMOCYCLODODECANES: OCCURRENCE MEASUREMENTS IN FOODS AND HUMAN MILK. *Ann Nutr Metab.* 55: 523-523.
- Feng, J; Wang, Y; Ruan, T; Qu, G; Jiang, G. (2010). Simultaneous determination of hexabromocyclododecanes and tris (2,3-dibromopropyl) isocyanurate using LC-APCI-MS/MS. *Talanta.* 82: 1929-1934. <http://dx.doi.org/10.1016/j.talanta.2010.08.014>.
- Feng, M; Li, Y; Qu, R; Wang, L; Wang, Z. (2013). Oxidative stress biomarkers in freshwater fish *Carassius auratus* exposed to decabromodiphenyl ether and ethane, or their mixture. *Ecotoxicology.* 22: 1101-1110. <http://dx.doi.org/10.1007/s10646-013-1097-2>.
- Feng, M; Qu, R; Li, Y; Wei, Z; Wang, Z. (2014). Biochemical Biomarkers in Liver and Gill Tissues of Freshwater Fish *Carassius auratus* Following In Vivo Exposure to Hexabromobenzene. *Environ Toxicol.* 29: 1460-1470. <http://dx.doi.org/10.1002/tox.21876>.
- Feng, M; Qu, R; Wang, C; Wang, L; Wang, Z. (2013). Comparative antioxidant status in freshwater fish *Carassius auratus* exposed to six current-use brominated flame retardants: A combined experimental and theoretical study. *Aquat Toxicol.* 140-141: 314-323. <http://dx.doi.org/10.1016/j.aquatox.2013.07.001>.
- Fernandes, A; Dicks, P; Mortimer, D; Gem, M; Smith, F; Driffield, M; White, S; Rose, M. (2008). Brominated and chlorinated dioxins, PCBs and brominated flame retardants in Scottish shellfish: methodology, occurrence and human dietary exposure. *Mol Nutr Food Res.* 52: 238-249. <http://dx.doi.org/10.1002/mnfr.200700135>.
- Fernandes, AR; Mortimer, D; Rose, M; Smith, F; Panton, S; Garcia-Lopez, M. (2016). Bromine content and brominated flame retardants in food and animal feed from the UK. *Chemosphere.* 150: 472-478. <http://dx.doi.org/10.1016/j.chemosphere.2015.12.042>.

Fate Literature Search Results

Off Topic

- Fernandez Canton, R; Sanderson, T; Nijmeijer, S; Bergman, A; Van Den Berg, M. (2005). In vitro effects of brominated flame retardants on the adrenocortical enzyme CYP17. A novel endocrine mechanism of action? [Abstract]. *Toxicologist*. 84: 356.
- Fernie, KJ; Letcher, RJ. (2010). Historical contaminants, flame retardants, and halogenated phenolic compounds in peregrine Falcon (*Falco peregrinus*) nestlings in the Canadian Great Lakes Basin. *Environ Sci Technol*. 44: 3520-3526. <http://dx.doi.org/10.1021/es100400n>.
- Fernie, KJ; Martenson, SC; Bird, DM; Ritchie, IJ; Letcher, RJ. (2011). Reproductive changes in American kestrels (*Falco sparverius*) in relation to exposure to technical hexabromocyclododecane flame retardant. *Environ Toxicol Chem*. 30: 2570-2575. <http://dx.doi.org/10.1002/etc.652>.
- Fernie, KJ; Shutt, JL; Letcher, RJ; Ritchie, IJ; Bird, DM. (2009). Environmentally relevant concentrations of DE-71 and HBCD alter eggshell thickness and reproductive success of American kestrels. *Environ Sci Technol*. 43: 2124-2130. <http://dx.doi.org/10.1021/es802734e>.
- Finken, MJ; van Eijdsen, M; Loomans, EM; Vrijkotte, TG; Rotteveel, J. (2013). Maternal hypothyroxinemia in early pregnancy predicts reduced performance in reaction time tests in 5- to 6-year-old offspring. *J Clin Endocrinol Metab*. 98: 1417-1426. <http://dx.doi.org/10.1210/jc.2012-3389>.
- Fisher, DA; Nelson, JC. (2012). Application of TSH and free thyroxine measurements to thyroid diagnosis: Laboratory support of diagnosis and management. Fisher, DA; Nelson, JC. http://www.questdiagnostics.com/testcenter/testguide.action?dc=WP_AppTSH.
- Fliedner, A; Lohmann, N; Rüdell, H; Teubner, D; Wellnitz, J; Koschorreck, J. (2016). Current levels and trends of selected EU Water Framework Directive priority substances in freshwater fish from the German environmental specimen bank. *Environ Pollut*. 216: 866-876. <http://dx.doi.org/10.1016/j.envpol.2016.06.060>.
- Foekema, EM; Lopez Parron, M; Mergia, MT; Carolus, ER; Vd Berg, JH; Kwadijk, C; Dao, Q; Murk, AJ. (2014). Internal effect concentrations of organic substances for early life development of egg-exposed fish. *Ecotoxicol Environ Saf*. 101: 14-22. <http://dx.doi.org/10.1016/j.ecoenv.2013.12.006>.
- Forhead, AJ; Fowden, AL. (2014). Thyroid hormones in fetal growth and prepartum maturation [Review]. *J Endocrinol*. 221: R87-R103. <http://dx.doi.org/10.1530/JOE-14-0025>.
- François, A; Técher, R; Houde, M; Spear, P; Verreault, J. (2016). Relationships between polybrominated diphenyl ethers and transcription and activity of type 1 deiodinase in a gull highly exposed to flame retardants. *Environ Toxicol Chem*. 35: 2215-2222. <http://dx.doi.org/10.1002/etc.3372>.
- Frederiksen, M; Vorkamp, K; Bossi, R; Riget, F; Dam, M; Svensmark, B, o. (2007). Method development for simultaneous analysis of HBCD, TBBPA, and dimethyl-TBBPA in marine biota from Greenland and the Faroe Islands. *Int J Environ Anal Chem*. 87: 1095-1109.
- Frith, SD; Eales, JG. (1996). Thyroid hormone deiodination pathways in brain and liver of rainbow trout, *Oncorhynchus mykiss*. *Gen Comp Endocrinol*. 101: 323-332. <http://dx.doi.org/10.1006/gcen.1996.0035>.
- Fromme, H; Becher, G; Hilger, B; Völkel, W. (2015). Brominated flame retardants - Exposure and risk assessment for the general population [Review]. *Int J Hyg Environ Health*. 219: 1-23. <http://dx.doi.org/10.1016/j.ijheh.2015.08.004>.
- Fromme, H; Hilger, B; Albrecht, M; Gries, W; Leng, G; Völkel, W. (2016). Occurrence of chlorinated and brominated dioxins/furans, PCBs, and brominated flame retardants in blood of German adults. *Int J Hyg Environ Health*. 219: 380-388. <http://dx.doi.org/10.1016/j.ijheh.2016.03.003>.
- Fromme, H; Hilger, B; Kopp, E; Misserok, M; Völkel, W. (2014). Polybrominated diphenyl ethers (PBDEs), hexabromocyclododecane (HBCD) and "novel" brominated flame retardants in house dust in Germany. *Environ Int*. 64: 61-68. <http://dx.doi.org/10.1016/j.envint.2013.11.017>.
- Fu, J; Suuberg, EM. (2012). Vapor pressure of three brominated flame retardants determined by using the Knudsen effusion method. *Environ Toxicol Chem*. 31: 574-578. <http://dx.doi.org/10.1002/etc.1736>.
- Fujimoto, H; Woo, G, yeH; Inoue, K; Igarashi, K; Kanno, J, un; Hirose, M; Nishikawa, A; Shibutani, M. (2012). Increased cellular distribution of vimentin and Ret in the cingulum induced by developmental hypothyroidism in rat offspring maternally exposed to anti-thyroid agents. *Reprod Toxicol*. 34: 93-100. <http://dx.doi.org/10.1016/j.reprotox.2012.03.005>.
- Fujimoto, H; Woo, G, yeH; Inoue, K; Igarashi, K; Kanno, J, un; Hirose, M; Nishikawa, A; Shibutani, M. (2012). Increased cellular distribution of vimentin and Ret in the cingulum induced by developmental hypothyroidism in rat offspring maternally exposed to anti-thyroid agents : Supplemental materials [Review]. *Reprod Toxicol*. 34: 93-100.
- Furlow, JD; Yang, HY; Hsu, M; Lim, W; Ermio, DJ; Chiellini, G; Scanlan, TS. (2004). Induction of larval tissue resorption in *Xenopus laevis* tadpoles by the thyroid hormone receptor agonist GC-1. *J Biol Chem*. 279: 26555-26562. <http://dx.doi.org/10.1074/jbc.M402847200>.
- Furuyashiki, T; Tanimoto, H; Yokoyama, Y; Kitaura, Y; Kuriki, T; Shimomura, Y. (2014). Effects of ingesting highly branched cyclic dextrin during endurance exercise on rating of perceived exertion and blood components associated with energy metabolism. *Biosci Biotechnol Biochem*. 78: 2117-2119. <http://dx.doi.org/10.1080/09168451.2014.943654>.
- Galantino-Homer, HL; Zeng, WX; Megee, SO; Dallmeyer, M; Voelkl, D; Dobrinski, I. (2006). Effects of 2-hydroxypropyl-beta-cyclodextrin and cholesterol on porcine sperm viability and capacitation status following cold shock or incubation. *Mol Reprod Dev*. 73: 638-650. <http://dx.doi.org/10.1002/mrd.20437>.
- Galbraith, WM; Voytek, P; Ryon, MS. (1983). *Advances in Modern Environmental Toxicology*
Assessment of risks to human reproduction and development of the human conceptus from exposure to environmental substances. Princeton, NJ: Princeton Scientific Publishing.
- Galindo-Iranzo, P; Quintanilla-López, JE; Lebrón-Aguilar, R; Gómara, B. (2009). Improving the sensitivity of liquid chromatography-tandem mass spectrometry analysis of hexabromocyclododecanes by chlorine adduct generation. *J Chromatogr A*. 1216: 3919-3926. <http://dx.doi.org/10.1016/j.chroma.2009.02.086>.
- Gallen, C; Drage, D; Kaserzon, S; Baduel, C; Gallen, M; Banks, A; Broomhall, S; Mueller, JF. (2016). Occurrence and distribution of brominated flame retardants and perfluoroalkyl substances in Australian landfill leachate and biosolids. *J Hazard Mater*. 312: 55-64. <http://dx.doi.org/10.1016/j.jhazmat.2016.03.031>.

Fate Literature Search Results

Off Topic

- García-Alcega, S; Rauert, C; Harrad, S; Collins, CD. (2016). Does the source migration pathway of HBCDs to household dust influence their bio-accessibility? *Sci Total Environ.* 569-570: 244-251. <http://dx.doi.org/10.1016/j.scitotenv.2016.04.178>.
- García-Valcárcel, AI; Tadeo, JL. (2009). Determination of hexabromocyclododecane isomers in sewage sludge by LC-MS/MS. *J Sep Sci.* 32: 3890-3897. <http://dx.doi.org/10.1002/jssc.200900424>.
- Gard, MN; Reiter, RC; Stevenson, CD. (2004). Anion radicals of di-trans-[12]annulene and heptalene in a one-pot synthesis from a common fire retardant. *Org Lett.* 6: 393-396. <http://dx.doi.org/10.1021/ol0362921>.
- Gauthier, LT; Hebert, CE; Weseloh, DV; Letcher, RJ. (2007). Current-use flame retardants in the eggs of herring gulls (*Larus argentatus*) from the Laurentian Great Lakes. *Environ Sci Technol.* 41: 4561-4567. <http://dx.doi.org/10.1021/es0630487>.
- Gauthier, LT; Hebert, CE; Weseloh, DVC; Letcher, RJ. (2008). Dramatic changes in the temporal trends of polybrominated diphenyl ethers (PBDEs) in herring gull eggs from the Laurentian Great Lakes: 1982-2006. *Environ Sci Technol.* 42: 1524-1530. <http://dx.doi.org/10.1021/es702382k>.
- Gebbink, WA; Sonne, C; Dietz, R; Kirkegaard, M; Born, EW; Muir, DC; Letcher, RJ. (2008). Target tissue selectivity and burdens of diverse classes of brominated and chlorinated contaminants in polar bears (*Ursus maritimus*) from East Greenland. *Environ Sci Technol.* 42: 752-759. <http://dx.doi.org/10.1021/es071941f>.
- Gereben, B; Zeöld, A; Dentice, M; Salvatore, D; Bianco, AC. (2008). Activation and inactivation of thyroid hormone by deiodinases: local action with general consequences [Review]. *Cell Mol Life Sci.* 65: 570-590. <http://dx.doi.org/10.1007/s00018-007-7396-0>.
- Gerecke, AC; Hartmann, PC; Heeb, NV; Kohler, HPE; Giger, W; Schmid, P; Zennegg, M; Kohler, M. (2005). Anaerobic degradation of decabromodiphenyl ether. *Environ Sci Technol.* 39: 1078-1083. <http://dx.doi.org/10.1021/es048634j>.
- Gerecke, AC; Schmid, P; Bogdal, C; Kohler, M; Zennegg, M; Heeb, NV. (2008). Brominated flame retardants - Endocrine-disrupting chemicals in the Swiss environment. *Chimia.* 62: 352-357. <http://dx.doi.org/10.2533/chimia.2008.352>.
- Germer, S; van der Ven, L; Piersma, AH; Schrenk, D. (2005). Effect of hexabromocyclododecane (HBCDD), a flame retardant, on expression of cytochrome P450 enzymes in rat liver [Abstract]. *Naunyn Schmiedebergs Arch Pharmacol.* 371: R109-R109.
- Gevao, B; Al-Bahloul, M; Al-Ghadban, AN; Ali, L; Al-Omair, A; Helaleh, M; Al-Matrouk, K; Zafar, J. (2006). Polybrominated diphenyl ethers in indoor air in Kuwait: Implications for human exposure. *Atmos Environ.* 40: 1419-1426. <http://dx.doi.org/10.1016/j.atmosenv.2005.10.053>.
- Gevao, B; Beg, MU; Al-Ghadban, AN; Al-Omair, A; Helaleh, M; Zafar, J. (2006). Spatial distribution of polybrominated diphenyl ethers in coastal marine sediments receiving industrial and municipal effluents in Kuwait. *Chemosphere.* 62: 1078-1086. <http://dx.doi.org/10.1016/j.chemosphere.2005.05.030>.
- Ghanem, R; Baker, H. (2009). Determination of decabromodiphenyl ether in backcoated textile preparation. *J Hazard Mater.* 162: 249-253. <http://dx.doi.org/10.1016/j.jhazmat.2008.05.071>.
- Ghanem, R; Delmani, FA. (2012). Kinetics of thermal and photolytic degradation of decabromodiphenyl ether (BDE 209) in backcoated textile samples. *J Anal Appl Pyrol.* 98: 79-85. <http://dx.doi.org/10.1016/j.jaap.2012.09.001>.
- Gilbert, ME. (2011). Impact of low-level thyroid hormone disruption induced by propylthiouracil on brain development and function. *Toxicol Sci.* 124: 432-445. <http://dx.doi.org/10.1093/toxsci/kfr244>.
- Gilbert, ME; Hedge, JM; Valentin-Blasini, L; Blount, BC; Kannan, K; Tietge, J; Zoeller, RT; Crofton, KM; Jarrett, JM; Fisher, JW. (2013). An animal model of marginal iodine deficiency during development: The thyroid axis and neurodevelopmental outcome. *Toxicol Sci.* 132: 177-195. <http://dx.doi.org/10.1093/toxsci/kfs335>.
- Gilbert, ME; Ramos, RL; McCloskey, DP; Goodman, JH. (2014). Subcortical band heterotopia in rat offspring following maternal hypothyroxinaemia: structural and functional characteristics. *J Neuroendocrinol.* 26: 528-541. <http://dx.doi.org/10.1111/jne.12169>.
- Gilbert, ME; Ramos, RL; McCloskey, DP; Goodman, JH. (2014). Subcortical band heterotopia in rat offspring following maternal hypothyroxinaemia: structural and functional characteristics : Supplemental material [Supplemental Data]. *J Neuroendocrinol.* 26: 528-541.
- Gilbert, ME; Rovet, J; Chen, Z; Koibuchi, N. (2012). Developmental thyroid hormone disruption: prevalence, environmental contaminants and neurodevelopmental consequences. *Neurotoxicology.* 33: 842-852. <http://dx.doi.org/10.1016/j.neuro.2011.11.005>.
- Gilbert, ME; Sanchez-Huerta, K; Wood, C. (2016). Mild thyroid hormone insufficiency during development compromises activity-dependent neuroplasticity in the hippocampus of adult male rats. *Endocrinology.* 157: 774-787. <http://dx.doi.org/10.1210/en.2015-1643>.
- Gilbert, ME; Sanchez-Huerta, K; Wood, C. (2016). Mild thyroid hormone insufficiency during development compromises activity-dependent neuroplasticity in the hippocampus of adult male rats : Supplemental data [Supplemental Data]. *Endocrinology.* 157: 774-787.
- Gilbert, ME; Zoeller, RT. (2010). Chapter 4. Thyroid hormones—Impact on the developing brain. In GJ Harry; HA Tilson (Eds.), *Target organ toxicology series* (3rd ed., pp. 79-111). New York, NY: CRC Press.
- Gilchrist, TT; Letcher, RJ; Thomas, P; Fernie, KJ. (2014). Polybrominated diphenyl ethers and multiple stressors influence the reproduction of free-ranging tree swallows (*Tachycineta bicolor*) nesting at wastewater treatment plants. *Sci Total Environ.* 472: 63-71. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.090>.
- GLCC. (1994). INITIAL SUBMISSION: LETTER FROM GREAT LAKES CHEM CORP TO DYNAMAC CORP/USEPA SUBMITTING INFO RE HEXABROMOCYCLODODECANE AND BIS(TRIBROMOPHENOXY) ETHANE W/ATTCHMTS, DATED 2/13/89. (TSCATS/443687).
- Glynn, A; Lignell, S; Darnerud, PO; Aune, M; Halldin Ankarberg, E; Bergdahl, IA; Barregård, L; Bensryd, I. (2011). Regional differences in levels of chlorinated and brominated pollutants in mother's milk from primiparous women in Sweden. *Environ Int.* 37: 71-79. <http://dx.doi.org/10.1016/j.envint.2010.07.003>.
- Gnatta, E; Zaninotto, M; Epifani, MG; Padoan, A; Gjini, R; Plebani, M. (2014). A new sampling device for faecal immunochemical testing: haemoglobin stability is still an open issue. *Clin Chem Lab Med.* 52: 1203-1209. <http://dx.doi.org/10.1515/cclm-2013-1074>.

Fate Literature Search Results

Off Topic

- Gómara, B; Lebrón-Aguilar, R; Quintanilla-López, JE; González, MJ. (2007). Development of a new method for the enantiomer specific determination of HBCD using an ion trap mass spectrometer. *Anal Chim Acta*. 605: 53-60.
<http://dx.doi.org/10.1016/j.aca.2007.10.019>.
- Gonchikzhapov, MB; Paletsky, AA; Kuibida, LV; Shundrina, IK; Korobeinichev, OP. (2012). Reducing the flammability of ultra-high-molecular-weight polyethylene by triphenyl phosphate additives. *Combustion, Explosion, and Shock Waves*. 48: 579-589.
<http://dx.doi.org/10.1134/S0010508212050097>.
- Gong, W; Zhu, L; Hao, Y. (2016). Lethal and Sublethal Toxicity Comparison of BFRs to Three Marine Planktonic Copepods: Effects on Survival, Metabolism and Ingestion. *PLoS ONE*. 11: e0147790. <http://dx.doi.org/10.1371/journal.pone.0147790>.
- Gosciny, S; Vandevijvere, S; Maleki, M; Van Overmeire, I; Windal, I; Hanot, V; Blaude, MN; Vleminckx, C; Van Locho, J. (2011). Dietary intake of hexabromocyclododecane diastereoisomers (α -, β -, and γ -HBCD) in the Belgian adult population. *Chemosphere*. 84: 279-288.
<http://dx.doi.org/10.1016/j.chemosphere.2011.04.048>.
- Goss, K; aiUwe; Arp, HPH; Bronner, G; Niederer, C. (2008). Partition behavior of hexachlorocyclohexane isomers. *Journal of Chemical and Engineering Data*. 53: 750-754. <http://dx.doi.org/10.1021/je700595y>.
- Gou, Y, anYou; Hsu, Y, iC; Chao, H, owRan; Que, DE; Tayo, LL; Lin, CH; Huang, SM; Tsai, CH; Shih, SI. (2016). Pollution Characteristics and Diurnal Variations in Polybrominated Diphenyl Ethers in Indoor and Outdoor Air from Vehicle Dismantler Factories in Southern Taiwan. *Aerosol Air Qual Res*. 16: 1931-1941. <http://dx.doi.org/10.4209/aaqr.2016.06.0249>.
- GREAT LAKES CHEM CORP. (1990). THE ACUTE TOXICITY OF HBCD LOT 990-17 TO THE BLUEGILL SUNFISH LEPOMIS MACROCHIRUS RAFINESQUE WITH TEST DATA AND COVER LETTER. (TSCATS/407260). UNION CARBIDE CORP.
- Great Lakes Chemical Corporation. (2007). CD-75P™ Halogenated flame retardant. Technical information. Middlebury, CT.
<http://greatlakes.com/deployedfiles/ChemturaV8/GreatLakes/Flame%20Retardants/FR%20Products/CD-75P%20TDS.pdf>.
- Gregoraszcuk, EL; Milczarek, K; Wojtowicz, AK; Berg, V; Skaare, JU; Ropstad, E. (2008). Steroid secretion following exposure of ovarian follicular cells to three different natural mixtures of persistent organic pollutants (POPs). *Reprod Toxicol*. 25: 58-66.
<http://dx.doi.org/10.1016/j.reprotox.2007.10.00>.
- Gronstal, A; Pearson, V; Kappler, A; Dooris, C; Anand, M; Poitrasson, F; Kee, TP; Cockell, CS. (2009). Laboratory experiments on the weathering of iron meteorites and carbonaceous chondrites by iron-oxidizing bacteria. *Meteoritics and Planetary Science*. 44: 233-247.
- GSRI. (1994). Initial submission: Letter from Ethyl Corp to USEPA re technical and toxicity data on brominated flame retardants including hexabromocyclododecane, * w/attchmts, dated 5/23/88 [TSCA Submission]. (FYIOTS07940947). Baton Rouge, LA: Ethyl Corporation.
<https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0000947>.
- Guan, J, inP; Chen, G, uoQ. (2006). Flame retardancy finish with an organophosphorus retardant on silk fabrics. *Fire and Materials*. 30: 415-424.
<http://dx.doi.org/10.1002/fam.920>.
- Guerra, P; Alaae, M; Jiménez, B; Pacepavicius, G; Marvin, C; Macinnis, G; Eljarrat, E; Barceló, D; Champoux, L; Fernie, K. (2012). Emerging and historical brominated flame retardants in peregrine falcon (*Falco peregrinus*) eggs from Canada and Spain. *Environ Int*. 40: 179-186.
<http://dx.doi.org/10.1016/j.envint.2011.07.014>.
- Guerra, P; de la Torre, A; Martínez, MA; Eljarrat, E; Barceló, D. (2008). Identification and trace level determination of brominated flame retardants by liquid chromatography/quadrupole linear ion trap mass spectrometry. *Rapid Commun Mass Spectrom*. 22: 916-924.
<http://dx.doi.org/10.1002/rcm.3443>.
- Guerra, P; Eljarrat, E; Barcelo, D. (2010). Analysis and occurrence of emerging brominated flame retardants in the Llobregat River basin. *J Hydrol*. 383: 39-43. <http://dx.doi.org/10.1016/j.jhydrol.2009.06.052>.
- Guerra, P; Eljarrat, E; Barceló, D. (2008). Enantiomeric specific determination of hexabromocyclododecane by liquid chromatography-quadrupole linear ion trap mass spectrometry in sediment samples. *J Chromatogr A*. 1203: 81-87.
<http://dx.doi.org/10.1016/j.chroma.2008.07.027>.
- Guerra, P; Eljarrat, E; Barceló, D. (2010). Simultaneous determination of hexabromocyclododecane, tetrabromobisphenol A, and related compounds in sewage sludge and sediment samples from Ebro River basin (Spain). *Anal Bioanal Chem*. 397: 2817-2824.
<http://dx.doi.org/10.1007/s00216-010-3670-3>.
- Gyalpo, T; Toms, LM; Mueller, JF; Harden, FA; Scheringer, M; Hungerbühler, K. (2015). Insights into PBDE Uptake, Body Burden, and Elimination Gained from Australian Age-Concentration Trends Observed Shortly after Peak Exposure. *Environ Health Perspect*. 123: 978-984.
<http://dx.doi.org/10.1289/ehp.1408960>.
- Haddow, JE; Palomaki, GE; Allan, WC; Williams, J. R.; Knight, GJ; Gagnon, J; O'Heir, CE; Mitchell, ML; Hermos, RJ; Waisbren, SE; Faix, JD; Klein, RZ. (1999). Maternal thyroid deficiency during pregnancy and subsequent neuropsychological development of the child. *N Engl J Med*. 341: 549-555. <http://dx.doi.org/10.1056/NEJM199908193410801>.
- Hajslova, J; Pulkrabova, J; Poustka, J, an; Cajka, T; Randak, T. (2007). Brominated flame retardants and related chlorinated persistent organic pollutants in fish from river Elbe and its main tributary Vltava. *Chemosphere*. 69: 1195-1203.
<http://dx.doi.org/10.1016/j.chemosphere.2007.06.030>.
- Hakk, H. (2010). Different HBCD stereoisomers are metabolized differently. *Toxicol Lett*. 196: S33-S34.
<http://dx.doi.org/10.1016/j.toxlet.2010.03.151>.
- Hakk, H. (2016). Comparative Metabolism Studies of Hexabromocyclododecane (HBCD) Diastereomers in Male Rats Following a Single Oral Dose. *Environ Sci Technol*. 50: 89-96. <http://dx.doi.org/10.1021/acs.est.5b04510>.
- Hakk, H; Szabo, DT; Huwe, J; Diliberto, J; Birnbaum, LS. (2012). Novel and distinct metabolites identified following a single oral dose of α - or γ -hexabromocyclododecane in mice. *Environ Sci Technol*. 46: 13494-13503. <http://dx.doi.org/10.1021/es303209g>.
- Hall, AP; Elcombe, CR; Foster, JR; Harada, T; Kaufmann, W; Knippel, A; Küttler, K; Malarkey, DE; Maronpot, RR; Nishikawa, A; Nolte, T; Schulte, A; Strauss, V; York, MJ. (2012). Liver hypertrophy: a review of adaptive (adverse and non-adverse) changes--conclusions from the 3rd International ESTP Expert Workshop [Review]. *Toxicol Pathol*. 40: 971-994. <http://dx.doi.org/10.1177/0192623312448935>.

Fate Literature Search Results

Off Topic

- Hallgren, S; Darnerud, PO. (2002). Polybrominated diphenyl ethers (PBDEs), polychlorinated biphenyls (PCBs) and chlorinated paraffins (CPs) in rats-testing interactions and mechanisms for thyroid hormone effects. *Toxicology*. 177: 227-243. [http://dx.doi.org/10.1016/S0300-483X\(02\)00222-6](http://dx.doi.org/10.1016/S0300-483X(02)00222-6).
- Ham, K; Jin, H; Al-Raoush, R; Xie, XG; Willson, CS; Byerly, GR; Simeral, LS; Rivers, ML; Kurtz, RL; Butler, LG. (2004). Three-dimensional chemical analysis with synchrotron tomography at multiple x-ray energies: Brominated aromatic flame retardant and antimony oxide in polystyrene. *Chem Mater*. 16: 4032-4042. <http://dx.doi.org/10.1021/cm0350333>.
- Hamdani-Devarenes, S; El Hage, R; Dumazert, L; Sonnier, R; Ferry, L; Lopez-Cuesta, JM; Bert, C. (2016). Water-based flame retardant coating using nano-boehmite for expanded polystyrene (EPS) foam. *Progr Org Coating*. 99: 32-46. <http://dx.doi.org/10.1016/j.porgcoat.2016.04.036>.
- Han, C; Chen, X; Xie, W; Zhu, Z; Liu, C; Chen, F; Shen, Y. (2010). Determination of hexabromocyclododecane diastereoisomers in *Sargassum fusiforme* and comparison of the extraction efficiency of ultrasonication, microwave-assisted extraction, Soxhlet extraction and pressurised liquid extraction. *J Sep Sci*. 33: 3319-3325. <http://dx.doi.org/10.1002/jssc.201000558>.
- Han, Q; Song, H; Gao, S; Zeng, X; Yu, Z; Yu, Y; Sheng, G; Fu, J. (2014). Determination of ten hexabromocyclododecane diastereoisomers using two coupled reversed-phase columns and liquid chromatography/tandem mass spectrometry. *Rapid Commun Mass Spectrom*. 28: 1473-1478. <http://dx.doi.org/10.1002/rcm.6922>.
- Hardy, ML; ASSOC, FRC. (1997). Status of regulatory activities on brominated flame retardants in Europe and the United States. 237-244.
- Hardy, ML; Biesemeier, J; Manor, O; Gentit, W. (2003). Industry-sponsored research on the potential health and environmental effects of selected brominated flame retardants. *Environ Int*. 29: 793-799. [http://dx.doi.org/10.1016/S0160-4120\(03\)00111-9](http://dx.doi.org/10.1016/S0160-4120(03)00111-9).
- Harju, M; Hamers, T; Kamstra, JH; Sonneveld, E; Boon, JP; Tysklind, M; Andersson, PL. (2007). Quantitative structure-activity relationship modeling on in vitro endocrine effects and metabolic stability involving 26 selected brominated flame retardants. *Environ Toxicol Chem*. 26: 816-826. <http://dx.doi.org/10.1897/06-308R.1>.
- Harrad, S; Abdallah, MA. (2008). Calibration of two passive air sampler configurations for monitoring concentrations of hexabromocyclododecanes in indoor air. *J Environ Monit*. 10: 527-531. <http://dx.doi.org/10.1039/b719638e>.
- Harrad, S; Abdallah, MA. (2011). Brominated flame retardants in dust from UK cars--within-vehicle spatial variability, evidence for degradation and exposure implications. *Chemosphere*. 82: 1240-1245. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.038>.
- Harrad, S; Abdallah, MA. (2015). Concentrations of polybrominated diphenyl ethers, hexabromocyclododecanes and tetrabromobisphenol-A in breast milk from United Kingdom women do not decrease over twelve months of lactation. *Environ Sci Technol*. 49: 13899-13903. <http://dx.doi.org/10.1021/acs.est.5b00539>.
- Harrad, S; de Wit, CA; Abdallah, MA; Bergh, C; Björklund, JA; Covaci, A; Darnerud, PO; de Boer, J; Diamond, M; Huber, S; Leonards, P; Mandalakis, M; Ostman, C; Haug, LS; Thomsen, C; Webster, TF. (2010). Indoor contamination with hexabromocyclododecanes, polybrominated diphenyl ethers, and perfluoroalkyl compounds: an important exposure pathway for people [Review]. *Environ Sci Technol*. 44: 3221-3231. <http://dx.doi.org/10.1021/es903476t>.
- Harrad, S; Goosey, E; Desborough, J; Abdallah, MA; Roosens, L; Covaci, A. (2010). Dust from U.K. primary school classrooms and daycare centers: the significance of dust as a pathway of exposure of young U.K. children to brominated flame retardants and polychlorinated biphenyls. *Environ Sci Technol*. 44: 4198-4202. <http://dx.doi.org/10.1021/es100750s>.
- Harrad, S; Ibarra, C; Abdallah, MAE; Boon, R; Neels, H; Covaci, A. (2008). Concentrations of brominated flame retardants in dust from United Kingdom cars, homes, and offices: causes of variability and implications for human exposure. *Environ Int*. 34: 1170-1175. <http://dx.doi.org/10.1016/j.envint.2008.05.001>.
- Harry, GJ; Tilson, HA. (2010). Neurotoxicology. In *Target organ toxicology series* (3rd ed.). New York, NY: CRC Press.
- Haskell Laboratories. (1990). LETTER FROM E I DUPONT DE NEMOURS and CO TO USEPA CONCERNING ENCLOSED STUDIES ON DECBROMODIPHENYL ETHER, HEXABROMOCYCLODODECANE AND 4-VINYLCYCLOHEXANE WITH ATTACHMENTS (SANITIZED). (TSCATS/405773).
- Hassan, Y; Shoeib, T. (2014). Levels of polybrominated diphenyl ethers and novel flame retardants in microenvironment dust from Egypt: An assessment of human exposure. *Sci Total Environ*. 505C: 47-55. <http://dx.doi.org/10.1016/j.scitotenv.2014.09.080>.
- Hattis, D; Goble, R; Russ, A; Chu, M; Ericson, J. (2004). Age-related differences in susceptibility to carcinogenesis: A quantitative analysis of empirical animal bioassay data. *Environ Health Perspect*. 112: 1152-1158. <http://dx.doi.org/10.1289/ehp.6871>.
- Haug, LS; Thomsen, C; Liane, VH; Becher, G. (2008). Comparison of GC and LC determinations of hexabromocyclododecane in biological samples - results from two interlaboratory comparison studies. *Chemosphere*. 71: 1087-1092. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.044>.
- Haukås, M; Mariussen, E; Ruus, A; Tollefsen, KE. (2009). Accumulation and disposition of hexabromocyclododecane (HBCD) in juvenile rainbow trout (*Oncorhynchus mykiss*). *Aquat Toxicol*. 95: 144-151. <http://dx.doi.org/10.1016/j.aquatox.2009.08.010>.
- Haynes, WM. (2014). CRC handbook of chemistry and physics. In WM Haynes (Ed.), (95 ed.). Boca Raton, FL: CRC Press. <http://www.hbcpnetbase.com/>.
- He, Q, un; Wang, X; Sun, P; Wang, Z; Wang, L. (2015). Acute and chronic toxicity of tetrabromobisphenol A to three aquatic species under different pH conditions. *Aquat Toxicol*. 164: 145-154. <http://dx.doi.org/10.1016/j.aquatox.2015.05.005>.
- Hebeish, A; Elaref, A; Aboushousha, M; Zamzam, N. (1994). CHEMICAL FINISHING OF COTTON .2. COMBINED EASY-CARE FLAME RETARDANCY FINISHING OF COTTON. *Cellulose Chemistry and Technology*. 28: 299-314.
- Hebeish, A; Elaref, AT; Higazy, A; Zamzam, N. (1994). CHEMICAL FINISHING OF COTTON .3. MULTIFINISHING OF COTTON FABRIC IN A SINGLE-STAGE PROCESS. *Cellulose Chemistry and Technology*. 28: 315-327.
- Heeb, NV; Graf, H; Bernd Schweizer, W; Lienemann, P. (2010). Isobutoxypentabromocyclododecanes (iBPBCDs): a new class of polybrominated compounds. *Chemosphere*. 78: 950-957. <http://dx.doi.org/10.1016/j.chemosphere.2009.12.045>.

Fate Literature Search Results

Off Topic

- Heeb, NV; Graf, H; Schweizer, WB; Heeb, M; Lienemann, P. (2011). Crystal structure of δ -isobutoxypentabromo-cyclododecanes, kinetics and selectivity of their isomerization during thermal treatment of flame-proofed polystyrenes. *Chemosphere*. 83: 1568-1574. <http://dx.doi.org/10.1016/j.chemosphere.2011.01.022>.
- Heeb, NV; Graf, H; Schweizer, WB; Lienemann, P. (2010). Thermally-induced transformation of hexabromocyclo dodecanes and isobutoxypenta bromocyclododecanes in flame-proofed polystyrene materials. *Chemosphere*. 80: 701-708. <http://dx.doi.org/10.1016/j.chemosphere.2010.05.034>.
- Heeb, NV; Schweizer, WB; Kohler, M; Gerecke, AC. (2005). Structure elucidation of hexabromocyclododecanes--a class of compounds with a complex stereochemistry. *Chemosphere*. 61: 65-73. <http://dx.doi.org/10.1016/j.chemosphere.2005.03.015>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Gerecke, AC; Kohler, M; Schmid, P; Zennegg, M; Wolfensberger, M. (2007). Solid-state conformations and absolute configurations of (+) and (-) alpha-, beta-, and gamma-hexabromocyclododecanes (HBCDs). *Chemosphere*. 68: 940-950. <http://dx.doi.org/10.1016/j.chemosphere.2007.01.032>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Gerecke, AC; Schmid, P; Zennegg, M; Vonmont, H. (2008). Regio- and stereoselective isomerization of hexabromocyclododecanes (HBCDs): kinetics and mechanism of gamma- to alpha-HBCD isomerization. *Chemosphere*. 73: 1201-1210. <http://dx.doi.org/10.1016/j.chemosphere.2008.07.045>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Kohler, M. (2007). Crystal structure analysis of enantiomerically pure (+) and (-) beta-hexabromocyclododecanes. *Chemosphere*. 66: 1590-1594. <http://dx.doi.org/10.1016/j.chemosphere.2006.09.051>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Kohler, M; Schmid, P; Zennegg, M; Wolfensberger, M. (2008). Regio- and stereoselective isomerization of hexabromocyclododecanes (HBCDs): kinetics and mechanism of beta-HBCD racemization. *Chemosphere*. 71: 1547-1556. <http://dx.doi.org/10.1016/j.chemosphere.2007.11.044>.
- Heeb, NV; Wyss, SA; Geueke, B; Fleischmann, T; Kohler, HP; Bernd Schweizer, W; Moor, H; Lienemann, P. (2015). Stereochemistry of enzymatic transformations of (+)β- and (-)β-HBCD with LinA2--a HCH-degrading bacterial enzyme of *Sphingobium indicum* B90A. *Chemosphere*. 122: 70-78. <http://dx.doi.org/10.1016/j.chemosphere.2014.11.008>.
- Heeb, NV; Wyss, SA; Geueke, B; Fleischmann, T; Kohler, HP; Lienemann, P. (2014). LinA2, a HCH-converting bacterial enzyme that dehydrohalogenates HBCDs. *Chemosphere*. 107: 194-202. <http://dx.doi.org/10.1016/j.chemosphere.2013.12.035>.
- Heeb, NV; Zindel, D; Geueke, B; Kohler, HP; Lienemann, P. (2012). Biotransformation of Hexabromocyclododecanes (HBCDs) with LinB--an HCH-converting bacterial enzyme. *Environ Sci Technol*. 46: 6566-6574. <http://dx.doi.org/10.1021/es2046487>.
- Heeb, NV; Zindel, D; Graf, H; Azara, V; Schweizer, WB; Geueke, B; Kohler, HP; Lienemann, P. (2013). Stereochemistry of LinB-catalyzed biotransformation of δ -HBCD to 1R,2R,5S,6R,9R,10S-pentabromocyclododecanol. *Chemosphere*. 90: 1911-1919. <http://dx.doi.org/10.1016/j.chemosphere.2012.10.019>.
- Helgason, LB; Polder, A; Føreid, S; Baek, K; Lie, E; Gabrielsen, GW; Barrett, RT; Skaare, JU. (2009). Levels and temporal trends (1983-2003) of polybrominated diphenyl ethers and hexabromocyclododecanes in seabird eggs from north Norway. *Environ Toxicol Chem*. 28: 1096-1103. <http://dx.doi.org/10.1897/08-404.1>.
- Henny, CJ; Kaiser, JL; Grove, RA; Johnson, BL; Letcher, RJ. (2009). Polybrominated diphenyl ether flame retardants in eggs may reduce reproductive success of ospreys in Oregon and Washington, USA. *Ecotoxicology*. 18: 802-813. <http://dx.doi.org/10.1007/s10646-009-0323-4>.
- Herzke, D; Berger, U; Kallenborn, R; Nygård, T; Vetter, W. (2005). Brominated flame retardants and other organobromines in Norwegian predatory bird eggs. *Chemosphere*. 61: 441-449. <http://dx.doi.org/10.1016/j.chemosphere.2005.01.066>.
- Hites, RA. (2005). Brominated flame retardants in the environment. *J Environ Monit*. 7: 1033-1036.
- Holm, G; Lundstrom, J; Andersson, T; Norrgren, L. (1994). Influences of halogenated organic substances on ovarian development and hepatic EROD activity in the three-spined stickleback, *Gasterosteus aculeatus*, and rainbow trout, *Oncorhynchus mykiss*. *Aquat Toxicol*. 29: 241-256. [http://dx.doi.org/10.1016/0166-445X\(94\)90071-X](http://dx.doi.org/10.1016/0166-445X(94)90071-X).
- Holm, G; Norrgren, L; Andersson, T; Thuren, A. (1993). EFFECTS OF EXPOSURE TO FOOD CONTAMINATED WITH PBDE, PCN OR PCB ON REPRODUCTION, LIVER MORPHOLOGY AND CYTOCHROME-P450 ACTIVITY IN THE 3-SPINED STICKLEBACK, *GASTEROSTEUS-ACULEATUS*. *Aquat Toxicol*. 27: 33-50. [http://dx.doi.org/10.1016/0166-445X\(93\)90045-3](http://dx.doi.org/10.1016/0166-445X(93)90045-3).
- Hong, H; Li, D; Shen, R; Wang, X; Shi, D. (2014). Mechanisms of hexabromocyclododecanes induced developmental toxicity in marine medaka (*Oryzias melastigma*) embryos. *Aquat Toxicol*. 152: 173-185. <http://dx.doi.org/10.1016/j.aquatox.2014.04.010>.
- Hong, H; Shen, R; Liu, W; Li, D; Huang, L; Shi, D. (2015). Developmental toxicity of three hexabromocyclododecane diastereoisomers in embryos of the marine medaka *Oryzias melastigma*. *Mar Pollut Bull*. 101: 110-118. <http://dx.doi.org/10.1016/j.marpolbul.2015.11.009>.
- Hong, J; Gao, S; Chen, L; Han, Q; Yu, Z; Peng, P; Fu, J. (2016). Hexabromocyclododecanes in the indoor environment of two cities in South China: their occurrence and implications of human inhalation exposure. *Indoor Built Environ*. 25: 41-49. <http://dx.doi.org/10.1177/1420326X13499170>.
- Hong, SH; Shim, WJ; Han, GM; Ha, SY; Jang, M; Rani, M; Hong, S; Yeo, GY. (2014). Levels and profiles of persistent organic pollutants in resident and migratory birds from an urbanized coastal region of South Korea. *Sci Total Environ*. 470-471: 1463-1470. <http://dx.doi.org/10.1016/j.scitotenv.2013.07.089>.
- Hrádková, P; Pulkrabová, J; Kalachová, K; Hloušková, V; Tomaniová, M; Poustka, J; Hajšlová, J. (2012). Occurrence of halogenated contaminants in fish from selected river localities and ponds in the Czech Republic. *Arch Environ Contam Toxicol*. 62: 85-96. <http://dx.doi.org/10.1007/s00244-011-9681-z>.
- Hu, F; Pan, L; Xiu, M; Jin, Q. (2015). Exposure of *Chlamys farreri* to tetrabromobisphenol A: accumulation and multibiomarker responses. *Environ Sci Pollut Res Int*. 22: 12224-12234. <http://dx.doi.org/10.1007/s11356-015-4487-6>.
- Hu, F; Pan, L; Xiu, M; Jin, Q; Wang, G; Wang, C. (2015). Bioaccumulation and detoxification responses in the scallop *Chlamys farreri* exposed to tetrabromobisphenol A (TBBPA). *Environ Toxicol Pharmacol*. 39: 997-1007. <http://dx.doi.org/10.1016/j.etap.2015.03.006>.

Fate Literature Search Results

Off Topic

- Hu, J; Liang, Y; Chen, M; Wang, X. (2009). Assessing the toxicity of TBBPA and HBCD by zebrafish embryo toxicity assay and biomarker analysis. *Environ Toxicol*. 24: 334-342. <http://dx.doi.org/10.1002/tox.20436>.
- Hu, J, tao; Yao, Y, nan; Liu, X, iusen; Ao, Y, uhui; Zhang, H, uiX. (2009). The application of a novel flame retardant on viscose fiber. *Fire and Materials*. 33: 145-156. <http://dx.doi.org/10.1002/fam.990>.
- Hu, X; Hu, D; Song, Q; Li, J; Wang, P. (2011). Determinations of hexabromocyclododecane (HBCD) isomers in channel catfish, crayfish, hen eggs and fish feeds from China by isotopic dilution LC-MS/MS. *Chemosphere*. 82: 698-707. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.096>.
- Huang, X; Chen, C; Shang, Y; Zhong, Y; Ren, G; Yu, Z; An, J. (2016). In vitro study on the biotransformation and cytotoxicity of three hexabromocyclododecane diastereoisomers in liver cells. *Chemosphere*. 161: 251-258. <http://dx.doi.org/10.1016/j.chemosphere.2016.07.001>.
- Hühnerfuss, H; Shah, MR. (2009). Enantioselective chromatography-a powerful tool for the discrimination of biotic and abiotic transformation processes of chiral environmental pollutants [Review]. *J Chromatogr A*. 1216: 481-502. <http://dx.doi.org/10.1016/j.chroma.2008.09.043>.
- Hung, W, eiHan; Liu, CW, ei; Liang, C, ij; Kang, SC. (2016). Strategies to accelerate the computation of erection paths for construction cranes. *Automation in Construction*. 62: 1-13. <http://dx.doi.org/10.1016/j.autcon.2015.10.008>.
- Ibhazehiebo, K; Iwasaki, T; Shimokawa, N; Kimura-Kuroda, J; Koibuchi, N. (2010). Suppression of cerebellar Purkinje cell dendrite arborization by alpha-hexabromocyclododecane. *J Physiol Sci*. 60: S78-S78.
- IBT Labs. (1990). Mutagenicity of two lots of FM-100 lot 53 and residue of lot 3322 in the absence and presence of metabolic activation with test data and cover letter [TSCA Submission]. (TSCATS/407259. OTS0523259. Doc I.D. 86900000267). West Lafayette, IN: Great Lakes Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0523259>.
- Ilyas, M; Sudaryanto, A; Setiawan, IE; Riyadi, AS; Isobe, T; Ogawa, S; Takahashi, S; Tanabe, S. (2011). Characterization of polychlorinated biphenyls and brominated flame retardants in surface soils from Surabaya, Indonesia. *Chemosphere*. 83: 783-791. <http://dx.doi.org/10.1016/j.chemosphere.2011.02.067>.
- Ilyas, M; Sudaryanto, A; Setiawan, IE; Riyadi, AS; Isobe, T; Takahashi, S; Tanabe, S. (2011). Characterization of polychlorinated biphenyls and brominated flame retardants in sediments from riverine and coastal waters of Surabaya, Indonesia. *Mar Pollut Bull*. 62: 89-98. <http://dx.doi.org/10.1016/j.marpolbul.2010.09.006>.
- Iwata, T; Nakai, S. (2011). Exposure Assessment of Hexabromocyclododecane Among Japanese Population. *Epidemiology*. 22: S89-S89.
- Ji, XL; Liu, Y; Liu, F; Lu, Y; Zhong, GR. (2010). [Transthyretin-binding activity of hexabromocyclododecanes (HBCDs) and its thyroid hormone disrupting effects after developmental exposure]. *Huanjing Kexue*. 31: 2191-2195.
- Jiang, X; Chu, S; Chen, Y; Zhong, Y; Liu, Y, u; Shao, Z. (2017). LiNi_{0.29}Co_{0.33}Mn_{0.38}O₂ polyhedrons with reduced cation mixing as a high-performance cathode material for Li-ion batteries synthesized via a combined co-precipitation and molten salt heating technique. *J Alloy Comp*. 691: 206-214. <http://dx.doi.org/10.1016/j.jallcom.2016.08.139>.
- Jin, S; Cheng, Q; Wan, P; Liao, T, ao; Huang, Y, an; COMM, CO. (2010). Cytotoxic Effect Of Decabrominated Diphenyl Ether on RTG-2 cells. 346-350.
- Johnson, PI; Stapleton, HM; Sjodin, A; Meeker, JD. (2010). Relationships between polybrominated diphenyl ether concentrations in house dust and serum. *Environ Sci Technol*. 44: 5627-5632. <http://dx.doi.org/10.1021/es100697q>.
- Jörundsdóttir, H; Löfstrand, K; Svavarsson, J; Bignert, A; Bergman, Å. (2013). Polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) in seven different marine bird species from Iceland. *Chemosphere*. 93: 1526-1532. <http://dx.doi.org/10.1016/j.chemosphere.2013.07.061>.
- Jung, J; Bale, S; Lee, L; Shin, JK; Choi, J; Lee, S. (2009). Rapid identification of brominated flame retardants by using direct exposure probe mass spectrometry. *Microchem J*. 91: 140-146. <http://dx.doi.org/10.1016/j.microc.2008.09.005>.
- Kadota, K; Nishimura, T; Hotta, D; Tozuka, Y. (2015). Preparation of composite particles of hydrophilic or hydrophobic drugs with highly branched cyclic dextrin via spray drying for dry powder inhalers. *Powder Technology*. 283: 16-23. <http://dx.doi.org/10.1016/j.powtec.2015.05.014>.
- Kadota, K; Senda, A; Ito, T; Tozuka, Y. (2015). Feasibility of highly branched cyclic dextrin as an excipient matrix in dry powder inhalers. *Eur J Pharm Sci*. 79: 79-86. <http://dx.doi.org/10.1016/j.ejps.2015.09.006>.
- Kajiwara, N; Desborough, J; Harrad, S; Takigami, H. (2013). Photolysis of brominated flame retardants in textiles exposed to natural sunlight. *Environ Sci Process Impacts*. 15: 653-660. <http://dx.doi.org/10.1039/c3em30887a>.
- Kajiwara, N; Noma, Y; Takigami, H. (2011). Brominated and organophosphate flame retardants in selected consumer products on the Japanese market in 2008. *J Hazard Mater*. 192: 1250-1259. <http://dx.doi.org/10.1016/j.jhazmat.2011.06.043>.
- Kajiwara, N; Sueoka, M; Ohiwa, T; Takigami, H. (2009). Determination of flame-retardant hexabromocyclododecane diastereoisomers in textiles. *Chemosphere*. 74: 1485-1489. <http://dx.doi.org/10.1016/j.chemosphere.2008.11.046>.
- Kakimoto, K; Akutsu, K; Konishi, Y; Tanaka, Y. (2008). Time trend of hexabromocyclododecane in the breast milk of Japanese women. *Chemosphere*. 71: 1110-1114. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.035>.
- Kakimoto, K; Nagayoshi, H; Yoshida, J; Akutsu, K; Konishi, Y; Toriba, A; Hayakawa, K. (2012). Detection of Dechlorane Plus and brominated flame retardants in marketed fish in Japan. *Chemosphere*. 89: 416-419. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.072>.
- Kalachova, K; Hradkova, P; Lankova, D; Hajslava, J; Pulkrabova, J. (2012). Occurrence of brominated flame retardants in household and car dust from the Czech Republic. *Sci Total Environ*. 441: 182-193. <http://dx.doi.org/10.1016/j.scitotenv.2012.09.061>.
- Kalantzi, OI; Geens, T; Covaci, A; Siskos, PA. (2011). Distribution of polybrominated diphenyl ethers (PBDEs) and other persistent organic pollutants in human serum from Greece. *Environ Int*. 37: 349-353. <http://dx.doi.org/10.1016/j.envint.2010.10.005>.
- Kapura, AA. (1994). CHEMISTRY OF FLAME RETARDANTS .2. NMR AND HPLC ANALYSIS OF PYROVATEX CP. *J Fire Sci*. 12: 3-13.

Fate Literature Search Results

Off Topic

- Kapura, AA. (1996). Chemistry of flame retardants .3. Aging of N-methylol-3-dimethoxyphosphorylpropionamide and commercial flame retardants for fabrics containing this substance. *J Fire Sci.* 14: 169-185.
- Kefeni, KK; Okonkwo, JO; Botha, B. (2014). Concentrations of polybromobiphenyls and polybromodiphenyl ethers in home dust: Relevance to socio-economic status and human exposure rate. *Sci Total Environ.* 470: 1250-1256. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.078>.
- Kefeni, KK; Okonkwo, JO; Olukunle, OI; Botha, B. (2011). Brominated flame retardants: sources, distribution, exposure pathways, and toxicity. *Environ Rev.* 19: 238-253. <http://dx.doi.org/10.1139/A11-010>.
- Kelly, GS. (2000). Peripheral metabolism of thyroid hormones: a review [Review]. *Altern Med Rev.* 5: 306-333.
- Kemmlin, S; Hahn, O; Jann, O. (2003). Emissions of organophosphate and brominated flame retardants from selected consumer products and building materials. *Atmos Environ.* 37: 5485-5493. <http://dx.doi.org/10.1016/j.atmosenv.2003.09.025>.
- Kemmlin, S; Herzke, D; Law, RJ. (2003). BFR-governmental testing programme [Review]. *Environ Int.* 29: 781-792. [http://dx.doi.org/10.1016/S0160-4120\(03\)00112-0](http://dx.doi.org/10.1016/S0160-4120(03)00112-0).
- Keune, H; Gutleb, AC; Zimmer, KE; Ravnum, S; Yang, A; Bartonova, A; Kraymer von Krauss, M; Ropstad, E; Eriksen, GS; Saunders, M; Magnanti, B; Forsberg, B. (2012). We're only in it for the knowledge? A problem solving turn in environment and health expert elicitation. *Environ Health.* 11 Suppl 1: S3. <http://dx.doi.org/10.1186/1476-069X-11-S1-S3>.
- Kiciński, M; Viaene, MK; Den Hond, E; Schoeters, G; Covaci, A; Dirtu, AC; Nelen, V; Bruckers, L; Croes, K; Sioen, I; Baeyens, W; Van Larebeke, N; Nawrot, TS. (2012). Neurobehavioral function and low-level exposure to brominated flame retardants in adolescents: A cross-sectional study. *Environ Health.* 11: 86. <http://dx.doi.org/10.1186/1476-069X-11-86>.
- Kierkegaard, A; Björklund, J; Fridén, U. (2004). Identification of the flame retardant decabromodiphenyl ethane in the environment. *Environ Sci Technol.* 38: 3247-3253.
- Kim, UJ; Oh, JE. (2014). Tetrabromobisphenol A and hexabromocyclododecane flame retardants in infant-mother paired serum samples, and their relationships with thyroid hormones and environmental factors. *Environ Pollut.* 184: 193-200. <http://dx.doi.org/10.1016/j.envpol.2013.08.034>.
- Klammer, H; Schlecht, C; Wuttke, W; Schmutzler, C; Gotthardt, I; Köhrle, J; Jarry, H. (2007). Effects of a 5-day treatment with the UV-filter octyl-methoxycinnamate (OMC) on the function of the hypothalamo-pituitary-thyroid function in rats. *Toxicology.* 238: 192-199. <http://dx.doi.org/10.1016/j.tox.2007.06.088>.
- Kling, P; Forlin, L. (2008). Proteomic studies in zebrafish River ceft suggest an interaction between the brominated flame retardants HBCD and TBBPA. *Mar Environ Res.* 66: 101-101.
- Kling, P; Förlin, L. (2009). Proteomic studies in zebrafish liver cells exposed to the brominated flame retardants HBCD and TBBPA. *Ecotoxicol Environ Saf.* 72: 1985-1993. <http://dx.doi.org/10.1016/j.ecoenv.2009.04.018>.
- Knutsen, HK; Kvale, HE; Thomsen, C; Frøshaug, M; Haugen, M; Becher, G; Alexander, J; Meltzer, HM. (2008). Dietary exposure to brominated flame retardants correlates with male blood levels in a selected group of Norwegians with a wide range of seafood consumption. *Mol Nutr Food Res.* 52: 217-227. <http://dx.doi.org/10.1002/mnfr.200700096>.
- Kobayashi, A; Kubo, T; Sato, T; Kitahara, Y; Amita, S; Mori, M; Suzuki, S; Otsuka, K; Hosoya, K, et al. (2013). Efficient total analyses for bromine type flame retardants by simple NCI-GC/MS. *Analytical Methods.* 5: 866-873. <http://dx.doi.org/10.1039/c2ay25983d>.
- Koch, C; Dundua, A; Aragon-Gomez, J; Nachev, M; Stephan, S; Willach, S; Ulbricht, M; Schmitz, OJ; Schmidt, TC; Sures, B. (2016). Degradation of Polymeric Brominated Flame Retardants: Development of an Analytical Approach Using PolyFR and UV Irradiation. *Environ Sci Technol.* 50: 12912-12920. <http://dx.doi.org/10.1021/acs.est.6b04083>.
- Koch, C; Schmidt-Kötters, T; Rupp, R; Sures, B. (2015). Review of hexabromocyclododecane (HBCD) with a focus on legislation and recent publications concerning toxicokinetics and -dynamics [Review]. *Environ Pollut.* 199C: 26-34. <http://dx.doi.org/10.1016/j.envpol.2015.01.011>.
- Koepfen, R; Becker, R; Emmerling, F; Jung, C; Nehls, I. (2007). Enantioselective preparative HPLC separation of the HBCD-Stereoisomers from the technical product and their absolute structure elucidation using X-ray crystallography. *Chirality.* 19: 214-222. <http://dx.doi.org/10.1002/chir.20366>.
- Kohler, HPE; Angst, W; Giger, W; Kanz, C; Müller, S; Suter, MJF. (1997). Environmental fate of chiral pollutants – the necessity of considering stereochemistry. *Chimia.* 51: 947-951.
- Koibuchi, N; Chin, MW. (2000). Thyroid hormone action and brain development. *Trends Endocrinol Metab.* 11: 123-128. [http://dx.doi.org/10.1016/S1043-2760\(00\)00238-1](http://dx.doi.org/10.1016/S1043-2760(00)00238-1).
- Koike, E; Yanagisawa, R; Takigami, H; Takano, H. (2014). Penta- and octa-bromodiphenyl ethers promote proinflammatory protein expression in human bronchial epithelial cells in vitro. *Toxicol In Vitro.* 28: 327-333. <http://dx.doi.org/10.1016/j.tiv.2013.10.014>.
- Konstantinov, A; Chittim, B; Potter, D; Klein, J; Riddell, N; Mccrindle, R. (2011). Is BDE-175 an important enough component of commercial octabromodiphenyl ether mixtures to be listed in Annex A of the Stockholm Convention? *Chemosphere.* 82: 778-781. <http://dx.doi.org/10.1016/j.chemosphere.2010.11.016>.
- Kopp, EK; Fromme, H; Voelkel, W. (2012). Analysis of common and emerging brominated flame retardants in house dust using ultrasonic assisted solvent extraction and on-line sample preparation via column switching with liquid chromatography-mass spectrometry. *J Chromatogr A.* 1241: 28-36. <http://dx.doi.org/10.1016/j.chroma.2012.04.022>.
- Korczyk, W; Góralczyk, K; Struciński, P; Hernik, A; Łyczewska, M; Matuszak, M; Czaja, K; Minorczyk, M; Ludwicki, JK. (2016). Levels of polybrominated diphenyl ethers in house dust in central Poland. *Indoor Air.* 27: 128-135. <http://dx.doi.org/10.1111/ina.12293>.
- Korobeinichev, OP; Gonchikzhapov, MB; Paletsky, AA; Tereshchenko, AG; Shundrina, IK; Kuibida, LV; Shmakov, AG; Hu, Y. (2016). Counterflow flames of ultrahigh-molecular-weight polyethylene with and without triphenylphosphate. *Combust Flame.* 169: 261-271. <http://dx.doi.org/10.1016/j.combustflame.2016.04.019>.

Fate Literature Search Results

Off Topic

- Korobeinichev, OP; Paletsky, AA; Kuibida, LV; Gonchikzhapov, MB; Shundrina, IK. (2013). Reduction of flammability of ultrahigh-molecular-weight polyethylene by using triphenyl phosphate additives. *Proc Combust Inst.* 34: 2699-2706. <http://dx.doi.org/10.1016/j.proci.2012.06.045>.
- Korytár, P; Covaci, A; Leonards, PE; de Boer, J; Brinkman, UA. (2005). Comprehensive two-dimensional gas chromatography of polybrominated diphenyl ethers. *J Chromatogr A.* 1100: 200-207. <http://dx.doi.org/10.1016/j.chroma.2005.09.038>.
- Kretschmer, XC; Baldwin, WS. (2005). CAR and PXR: xenosensors of endocrine disrupters? [Review]. *Chem Biol Interact.* 155: 111-128. <http://dx.doi.org/10.1016/j.cbi.2005.06.003>.
- Krivoshiev, BV; Dardenne, F; Blust, R; Covaci, A; Husson, SJ. (2015). Elucidating toxicological mechanisms of current flame retardants using a bacterial gene profiling assay. *Toxicol In Vitro.* 29: 2124-2132. <http://dx.doi.org/10.1016/j.tiv.2015.09.001>.
- Krol, S; Namiesnik, J; Zabiegala, B. (2014). Occurrence and levels of polybrominated diphenyl ethers (PBDEs) in house dust and hair samples from Northern Poland; an assessment of human exposure. *Chemosphere.* 110: 91-96. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.014>.
- Kubokawa, H; Takahashi, K; Nagatani, S; Hatakeyama, T. (1999). Thermal decomposition behavior of cotton/polyester blended yarn fabrics treated with flame retardants. *Sen'i Gakkaishi.* 55: 298-305.
- Kuiper, RV; Cantón, RF; Leonards, PE; Jenssen, BM; Dubbeldam, M; Wester, PW; van den Berg, M; Vos, JG; Vethaak, AD. (2007). Long-term exposure of European flounder (*Platichthys flesus*) to the flame-retardants tetrabromobisphenol A (TBBPA) and hexabromocyclododecane (HBCD). *Ecotoxicol Environ Saf.* 67: 349-360. <http://dx.doi.org/10.1016/j.ecoenv.2006.12.001>.
- Kukučka, P; Audy, O; Kohoutek, J; Holt, E; Kalábová, T; Holoubek, I; Klánová, J. (2015). Source identification, spatio-temporal distribution and ecological risk of persistent organic pollutants in sediments from the upper Danube catchment. *Chemosphere.* 138: 777-783. <http://dx.doi.org/10.1016/j.chemosphere.2015.08.001>.
- Kuo, Y, uY; Zhang, H; Gerecke, AC; Wang, J. (2014). Chemical Composition of Nanoparticles Released from Thermal Cutting of Polystyrene Foams and the Associated Isomerization of Hexabromocyclododecane (HBCD) Diastereomers. *Aerosol Air Qual Res.* 14: 1114-1120. <http://dx.doi.org/10.4209/aaqr.2013.02.0059>.
- La Guardia, MJ; Hale, RC; Harvey, E. (2006). Detailed polybrominated diphenyl ether (PBDE) congener composition of the widely used penta-, octa-, and deca-PBDE technical flame-retardant mixtures. *Environ Sci Technol.* 40: 6247-6254. <http://dx.doi.org/10.1021/es060630m>.
- Labandeira, A; Eljarrat, E; Barceló, D. (2007). Congener distribution of polybrominated diphenyl ethers in feral carp (*Cyprinus carpio*) from the Llobregat River, Spain. *Environ Pollut.* 146: 188-195. <http://dx.doi.org/10.1016/j.envpol.2006.04.037>.
- Laborie, S; Moreau-Guigon, E; Alliot, F; Desportes, A; Oziol, L; Chevreuil, M. (2016). A new analytical protocol for the determination of 62 endocrine-disrupting compounds in indoor air. *Talanta.* 147: 132-141. <http://dx.doi.org/10.1016/j.talanta.2015.09.028>.
- Lam, JC; Lau, RK; Murphy, MB; Lam, PK. (2009). Temporal trends of hexabromocyclododecanes (HBCDs) and polybrominated diphenyl ethers (PBDEs) and detection of two novel flame retardants in marine mammals from Hong Kong, South China. *Environ Sci Technol.* 43: 6944-6949. <http://dx.doi.org/10.1021/es901408t>.
- Lam, YL; Kan, CW; Yuen, CWM. (2014). Objective Measurement of Hand Properties of Plasma Pre-treated Cotton Fabrics Subjected to Flame-Retardant Finishing Catalyzed by Zinc Oxide. *Fibers and Polymers.* 15: 1880-1886. <http://dx.doi.org/10.1007/s12221-014-1880-6>.
- Lanham, SA; Fowden, AL; Roberts, C; Cooper, C; Oreffo, ROC; Forhead, AJ. (2011). Effects of hypothyroidism on the structure and mechanical properties of bone in the ovine fetus. *J Endocrinol.* 210: 189-198. <http://dx.doi.org/10.1530/JOE-11-0138>.
- Lankova, D; Kockovska, M; Lacina, O; Kalachova, K; Pulkrabova, J; Hajslova, J. (2013). Rapid and simple method for determination of hexabromocyclododecanes and other LC-MS-MS-amenable brominated flame retardants in fish. *Anal Bioanal Chem.* 405: 7829-7839. <http://dx.doi.org/10.1007/s00216-013-7076-x>.
- Lankova, D; Lacina, O; Pulkrabova, J; Hajslova, J. (2013). The determination of perfluoroalkyl substances, brominated flame retardants and their metabolites in human breast milk and infant formula. *Talanta.* 117: 318-325. <http://dx.doi.org/10.1016/j.talanta.2013.08.040>.
- Lankova, D; Svarcova, A; Kalachova, K; Lacina, O; Pulkrabova, J; Hajslova, J. (2015). Multi-analyte method for the analysis of various organohalogen compounds in house dust. *Anal Chim Acta.* 854: 61-69. <http://dx.doi.org/10.1016/j.aca.2014.11.007>.
- Lara, AB; Caballo, C; Sicilia, MD; Rubio, S. (2012). Enantiomer-specific determination of hexabromocyclododecane in fish by supramolecular solvent-based single-step sample treatment and liquid chromatography-tandem mass spectrometry. *Anal Chim Acta.* 752: 62-68. <http://dx.doi.org/10.1016/j.aca.2012.09.039>.
- Laven, JS; Mulders, AG; Visser, JA; Themmen, AP; De Jong, FH; Fauser, BC. (2004). Anti-Müllerian hormone serum concentrations in normoovulatory and anovulatory women of reproductive age. *J Clin Endocrinol Metab.* 89: 318-323. <http://dx.doi.org/10.1210/jc.2003-030932>.
- Law, K; Palace, VP; Halldorson, T; Danell, R; Wautier, K; Evans, B; Alae, M; Marvin, C; Tomy, GT. (2006). Dietary accumulation of hexabromocyclododecane diastereoisomers in juvenile rainbow trout (*Oncorhynchus mykiss*). I: Bioaccumulation parameters and evidence of bioisomerization. *Environ Toxicol Chem.* 25: 1757. <http://dx.doi.org/10.1897/05-445r.1>.
- Law, RJ. (2013). Woodhead Publishing Series in Food Science Technology and Nutrition Brominated flame retardants in foods. <http://dx.doi.org/10.1533/9780857098917.2.261>.
- Law, RJ; Barry, J; Barber, JL; Bersuder, P; Deaville, R; Reid, RJ; Brownlow, A; Penrose, R; Barnett, J; Loveridge, J; Smith, B; Jepson, PD. (2012). Contaminants in cetaceans from UK waters: status as assessed within the Cetacean Stranding Investigation Programme from 1990 to 2008. *Mar Pollut Bull.* 64: 1485-1494. <http://dx.doi.org/10.1016/j.marpolbul.2012.05.024>.
- Law, RJ, y; Barry, J, on; Bersuder, P; Barber, JL; Deaville, R, ob; Reid, RJ; Jepson, PD. (2010). Levels and Trends of Brominated Diphenyl Ethers in Blubber of Harbor Porpoises (*Phocoena phocoena*) from the UK, 1992-2008. *Environ Sci Technol.* 44: 4447-4451. <http://dx.doi.org/10.1021/es100140q>.

Fate Literature Search Results

Off Topic

- Law, RJ; Bersuder, P; Barry, J, on; Deaville, R, ob; Reid, RJ; Jepson, PD. (2010). Chlorobiphenyls in the blubber of harbour porpoises (*Phocoena phocoena*) from the UK: Levels and trends 1991-2005. *Mar Pollut Bull.* 60: 470-473. <http://dx.doi.org/10.1016/j.marpolbul.2009.12.003>.
- Law, RJ; Bersuder, P; Barry, J; Wilford, BH; Allchin, CR; Jepson, PD. (2008). A significant downturn in levels of hexabromocyclododecane in the blubber of harbor porpoises (*Phocoena phocoena*) stranded or bycaught in the UK: an update to 2006. *Environ Sci Technol.* 42: 9104-9109. <http://dx.doi.org/10.1021/es8014309>.
- Law, RJ; Herzke, D; Harrad, S; Morris, S; Bersuder, P; Allchin, CR. (2008). Levels and trends of HBCD and BDEs in the European and Asian environments, with some information for other BFRs. *Chemosphere.* 73: 223-241. <http://dx.doi.org/10.1016/j.chemosphere.2008.02.066>.
- Leblanc, RB. (1989). DEGRADATION OF PYROVATEX-TREATED FABRICS DURING STORAGE. *Text Res J.* 59: 307-308.
- Lee, I, nS; Kim, K; Kim, S; Yoon, J; Choi, K; Choi, SD; Oh, J. (2012). Evaluation of mono- to deca-brominated diphenyl ethers in riverine sediment of Korea with special reference to the debromination of DeBDE209. *Sci Total Environ.* 432: 128-134. <http://dx.doi.org/10.1016/j.scitotenv.2012.05.053>.
- Lee, IS; Kang, HH; Kim, UJ; Oh, JE. (2015). Brominated flame retardants in Korean river sediments, including changes in polybrominated diphenyl ether concentrations between 2006 and 2009. *Chemosphere.* 126: 18-24. <http://dx.doi.org/10.1016/j.chemosphere.2015.01.004>.
- Lefèvre, PL; Berger, RG; Ernest, SR; Gaertner, DW; Rawn, DF; Wade, MG; Robaire, B; Hales, BF. (2016). Exposure of Female Rats to an Environmentally Relevant Mixture of Brominated Flame Retardants Targets the Ovary, Affecting Folliculogenesis and Steroidogenesis. *Biol Reprod.* 94: 9. <http://dx.doi.org/10.1095/biolreprod.115.134452>.
- Legler, J. (2008). New insights into the endocrine disrupting effects of brominated flame retardants [Review]. *Chemosphere.* 73: 216-222. <http://dx.doi.org/10.1016/j.chemosphere.2008.04.081>.
- Leijts, MM; ten Tusscher, GW; Olie, K; van Teunenbroek, T; van Aalderen, WMC; de Voogt, P; Vulmsa, T; Bartonova, A; Kraymer von Krauss, M; Mosoiu, C; Riojas-Rodriguez, H; Calamandrei, G; Koppe, JG. (2012). Thyroid hormone metabolism and environmental chemical exposure. *Environ Health.* 11: S10. <http://dx.doi.org/10.1186/1476-069X-11-S1-S10>.
- Letcher, R. (2010). Hexabromocyclododecane (HBCD) flame retardant in the environment, biota and humans: Stereoisomeric paradox. *Toxicol Lett.* 196: S33-S33. <http://dx.doi.org/10.1016/j.toxlet.2010.03.150>.
- Letcher, RJ; Mattioli, LC; Marteinson, SC; Bird, D; Ritchie, IJ; Fernie, KJ. (2015). Uptake, distribution, depletion, and in ovo transfer of isomers of hexabromocyclododecane flame retardant in diet-exposed American kestrels (*Falco sparverius*). *Environ Toxicol Chem.* 34: 1103-1112. <http://dx.doi.org/10.1002/etc.2903>.
- Lewis, AC; Palanker, AL. (1978). A dermal LD50 study in albino rabbits and an inhalation LC50 study in albino rats. Test material GLS-S6-41A [unpublished]. (Experiment Reference No. 78385-2). Fairfield, NJ: Consumer Product Testing.
- Lewis, AC; Palanker, AL. (1978). A primary dermal irritation study, a dermal corrosion study, and an ocular irritation study in albino rabbits and an oral LD50 study in albino rats: Test material GLS-S6-41A. (78385-1). Consumer Product Testing.
- Li, D; Mao, Z; Zhong, Y; Huang, W; Wu, Y; Peng, P. (2016). Reductive transformation of tetrabromobisphenol A by sulfidated nano zerovalent iron. *Water Res.* 103: 1-9. <http://dx.doi.org/10.1016/j.watres.2016.07.003>.
- Li, D; Peng, P; Yu, Z; Huang, W; Zhong, Y. (2016). Reductive transformation of hexabromocyclododecane (HBCD) by FeS. *Water Res.* 101: 195-202. <http://dx.doi.org/10.1016/j.watres.2016.05.066>.
- Li, H; Mo, L; Yu, Z; Sheng, G; Fu, J. (2012). Levels, isomer profiles and chiral signatures of particle-bound hexabromocyclododecanes in ambient air around Shanghai, China. *Environ Pollut.* 165: 140-146. <http://dx.doi.org/10.1016/j.envpol.2012.02.015>.
- Li, H; Shang, H; Wang, P; Wang, Y; Zhang, H; Zhang, Q; Jiang, G. (2013). Occurrence and distribution of hexabromocyclododecane in sediments from seven major river drainage basins in China. *J Environ Sci.* 25: 69-76. [http://dx.doi.org/10.1016/S1001-0742\(12\)60010-2](http://dx.doi.org/10.1016/S1001-0742(12)60010-2).
- Li, L; Weber, R; Liu, J; Hu, J. (2016). Long-term emissions of hexabromocyclododecane as a chemical of concern in products in China. *Environ Int.* 91: 291-300. <http://dx.doi.org/10.1016/j.envint.2016.03.007>.
- Li, P; Yang, CQ; Jin, J; Wang, Y; Liu, WZ; Ding, WW. (2014). [Correlations between HBCD and thyroid hormone concentrations in human serum from production source area]. *Huanjing Kexue.* 35: 3970-3976.
- Li, X; Gao, Y; Wang, Y; Pan, Y. (2014). Emerging persistent organic pollutants in Chinese Bohai Sea and its coastal regions [Review]. *ScientificWorldJournal.* 2014: 608231. <http://dx.doi.org/10.1155/2014/608231>.
- Li, XW; Zeng, H; Ni, HG. (2015). [Indoor Exposure to Particle-Bound BFRs via Inhalation]. *Huanjing Kexue.* 36: 1989-1997.
- Li, Y; Duan, YP; Huang, F; Yang, J; Xiang, N; Meng, XZ; Chen, L. (2014). Polybrominated diphenyl ethers in e-waste: level and transfer in a typical e-waste recycling site in Shanghai, Eastern China. *Waste Manag.* 34: 1059-1065. <http://dx.doi.org/10.1016/j.wasman.2013.09.006>.
- Li, ZH; Zlabek, V; Turek, J; Velisek, J; Pulkrabova, J; Kolarova, J; Sudova, E; Berankova, P; Hradkova, P; Hajslova, J; Randak, T. (2011). Evaluating environmental impact of STPs situated on streams in the Czech Republic: an integrated approach to biomonitoring the aquatic environment. *Water Res.* 45: 1403-1413. <http://dx.doi.org/10.1016/j.watres.2010.10.032>.
- Liang, D; Wang, C; Sun, J; Li, SP. (2016). Photolytic degradation of tris-(2,3-dibromopropyl) isocyanurate (TBC) in aqueous systems. *Environ Technol.* 37: 2292-2297. <http://dx.doi.org/10.1080/09593330.2016.1148782>.
- Lignell, S; Aune, M; Darnerud, PO; Cnattingius, S; Glynn, A. (2009). Persistent organochlorine and organobromine compounds in mother's milk from Sweden 1996-2006: Compound-specific temporal trends. *Environ Res.* 109: 760-767. <http://dx.doi.org/10.1016/j.envres.2009.04.011>.
- Lilienthal; G., HH. (2010). Effect profiles of different brominated flame retardants in neurobehavioral and endocrine studies. In PB Merlani (Ed.), *Chemical Engineering Methods and Technology* (pp. 157-162). New York, NY: Nova Science Publishers. https://www.novapublishers.com/catalog/product_info.php?products_id=9937.

Fate Literature Search Results

Off Topic

- Lilienthal, H; van Der Ven, L, eo; Hack, A; Roth-Harer, A; Piersma, A; Vos, J. (2009). Neurobehavioral Effects in Relation to Endocrine Alterations Caused by Exposure to Brominated Flame Retardants in Rats-Comparison to Polychlorinated Biphenyls. *Hum Ecol Risk Assess.* 15: 76-86. <http://dx.doi.org/10.1080/10807030802615253>.
- Lilienthal, H; van der Ven, L; Piersma, A; Vos, J. (2007). Auditory and neurobehavioral effects of exposure to brominated flame retardants in rats—Evaluation of benchmark doses [Abstract]. *Reprod Toxicol.* 24: 61. <http://dx.doi.org/10.1016/j.reprotox.2007.04.019>.
- Lin, L; Zhou, X; Xing, Z; Wu, Y. (2016). Synthesis of 2, 3-dibromo-succinic anhydride and application on cotton, polyester and polyester/cotton blended fabric. *Text Res J.* 86: 1585-1596. <http://dx.doi.org/10.1177/0040517515592807>.
- Lindberg, P; Sellström, U; Häggberg, L; de Wit, CA. (2004). Higher brominated diphenyl ethers and hexabromocyclododecane found in eggs of peregrine falcons (*Falco peregrinus*) breeding in Sweden. *Environ Sci Technol.* 38: 93-96. <http://dx.doi.org/10.1021/es034614q>.
- Liu, MJ; Li, SC; Wu, ZJ; Wang, Z; Li, JL. (2013). Modification of Liquid Oxygen Compatibility of Bisphenol F Epoxy Resin. *International Polymer Processing.* 28: 506-515. <http://dx.doi.org/10.3139/217.2764>.
- Lo, KW; Saha-Roy, SC; Jans, U. (2012). Investigation of the reaction of hexabromocyclododecane with polysulfide and bisulfide in methanol/water solutions. *Chemosphere.* 87: 158-162. <http://dx.doi.org/10.1016/j.chemosphere.2011.12.008>.
- López, P; Brandsma, SA; Leonards, PE; De Boer, J. (2009). Methods for the determination of phenolic brominated flame retardants, and by-products, formulation intermediates and decomposition products of brominated flame retardants in water. *J Chromatogr A.* 1216: 334-345. <http://dx.doi.org/10.1016/j.chroma.2008.08.043>.
- Losada, S; Roach, A; Roosens, L; Santos, FJ; Galceran, MT; Vetter, W; Neels, H; Covaci, A. (2009). Biomagnification of anthropogenic and naturally-produced organobrominated compounds in a marine food web from Sydney Harbour, Australia. *Environ Int.* 35: 1142-1149. <http://dx.doi.org/10.1016/j.envint.2009.07.008>.
- Lower, N; Moore, A. (2007). The impact of a brominated flame retardant on smoltification and olfactory function in Atlantic salmon (*Salmo salar* L.) smolts. *Mar Behav Physiol.* 40: 267-284. <http://dx.doi.org/10.1080/10236240701592104>.
- Luigi, V; Giuseppe, M; Claudio, R. (2015). Emerging and priority contaminants with endocrine active potentials in sediments and fish from the River Po (Italy). *Environ Sci Pollut Res Int.* 22: 14050-14066. <http://dx.doi.org/10.1007/s11356-015-4388-8>.
- Lundstedt-Enkel, K; Asplund, L; Nylund, K; Bignert, A; Tysklind, M; Olsson, M; Orberg, J. (2006). Multivariate data analysis of organochlorines and brominated flame retardants in Baltic Sea guillemot (*Uria aalge*) egg and muscle. *Chemosphere.* 65: 1591-1599. <http://dx.doi.org/10.1016/j.chemosphere.2006.03.051>.
- Lundstedt-Enkel, K; Johansson, AK; Tysklind, M; Asplund, L; Nylund, K; Olsson, M; Orberg, J. (2005). Multivariate data analyses of chlorinated and brominated contaminants and biological characteristics in adult guillemot (*Uria aalge*) from the Baltic Sea. *Environ Sci Technol.* 39: 8630-8637. <http://dx.doi.org/10.1021/es051118o>.
- Luo, XJ; Ruan, W; Zeng, YH; Liu, HY; Chen, SJ; Wu, JP; Mai, BX. (2013). Trophic dynamics of hexabromocyclododecane diastereomers and enantiomers in fish in a laboratory feeding study. *Environ Toxicol Chem.* 32: 2565-2570. <http://dx.doi.org/10.1002/etc.2337>.
- Luo, Y; Luo, XJ; Lin, Z; Chen, SJ; Liu, J; Mai, BX; Yang, ZY. (2009). Polybrominated diphenyl ethers in road and farmland soils from an e-waste recycling region in Southern China: Concentrations, source profiles, and potential dispersion and deposition. *Sci Total Environ.* 407: 1105-1113. <http://dx.doi.org/10.1016/j.scitotenv.2008.10.044>.
- Luster, MI; Johnson, VJ; Yucesoy, B; Simeonova, PP. (2005). Biomarkers to assess potential developmental immunotoxicity in children. *Toxicol Appl Pharmacol.* 206: 229-236. <http://dx.doi.org/10.1016/j.taap.2005.02.010>.
- Lyons, BP; Barber, JL; Rumney, HS; Bolam, TP; Bersuder, P; Law, RJ; Mason, C; Smith, AJ; Morris, S; Devlin, MJ; Al-Enezi, M; Massoud, MS; Al-Zaidan, AS; Al-Sarawi, HA. (2015). Baseline survey of marine sediments collected from the State of Kuwait: PAHs, PCBs, brominated flame retardants and metal contamination. *Mar Pollut Bull.* 100: 629-636. <http://dx.doi.org/10.1016/j.marpolbul.2015.08.014>.
- Ma, X; Zhang, H; Yao, Z; Zhao, X; Wang, L; Wang, Z; Chen, J; Chen, J. (2013). Bioaccumulation and trophic transfer of polybrominated diphenyl ethers (PBDEs) in a marine food web from Liaodong Bay, North China. *Mar Pollut Bull.* 74: 110-115. <http://dx.doi.org/10.1016/j.marpolbul.2013.07.020>.
- MacGregor, JA; Nixon, WB. (1997). Hexabromocyclododecane (HBCD): Determination of n-octanol/water partition coefficient with cover letter dated 06/27/1997. (TSCATS/453552. OTS0573665. 86970000802). Washington, DC: Wildlife International Limited. U.S. Environmental Protection Agency.
- MacGregor, JA; Nixon, WB. (2004). Determination of water solubility of hexabromocyclododecane (HBCD) using a generator column method. Easton, MD: Wildlife International Ltd.
- Mackenzie, PI; Gregory, PA; Gardner-Stephen, DA; Lewinsky, RH; Jorgensen, BR; Nishiyama, T; Xie, W; Radomska-Pandya, A. (2003). Regulation of UDP glucuronosyltransferase genes [Review]. *Curr Drug Metab.* 4: 249-257. <http://dx.doi.org/10.2174/1389200033489442#sthash.z8bvGH58.dpuf>.
- Maes, M; Mommen, K; Hendrickx, D; Peeters, D; D'hondt, P; Ranjan, R; De Meyer, F; Scharpe, S. (1997). Components of biological variation, including seasonality, in blood concentrations of TSH, TT3, FT4, PRL, cortisol and testosterone in healthy volunteers. *Clin Endocrinol.* 46: 587-598. <http://dx.doi.org/10.1046/j.1365-2265.1997.1881002.x>.
- Malarvannan, G; Belpaire, C; Geeraerts, C; Eulaers, I; Neels, H; Covaci, A. (2014). Assessment of persistent brominated and chlorinated organic contaminants in the European eel (*Anguilla anguilla*) in Flanders, Belgium: Levels, profiles and health risk. *Sci Total Environ.* 482-483: 222-233. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.127>.
- Malarvannan, G; Belpaire, C; Geeraerts, C; Eulaers, I; Neels, H; Covaci, A. (2015). Organophosphorus flame retardants in the European eel in Flanders, Belgium: Occurrence, fate and human health risk. *Environ Res.* 140: 604-610. <http://dx.doi.org/10.1016/j.envres.2015.05.021>.
- Malarvannan, G; Dirinck, E; Dirtu, AC; Pereira-Fernandes, A; Neels, H; Jorens, PG; Gaal, LV; Blust, R; Covaci, A. (2013). Distribution of persistent organic pollutants in two different fat compartments from obese individuals. *Environ Int.* 55: 33-42. <http://dx.doi.org/10.1016/j.envint.2013.02.012>.

Fate Literature Search Results

Off Topic

- Managaki, S; Enomoto, I; Masunaga, S. (2012). Sources and distribution of hexabromocyclododecanes (HBCDs) in Japanese river sediment. *J Environ Monit.* 14: 901-907. <http://dx.doi.org/10.1039/c2em10621c>.
- Mankidy, R; Ranjan, B; Honaramooz, A, I; Giesy, JP. (2014). Effects of novel brominated flame retardants on steroidogenesis in primary porcine testicular cells. *Toxicol Lett.* 224: 141-146. <http://dx.doi.org/10.1016/j.toxlet.2013.10.018>.
- Mankidy, R; Ranjan, B; Honaramooz, A; Giesy, JP. (2014). Effects of novel brominated flame retardants on steroidogenesis in primary porcine testicular cells. *Toxicol Lett.* 224: 141-146. <http://dx.doi.org/10.1016/j.toxlet.2013.10.018>.
- Manna, RN; Dybala-Defratyka, A. (2014). A computational study of the dechlorination of β -hexachlorocyclohexane (β -HCH) catalyzed by the haloalkane dehalogenase LinB. *Arch Biochem Biophys.* 562: 43-50. <http://dx.doi.org/10.1016/j.abb.2014.07.028>.
- Mariussen, E; Fjeld, E; Breivik, K; Steinnes, E; Borgen, A; Kjellberg, G; Schlabach, M. (2008). Elevated levels of polybrominated diphenyl ethers (PBDEs) in fish from Lake Mjøsa, Norway. *Sci Total Environ.* 390: 132-141. <http://dx.doi.org/10.1016/j.scitotenv.2007.09.032>.
- Mariussen, E; Haukås, M; Arp, HP; Goss, KU; Borgen, A; Sandanger, TM. (2010). Relevance of 1,2,5,6,9,10-hexabromocyclododecane diastereomer structure on partitioning properties, column-retention and clean-up procedures. *J Chromatogr A.* 1217: 1441-1446. <http://dx.doi.org/10.1016/j.chroma.2009.12.076>.
- Mariussen, E; Steinnes, E; Breivik, K; Nygård, T; Schlabach, M; Kålås, JA. (2008). Spatial patterns of polybrominated diphenyl ethers (PBDEs) in mosses, herbivores and a carnivore from the Norwegian terrestrial biota. *Sci Total Environ.* 404: 162-170. <http://dx.doi.org/10.1016/j.scitotenv.2008.06.005>.
- Mark, FE; Vehlow, J; Dresch, H; Dima, B; Grüttner, W; Horn, J. (2015). Destruction of the flame retardant hexabromocyclododecane in a full-scale municipal solid waste incinerator. *Waste Manag Res.* 33: 165-174. <http://dx.doi.org/10.1177/0734242X14565226>.
- Maron, DM; Ames, BN. (1983). Revised methods for salmonella mutagenicity test. *Mutat Res Environ Mutagen Relat Subj.* 113: 173-215. [http://dx.doi.org/10.1016/0165-1161\(83\)90010-9](http://dx.doi.org/10.1016/0165-1161(83)90010-9).
- Marsh, G; Athanasiadou, M; Athanassiadis, I; Bergman, A; Endo, T; Haraguchi, K. (2005). Identification, quantification, and synthesis of a novel dimethoxylated polybrominated biphenyl in marine mammals caught off the coast of Japan. *Environ Sci Technol.* 39: 8684-8690. <http://dx.doi.org/10.1021/es051153v>.
- Marsili, A; Zavacki, AM; Harney, JW; Larsen, PR. (2011). Physiological role and regulation of iodothyronine deiodinases: a 2011 update [Review]. *J Endocrinol Invest.* 34: 395-407. <http://dx.doi.org/10.1007/BF03347465>.
- Marteinson, SC; Bird, DM; Letcher, RJ; Sullivan, KM; Ritchie, IJ; Fernie, KJ. (2012). Dietary exposure to technical hexabromocyclododecane (HBCD) alters courtship, incubation and parental behaviors in American kestrels (*Falco sparverius*). *Chemosphere.* 89: 1077-1083. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.073>.
- Marteinson, SC; Bird, DM; Shutt, JL; Letcher, RJ; Ritchie, IJ; Fernie, KJ. (2010). Multi-generational effects of polybrominated diphenylethers exposure: embryonic exposure of male American kestrels (*Falco sparverius*) to DE-71 alters reproductive success and behaviors. *Environ Toxicol Chem.* 29: 1740-1747. <http://dx.doi.org/10.1002/etc.200>.
- Marteinson, SC; Eulaers, I; Jaspers, VL; Covaci, A; Eens, M; Letcher, RJ; Fernie, KJ. (2017). Transfer of hexabromocyclododecane flame retardant isomers from captive American kestrel eggs to feathers and their association with thyroid hormones and growth. *Environ Pollut.* 220: 441-451. <http://dx.doi.org/10.1016/j.envpol.2016.09.086>.
- Marteinson, SC; Kimmins, S; Letcher, RJ; Palace, VP; Bird, DM; Ritchie, IJ; Fernie, KJ. (2011). Diet exposure to technical hexabromocyclododecane (HBCD) affects testes and circulating testosterone and thyroxine levels in American kestrels (*Falco sparverius*). *Environ Res.* 111: 1116-1123. <http://dx.doi.org/10.1016/j.envres.2011.08.006>.
- Martín, J; Camacho-Muñoz, D; Santos, JL; Aparicio, I; Alonso, E. (2014). Determination of emerging and priority industrial pollutants in surface water and wastewater by liquid chromatography-negative electrospray ionization tandem mass spectrometry. *Anal Bioanal Chem.* 406: 3709-3716. <http://dx.doi.org/10.1007/s00216-014-7689-8>.
- Martín, J; Santos, JL; Aparicio, I; Alonso, E. (2015). Determination of hormones, a plasticizer, preservatives, perfluoroalkylated compounds, and a flame retardant in water samples by ultrasound-assisted dispersive liquid-liquid microextraction based on the solidification of a floating organic drop. *Talanta.* 143: 335-343. <http://dx.doi.org/10.1016/j.talanta.2015.04.089>.
- Marvin, CH; Macinnis, G; Alae, M; Arsenault, G; Tomy, GT. (2007). Factors influencing enantiomeric fractions of hexabromocyclododecane measured using liquid chromatography/tandem mass spectrometry. *Rapid Commun Mass Spectrom.* 21: 1925-1930. <http://dx.doi.org/10.1002/rcm.3040>.
- Marvin, CH; Tomy, GT; Alae, M; Macinnis, G. (2006). Distribution of hexabromocyclododecane in Detroit River suspended sediments. *Chemosphere.* 64: 268-275. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.011>.
- Mascolo, G; Locaputo, V; Mininni, G. (2010). New perspective on the determination of flame retardants in sewage sludge by using ultrahigh pressure liquid chromatography-tandem mass spectrometry with different ion sources. *J Chromatogr A.* 1217: 4601-4611. <http://dx.doi.org/10.1016/j.chroma.2010.05.003>.
- Maurice, N; Olry, JC; Cariou, R; Dervilly-Pinel, G; Le Bizec, B; Travel, A; Jondreville, C; Schroeder, H. (2015). Short-term effects of a perinatal exposure to the HBCDD alpha-isomer in rats: Assessment of early motor and sensory development, spontaneous locomotor activity and anxiety in pups. *Neurotoxicol Teratol.* 52: 170-180. <http://dx.doi.org/10.1016/j.ntt.2015.08.005>.
- Maurice, N; Olry, JC; Cariou, R; Marchand, P; Dervilly-Pinel, G; Le Bizec, B; Travel, A; Jondreville, C; Schroeder, H. (2015). Assessment of the short-term neurobehavioral toxicity of a perinatal exposure to the hexabromocyclododecane (HBCDD) alpha-isomer in rats. *Neurotoxicol Teratol.* 49: 123-123. <http://dx.doi.org/10.1016/j.ntt.2015.04.078>.
- McDonnell, ME. (1972). Human patch test - 20 subjects. (Haskell Laboratory Report 185-72). Haskell Laboratory for Toxicology and Industrial Medicine, E.I. du Pont de Nemours and Company.
- Mchugh, B; Poole, R; Corcoran, J; Anninou, P; Boyle, B; Joyce, E; Barry Foley, M; MCGovern, E. (2010). The occurrence of persistent chlorinated and brominated organic contaminants in the European eel (*Anguilla anguilla*) in Irish waters. *Chemosphere.* 79: 305-313. <http://dx.doi.org/10.1016/j.chemosphere.2010.01.029>.

Fate Literature Search Results

Off Topic

- Mckinney, MA; Cesh, LS; Elliott, JE; Williams, TD; Garcelon, DK; Letcher, RJ. (2006). Brominated flame retardants and halogenated phenolic compounds in North American west coast bald eaglet (*Haliaeetus leucocephalus*) plasma. *Environ Sci Technol.* 40: 6275-6281. <http://dx.doi.org/10.1021/es061061l>.
- Mckinney, MA; Letcher, RJ; Aars, J; Born, EW; Branigan, M; Dietz, R; Evans, TJ; Gabrielsen, GW; Peacock, E; Sonne, C. (2011). Flame retardants and legacy contaminants in polar bears from Alaska, Canada, East Greenland and Svalbard, 2005-2008. *Environ Int.* 37: 365-374. <http://dx.doi.org/10.1016/j.envint.2010.10.008>.
- Mckinney, MA; Stirling, I; Lunn, NJ; Peacock, E; Letcher, RJ. (2010). The role of diet on long-term concentration and pattern trends of brominated and chlorinated contaminants in western Hudson Bay polar bears, 1991-2007. *Sci Total Environ.* 408: 6210-6222. <http://dx.doi.org/10.1016/j.scitotenv.2010.08.033>.
- Meeker, JD; Singh, NP; Hauser, R. (2008). Serum concentrations of estradiol and free T4 are inversely correlated with sperm DNA damage in men from an infertility clinic. *J Androl.* 29: 379-388. <http://dx.doi.org/10.2164/jandrol.107.004416>.
- Mehta, RD. (1976). PYROVATEX CP FLAME-RETARDANT ON CHEMICALLY MODIFIED COTTON. 65: 39-&.
- Meijer, L; Weiss, J; Van Velzen, M; Brouwer, A; Bergman, A; Sauer, PJ. (2008). Serum concentrations of neutral and phenolic organohalogens in pregnant women and some of their infants in The Netherlands. *Environ Sci Technol.* 42: 3428-3433. <http://dx.doi.org/10.1021/es702446p>.
- Melymuk, L; Goosey, E; Riddell, N; Diamond, ML. (2015). Interlaboratory study of novel halogenated flame retardants: INTERFLAB. *Anal Bioanal Chem.* 407: 6759-6769. <http://dx.doi.org/10.1007/s00216-015-8843-7>.
- Meng, XZ; Duan, YP; Yang, C; Pan, ZY; Wen, ZH; Chen, L. (2011). Occurrence, sources, and inventory of hexabromocyclododecanes (HBCDs) in soils from Chongming Island, the Yangtze River Delta (YRD). *Chemosphere.* 82: 725-731. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.091>.
- Meng, XZ; Xiang, N; Duan, YP; Chen, L; Zeng, EY. (2012). Hexabromocyclododecane in consumer fish from South China: implications for human exposure via dietary intake. *Environ Toxicol Chem.* 31: 1424-1430. <http://dx.doi.org/10.1002/etc.1826>.
- Mercier, F; Gilles, E; Saramito, G; Glorennec, P; Le Bot, B. (2014). A multi-residue method for the simultaneous analysis in indoor dust of several classes of semi-volatile organic compounds by pressurized liquid extraction and gas chromatography/tandem mass spectrometry. *J Chromatogr A.* 1336: 101-111. <http://dx.doi.org/10.1016/j.chroma.2014.02.004>.
- Meyer, T; Muir, DC; Teixeira, C; Wang, X; Young, T; Wania, F. (2012). Deposition of brominated flame retardants to the Devon Ice Cap, Nunavut, Canada. *Environ Sci Technol.* 46: 826-833. <http://dx.doi.org/10.1021/es202900u>.
- Miège, C; Peretti, A; Labadie, P; Budzinski, H; Le Bizec, B; Vorkamp, K; Tronczynski, J; Persat, H; Coquery, M; Babut, M. (2012). Occurrence of priority and emerging organic compounds in fishes from the Rhone River (France). *Anal Bioanal Chem.* 404: 2721-2735. <http://dx.doi.org/10.1007/s00216-012-6187-0>.
- Miller, A; Elliott, JE; Elliott, KH; Guigueno, MF; Wilson, LK; Lee, S; Idrissi, A. (2014). Brominated flame retardant trends in aquatic birds from the Salish Sea region of the west coast of North America, including a mini-review of recent trends in marine and estuarine birds. *Sci Total Environ.* 502C: 60-69. <http://dx.doi.org/10.1016/j.scitotenv.2014.09.006>.
- Miller, A; Elliott, JE; Elliott, KH; Guigueno, MF; Wilson, LK; Lee, S; Idrissi, A. (2014). Spatial and temporal trends in brominated flame retardants in seabirds from the Pacific coast of Canada. *Environ Pollut.* 195C: 48-55. <http://dx.doi.org/10.1016/j.envpol.2014.08.009>.
- Miller, LJ; Puma, BJ. (1979). Analytical characteristics of late-eluting halogenated flame retardants (pp. 1319-1326). (HEEP/80/08576). Miller, LJ; Puma, BJ.
- Miller, MD; Crofton, KM; Rice, DC; Zoeller, RT. (2009). Thyroid-disrupting chemicals: interpreting upstream biomarkers of adverse outcomes [Review]. *Environ Health Perspect.* 117: 1033-1041. <http://dx.doi.org/10.1289/ehp.0800247>.
- Minh, NH; Isobe, T; Ueno, D; Matsumoto, K; Mine, M; Kajiwara, N; Takahashi, S; Tanabe, S. (2007). Spatial distribution and vertical profile of polybrominated diphenyl ethers and hexabromocyclododecanes in sediment core from Tokyo Bay, Japan. *Environ Pollut.* 148: 409-417. <http://dx.doi.org/10.1016/j.envpol.2006.12.011>.
- Mohsin, M; Ahmad, SW; Khatri, A; Zahid, B. (2013). Performance enhancement of fire retardant finish with environment friendly bio cross-linker for cotton. *J Clean Prod.* 51: 191-195. <http://dx.doi.org/10.1016/j.jclepro.2013.01.031>.
- Momma, J; Kaniwa, M; Sekiguchi, H; Ohno, K; Kawasaki, Y; Tsuda, M; Nakamura, A; Kurokawa, Y. (1993). [Dermatological evaluation of a flame retardant, hexabromocyclododecane (HBCD) on guinea pig by using the primary irritation, sensitization, phototoxicity and photosensitization of skin]. *Eisei Shikenjo Hokoku*18-24.
- Montie, EW; Letcher, RJ; Reddy, CM; Moore, MJ; Rubinstein, B; Hahn, ME. (2010). Brominated flame retardants and organochlorine contaminants in winter flounder, harp and hooded seals, and North Atlantic right whales from the Northwest Atlantic Ocean. *Mar Pollut Bull.* 60: 1160-1169. <http://dx.doi.org/10.1016/j.marpolbul.2010.04.002>.
- Morf, L, eoS; Buser, AM; Taverna, R; Bader, HP; Scheidegger, R. (2008). Dynamic substance flow analysis as a valuable risk evaluation tool - A case study for brominated flame retardants as an example of potential endocrine disrupters. *Chimia.* 62: 424-431. <http://dx.doi.org/10.2533/chimia.2008.424>.
- Morf, LS; Tremp, J; Gloor, R; Huber, Y; Stengele, M; Zennegg, M. (2005). Brominated flame retardants in waste electrical and electronic equipment: substance flows in a recycling plant. *Environ Sci Technol.* 39: 8691-8699. <http://dx.doi.org/10.1021/es051170k>.
- Morreale de Escobar, G; Oregón, MJ; Escobar del Ray, F. (2000). Is neuropsychological development related to maternal hypothyroidism or to maternal hypothyroxinemia? [Review]. *J Clin Endocrinol Metab.* 85: 3975-3987. <http://dx.doi.org/10.1210/jc.85.11.3975>.
- Morris, CE; Segal, L. (1990). DEGRADATION OF PYROVATEX - TREATED FABRICS DURING STORAGE - COMMENT. *Text Res J.* 60: 431-431.
- Morse, DC; Groen, D; Veerman, M; van Amerongen, CJ; Koëter, HB; Smits van Prooije, AE; Visser, TJ; Koeman, JH; Brouwer, A. (1993). Interference of polychlorinated biphenyls in hepatic and brain thyroid hormone metabolism in fetal and neonatal rats. *Toxicol Appl Pharmacol.* 122: 27-33. <http://dx.doi.org/10.1006/taap.1993.1168>.

Fate Literature Search Results

Off Topic

- Muir, DC; Backus, S; Derocher, AE; Dietz, R; Evans, TJ; Gabrielsen, GW; Nagy, J; Norstrom, RJ; Sonne, C; Stirling, I; Taylor, MK; Letcher, RJ. (2006). Brominated flame retardants in polar bears (*Ursus maritimus*) from Alaska, the Canadian Arctic, East Greenland, and Svalbard. *Environ Sci Technol.* 40: 449-455. <http://dx.doi.org/10.1021/es051707u>.
- Müller, MH; Polder, A; Brynildsrud, OB; Lie, E; Løken, KB; Manyilizu, WB; Mdegela, RH; Mokitani, F; Murtadha, M; Nonga, HE; Skaare, JU; Lyche, JL. (2016). Brominated flame retardants (BFRs) in breast milk and associated health risks to nursing infants in Northern Tanzania. *Environ Int.* 89-90: 38-47. <http://dx.doi.org/10.1016/j.envint.2015.12.032>.
- Munsch, C; Marchand, P; Venisseau, A; Veyrand, B; Zendong, Z. (2013). Levels and trends of the emerging contaminants HBCDs (hexabromocyclododecanes) and PFCs (perfluorinated compounds) in marine shellfish along French coasts. *Chemosphere.* 91: 233-240. <http://dx.doi.org/10.1016/j.chemosphere.2012.12.063>.
- Munsch, C; Olivier, N; Veyrand, B; Marchand, P. (2015). Occurrence of legacy and emerging halogenated organic contaminants in marine shellfish along French coasts. *Chemosphere.* 118: 329-335. <http://dx.doi.org/10.1016/j.chemosphere.2014.09.106>.
- Murai, T; Kawasaki, H; Kanoh, S. (1985). [Studies on the toxicity of insecticides and food additives in pregnant rats. 7. Fetal toxicity of hexabromocyclododecane]. *Oyo Yakuri.* 29: 981-986.
- Murvoll, KM; Skaare, JU; Anderssen, E; Jenssen, BM. (2006). Exposure and effects of persistent organic pollutants in European shag (*Phalacrocorax aristotelis*) hatchlings from the coast of Norway. *Environ Toxicol Chem.* 25: 190-198.
- Murvoll, KM; Skaare, JU; Jensen, H; Jenssen, BM. (2007). Associations between persistent organic pollutants and vitamin status in Brünnich's guillemot and common eider hatchlings. *Sci Total Environ.* 381: 134-145. <http://dx.doi.org/10.1016/j.scitotenv.2007.03.037>.
- Murvoll, KM; Skaare, JU; Moe, B; Anderssen, E; Jenssen, BM. (2006). Spatial trends and associated biological responses of organochlorines and brominated flame retardants in hatchlings of north Atlantic kittiwakes (*Rissa tridactyla*). *Environ Toxicol Chem.* 25: 1648-1656.
- Nakagawa, R; Murata, S; Ashizuka, Y; Shintani, Y; Hori, T; Tsutsumi, T. (2010). Hexabromocyclododecane determination in seafood samples collected from Japanese coastal areas. *Chemosphere.* 81: 445-452. <http://dx.doi.org/10.1016/j.chemosphere.2010.08.015>.
- Nakamura, A; Momma, J; Sekiguchi, H; Noda, T; Yamano, T; Kaniwa, M; Kojima, S; Tsuda, M; Kurokawa, Y. (1994). A new protocol and criteria for quantitative determination of sensitization potencies of chemicals by guinea pig maximization test. *Contact Derm.* 31: 72-85. <http://dx.doi.org/10.1111/j.1600-0536.1994.tb01921.x>.
- Nakao, T; Akiyama, E; ma, Kakutani, H; Mizuno, A; Aozasa, O; Akai, Y; Ohta, S. (2015). Levels of Tetrabromobisphenol A, Tribromobisphenol A, Dibromobisphenol A, Monobromobisphenol A, and Bisphenol A in Japanese Breast Milk. *Chem Res Toxicol.* 28: 722-728. <http://dx.doi.org/10.1021/tx500495j>.
- Nayak, NC; Sathar, SA; Mughal, S; Dutttagupta, S; Mathur, M; Chopra, P. (1996). The nature and significance of liver cell vacuolation following hepatocellular injury--an analysis based on observations on rats rendered tolerant to hepatotoxic damage. *Virchows Arch.* 428: 353-365. <http://dx.doi.org/10.1007/BF00202202>.
- Neher, E; Sakaba, T. (2008). Multiple roles of calcium ions in the regulation of neurotransmitter release. *Neuron.* 59: 861-872. <http://dx.doi.org/10.1016/j.neuron.2008.08.019>.
- Newsome, SD; Park, J; Henry, BW; Holden, A; Fogel, ML; Linthicum, J; Chu, V; Hooper, K, im. (2010). Polybrominated Diphenyl Ether (PBDE) Levels in Peregrine Falcon (*Falco peregrinus*) Eggs from California Correlate with Diet and Human Population Density. *Environ Sci Technol.* 44: 5248-5255. <http://dx.doi.org/10.1021/es100658e>.
- Newton, S; Sellstrom, U; de Wit, CA. (2015). Emerging Flame Retardants, PBDEs, and HBCDDs in Indoor and Outdoor Media in Stockholm, Sweden. *Environ Sci Technol.* 49: 2912-2920. <http://dx.doi.org/10.1021/es505946e>.
- Ni, HG; Lu, SY; Mo, T; Zeng, H. (2016). Brominated flame retardant emissions from the open burning of five plastic wastes and implications for environmental exposure in China. *Environ Pollut.* 214: 70-76. <http://dx.doi.org/10.1016/j.envpol.2016.03.049>.
- Ni, HG; Zeng, H. (2013). HBCD and TBBPA in particulate phase of indoor air in Shenzhen, China. *Sci Total Environ.* 458-460: 15-19. <http://dx.doi.org/10.1016/j.scitotenv.2013.04.003>.
- NICNAS. (2005). Current Australian use and regulatory activities on polybrominated flame retardants. Sydney, Australia.
- Nicolau, GY; Haus, E; Pflingã, L; Dumitriu, L; Lakatua, D; Popescu, M; Ungureanu, E; Sackett-Lundeen, L; Petrescu, E. (1992). Chronobiology of pituitary-thyroid functions. *Rom J Endocrinol.* 30: 125-148.
- Nie, Z; Yang, Z; Fang, Y; Yang, Y; Tang, Z; Wang, X; Die, Q; Gao, X; Zhang, F; Wang, Q; Huang, Q. (2015). Environmental risks of HBCDD from construction and demolition waste: a contemporary and future issue. *Environ Sci Pollut Res Int.* 22: 17249-17252. <http://dx.doi.org/10.1007/s11356-015-5487-2>.
- Ning, JG; Qiu, R. (1986). THERMOGRAVIMETRIC ANALYSIS AND PYROLYSIS KINETICS OF COTTON FABRICS FINISHED WITH PYROVATEX CP. *J Fire Sci.* 4: 355-362.
- Nordlöf, U; Helander, B; Bignert, A; Asplund, L. (2010). Levels of brominated flame retardants and methoxylated polybrominated diphenyl ethers in eggs of white-tailed sea eagles breeding in different regions of Sweden. *Sci Total Environ.* 409: 238-246. <http://dx.doi.org/10.1016/j.scitotenv.2010.09.042>.
- NRC. (2009). Science and decisions: Advancing risk assessment. Washington, DC: The National Academies Press. <http://dx.doi.org/10.17226/12209>.
- NRC. (2011). National Academies Press
- Review of the Environmental Protection Agency's draft IRIS assessment of formaldehyde. Washington, DC: The National Academies Press. <http://dx.doi.org/10.17226/13142>.
- NTP. (1983). Salmonella mutagenesis test results (pp. 5-6). (EMICBACK/51199). Research Triangle Park, NC.
- Nyholm, JR; Norman, A; Norrgren, L; Haglund, P; Andersson, PL. (2008). Maternal transfer of brominated flame retardants in zebrafish (*Danio rerio*). *Chemosphere.* 73: 203-208. <http://dx.doi.org/10.1016/j.chemosphere.2008.04.033>.

Fate Literature Search Results

Off Topic

- Nyholm, JR; Norman, A; Norrgren, L; Haglund, P; Andersson, PL. (2009). UPTAKE AND BIOTRANSFORMATION OF STRUCTURALLY DIVERSE BROMINATED FLAME RETARDANTS IN ZEBRAFISH (DANIO RERIO) AFTER DIETARY EXPOSURE. *Environ Toxicol Chem.* 28: 1035-1042. <http://dx.doi.org/10.1897/08-302.1>.
- Oberg, M; Westerholm, E; Fattore, E; Stern, N; Hanberg, A; Haglund, P; Wiberg, K; Bergendorff, A; Hakansson, H. (2010). Toxicity of Bromkal 70-5DE, a technical mixture of polybrominated diphenyl ethers, following 28 d of oral exposure in rats and impact of analysed impurities. *Chemosphere.* 80: 137-143. <http://dx.doi.org/10.1016/j.chemosphere.2010.04.006>.
- Oh, JK; Kotani, K; Managaki, S; Masunaga, S. (2014). Levels and distribution of hexabromocyclododecane and its lower brominated derivative in Japanese riverine environment. *Chemosphere.* 109: 157-163. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.074>.
- Okonski, K; Degrendele, C; Melymuk, L; Landlová, L; Kukučka, P; Vojta, S; Kohoutek, J; Cupr, P; Klánová, J. (2014). Particle size distribution of halogenated flame retardants and implications for atmospheric deposition and transport. *Environ Sci Technol.* 48: 14426-14434. <http://dx.doi.org/10.1021/es5044547>.
- Olukunle, OI; Okonkwo, OJ. (2015). Concentration of novel brominated flame retardants and HBCD in leachates and sediments from selected municipal solid waste landfill sites in Gauteng Province, South Africa. *Waste Manag.* 43: 300-306. <http://dx.doi.org/10.1016/j.wasman.2015.07.009>.
- Omicinski, CJ; Vanden Heuvel, JP; Perdew, GH; Peters, JM. (2011). Xenobiotic metabolism, disposition, and regulation by receptors: from biochemical phenomenon to predictors of major toxicities [Review]. *Toxicol Sci.* 120: S49-S75. <http://dx.doi.org/10.1093/toxsci/kfq338>.
- Onogbosele, CO; Scrimshaw, MD. (2014). Hexabromocyclododecane and Hexachlorocyclohexane: How Lessons Learnt Have Led to Improved Regulation. *Crit Rev Environ Sci Tech.* 44: 1423-1442. <http://dx.doi.org/10.1080/10643389.2013.782172>.
- Oros, DR; Hoover, D; Rodigari, F; Crane, D; Sericano, J. (2005). Levels and distribution of polybrominated diphenyl ethers in water, surface sediments, and bivalves from the San Francisco Estuary. *Environ Sci Technol.* 39: 33-41. <http://dx.doi.org/10.1021/es048905q>.
- Ortiz, X; Guerra, P; Díaz-Ferrero, J; Eljarrat, E; Barceló, D. (2011). Diastereoisomer- and enantiomer-specific determination of hexabromocyclododecane in fish oil for food and feed. *Chemosphere.* 82: 739-744. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.088>.
- Paama, LA; Kokk, KY. (1985). DETERMINATION OF HEXABROMOCYCLODODECANE IN WASTE-WATERS WITH A BROMIDE-SELECTIVE ELECTRODE. *Industrial Laboratory.* 51: 404-406.
- Paama, LA; Kokk, KY; Kheinaste, TA; Soloveva, EV; Vostrikov, VI. (1985). DETERMINATION OF MICROQUANTITIES OF HEXABROMOCYCLODODECANE IN AIR. *Industrial Laboratory.* 51: 105-107.
- Paine, MRL; Rae, I; Blanksby, SJ. (2014). Direct detection of brominated flame retardants from plastic e-waste using liquid extraction surface analysis mass spectrometry. *Rapid Commun Mass Spectrom.* 28: 1203-1208. <http://dx.doi.org/10.1002/rcm.6889>.
- Palace, V; Park, B; Pleskach, K; Gemmill, B; Tomy, G. (2010). Altered thyroxine metabolism in rainbow trout (*Oncorhynchus mykiss*) exposed to hexabromocyclododecane (HBCD). *Chemosphere.* 80: 165-169. <http://dx.doi.org/10.1016/j.chemosphere.2010.03.016>.
- Palace, VP; Pleskach, K; Halldorson, T; Danell, R; Wautier, K; Evans, B; Alae, M; Marvin, C; Tomy, GT. (2008). Biotransformation enzymes and thyroid axis disruption in juvenile rainbow trout (*Oncorhynchus mykiss*) exposed to hexabromocyclododecane diastereoisomers. *Environ Sci Technol.* 42: 1967-1972. <http://dx.doi.org/10.1021/es702565h>.
- Palm Cousins, A; Brorström-Lundén, E; Hedlund, B. (2012). Prioritizing organic chemicals for long-term air monitoring by using empirical monitoring data--application to data from the Swedish screening program. *Environ Monit Assess.* 184: 4647-4654. <http://dx.doi.org/10.1007/s10661-011-2292-3>.
- Papachlimitzou, A; Barber, JL; Losada, S; Bersuder, P; Law, RJ. (2012). A review of the analysis of novel brominated flame retardants [Review]. *J Chromatogr A.* 1219: 15-28. <http://dx.doi.org/10.1016/j.chroma.2011.11.029>.
- Partyka, A; Bonarska-Kujawa, D; Sporniak, M; Strojceki, M; Nizański, W. (2016). Modification of membrane cholesterol and its impact on frozen-thawed chicken sperm characteristics. *Zygote.* 24: 1-10. <http://dx.doi.org/10.1017/S0967199416000022>.
- Patel, J; Landers, K; Li, H; Mortimer, RH; Richard, K. (2011). Thyroid hormones and fetal neurological development. *J Endocrinol.* 209: 1-8. <http://dx.doi.org/10.1530/JOE-10-0444>.
- Paul, KB; Hedge, JM; Devito, MJ; Crofton, KM. (2010). Short-term exposure to triclosan decreases thyroxine in vivo via upregulation of hepatic catabolism in Young Long-Evans rats. *Toxicol Sci.* 113: 367-379. <http://dx.doi.org/10.1093/toxsci/kfp271>.
- Peck, AM; Pugh, RS; Moors, A; Ellisor, MB; Porter, BJ; Becker, PR; Kucklick, JR. (2008). Hexabromocyclododecane in white-sided dolphins: temporal trend and stereoisomer distribution in tissues. *Environ Sci Technol.* 42: 2650-2655. <http://dx.doi.org/10.1021/es072052v>.
- Peled, M; Scharia, R; Sondack, D. (1995). Thermal rearrangement of hexabromo-cyclododecane (HBCD). In JR Desmurs; B Gérard; MJ Godlstein (Eds.), (pp. 92-99). New York, NY: Elsevier. [http://dx.doi.org/10.1016/S0926-9614\(05\)80012-7](http://dx.doi.org/10.1016/S0926-9614(05)80012-7).
- Peng, X; Huang, X; Jing, F; Zhang, Z; Wei, D; Jia, X. (2015). Study of novel pure culture HBCD-1, effectively degrading Hexabromocyclododecane, isolated from an anaerobic reactor. *Bioresour Technol.* 185: 218-224. <http://dx.doi.org/10.1016/j.biortech.2015.02.093>.
- Peptu, C; Harabagiu, V. (2013). TANDEM MASS SPECTROMETRY CHARACTERIZATION OF ESTERIFIED CYCLODEXTRINS. *Digest Journal of Nanomaterials and Biostructures.* 8: 1551-1561.
- Pererira, DN; Procianoy, RS. (2003). Effect of perinatal asphyxia on thyroid-stimulating hormone and thyroid hormone levels. *Acta Paediatr.* 92: 339-345. <http://dx.doi.org/10.1111/j.1651-2227.2003.tb00556.x>.
- Peters, RJB; Beeltje, H; van Delft, RJ. (2008). Xeno-estrogenic compounds in precipitation. *J Environ Monit.* 10: 760-769. <http://dx.doi.org/10.1039/b805983g>.
- Pharmakon Research International. (1990). Acute exposure dermal toxicity test in rabbits (82 EPA/OECD) with attachments and cover letter dated 030890 [TSCA Submission]. (86-900000167). <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522238>.

Fate Literature Search Results

Off Topic

- Pharmakon Research International. (1990). Primary dermal irritation study in rabbits with attachments and cover letter dated 030890 [TSCA Submission]. (86-900000168). <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522239>.
- Pierce, GJ; Santos, MB; Murphy, S; Learmonth, JA; Zuur, AF; Rogan, E; Bustamante, P; Caurant, F; Lahaye, V; Ridoux, V; Zegers, BN; Mets, A; Addink, M; Smeenk, C; Jauniaux, T; Law, RJ; Dabin, W; López, A; Alonso Farré, JM; González, AF; Guerra, A; García-Hartmann, M; Reid, RJ; Moffat, CF; Lockyer, C; Boon, JP. (2008). Bioaccumulation of persistent organic pollutants in female common dolphins (*Delphinus delphis*) and harbour porpoises (*Phocoena phocoena*) from western European seas: geographical trends, causal factors and effects on reproduction and mortality. *Environ Pollut.* 153: 401-415. <http://dx.doi.org/10.1016/j.envpol.2007.08.019>.
- Plasqui, G; Kester, AD; Westerterp, KR. (2003). Seasonal variation in sleeping metabolic rate, thyroid activity, and leptin. *Am J Physiol Endocrinol Metab.* 285: E338-E343. <http://dx.doi.org/10.1152/ajpendo.00488.2002>.
- Polder, A; Gabrielsen, GW; Odland, JØ; Savinova, TN; Tkachev, A; Løken, KB; Skaare, JU. (2008). Spatial and temporal changes of chlorinated pesticides, PCBs, dioxins (PCDDs/PCDFs) and brominated flame retardants in human breast milk from Northern Russia. *Sci Total Environ.* 391: 41-54. <http://dx.doi.org/10.1016/j.scitotenv.2007.10.045>.
- Polder, A; Muller, MB; Brynildsrud, OB; de Boer, J; Hamers, T; Kamstra, JH; Lie, E; Mdegela, RH; Moberg, H; Nonga, HE; Sandvik, M; Skaare, JU; Lyche, JL. (2016). Dioxins, PCBs, chlorinated pesticides and brominated flame retardants in free-range chicken eggs from peri-urban areas in Arusha, Tanzania: Levels and implications for human health. *Sci Total Environ.* 551: 656-667. <http://dx.doi.org/10.1016/j.scitotenv.2016.02.021>.
- Polder, A; Müller, MB; Lyche, JL; Mdegela, RH; Nonga, HE; Mabiki, FP; Mbise, TJ; Skaare, JU; Sandvik, M; Skjerve, E; Lie, E. (2014). Levels and patterns of persistent organic pollutants (POPs) in tilapia (*Oreochromis sp.*) from four different lakes in Tanzania: Geographical differences and implications for human health. *Sci Total Environ.* 488-489: 252-260. <http://dx.doi.org/10.1016/j.scitotenv.2014.04.085>.
- Polder, A; Thomsen, C; Lindström, G; Løken, KB; Skaare, JU. (2008). Levels and temporal trends of chlorinated pesticides, polychlorinated biphenyls and brominated flame retardants in individual human breast milk samples from Northern and Southern Norway. *Chemosphere.* 73: 14-23. <http://dx.doi.org/10.1016/j.chemosphere.2008.06.002>.
- Polder, A; Venter, B; Skaare, JU; Bouwman, H. (2008). Polybrominated diphenyl ethers and HBCD in bird eggs of South Africa. *Chemosphere.* 73: 148-154. <http://dx.doi.org/10.1016/j.chemosphere.2008.03.021>.
- Poma, G; Binelli, A; Volta, P; Roscioli, C; Guzzella, L. (2014). Evaluation of spatial distribution and accumulation of novel brominated flame retardants, HBCD and PBDEs in an Italian subalpine lake using zebra mussel (*Dreissena polymorpha*). *Environ Sci Pollut Res Int.* 21: 9655-9664. <http://dx.doi.org/10.1007/s11356-014-2826-7>.
- Poma, G; Roscioli, C; Guzzella, L. (2014). PBDE, HBCD, and novel brominated flame retardant contamination in sediments from Lake Maggiore (Northern Italy). *Environ Monit Assess.* 186: 7683-7692. <http://dx.doi.org/10.1007/s10661-014-3959-3>.
- Poma, G; Volta, P; Roscioli, C; Bettinetti, R; Guzzella, L. (2014). Concentrations and trophic interactions of novel brominated flame retardants, HBCD, and PBDEs in zooplankton and fish from Lake Maggiore (Northern Italy). *Sci Total Environ.* 481: 401-408. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.063>.
- Postmes, TJ; Van Hout, JC; Saat, G; Willems, P; Coenegracht, J. (1974). A radioimmunoassay study and comparison of seasonal variation in plasma triiodothyronine and thyroxine concentrations in normal healthy persons. *Clin Chim Acta.* 50: 189-195. [http://dx.doi.org/10.1016/0009-8981\(74\)90366-0](http://dx.doi.org/10.1016/0009-8981(74)90366-0).
- Prudente, MS; Malarvannan, G; Tanabe, S. (2007). Developments in Environmental Science Persistent Toxic Substances in the Philippine Environment. [http://dx.doi.org/10.1016/S1474-8177\(07\)07012-X](http://dx.doi.org/10.1016/S1474-8177(07)07012-X).
- Pucci, E; Chiovato, L; Pinchera, A. (2000). Thyroid and lipid metabolism. *Int J Obes (Lond).* 24: S109-S112.
- Pulkřabov, J; Hajslov, J; Poustka, J; Kazda, R. (2007). Fish as biomonitors of polybrominated diphenyl ethers and hexabromocyclododecane in Czech aquatic ecosystems: pollution of the Elbe River basin. *Environ Health Perspect.* 115 Suppl 1: 28-34. <http://dx.doi.org/10.1289/ehp.9354>.
- Pulkřabov, J; Hřrdkov, P; Hajslov, J; Poustka, J; Npravnikov, M; Polcek, V. (2009). Brominated flame retardants and other organochlorine pollutants in human adipose tissue samples from the Czech Republic. *Environ Int.* 35: 63-68. <http://dx.doi.org/10.1016/j.envint.2008.08.001>.
- Pursch, M; Buckenmaier, S. (2015). Loop-based multiple heart-cutting two-dimensional liquid chromatography for target analysis in complex matrices. *Anal Chem.* 87: 5310-5317. <http://dx.doi.org/10.1021/acs.analchem.5b00492>.
- Qi, H; Li, WL; Liu, LY; Zhang, ZF; Zhu, NZ; Song, WW; Ma, WL; Li, YF. (2014). Levels, distribution and human exposure of new non-BDE brominated flame retardants in the indoor dust of China. *Environ Pollut.* 195C: 1-8. <http://dx.doi.org/10.1016/j.envpol.2014.08.008>.
- Qiao, L; Zhang, Y; Chai, F; Tan, Y; Huo, C; Pan, Z. (2016). Chimeric virus-like particles containing a conserved region of the G protein in combination with a single peptide of the M2 protein confer protection against respiratory syncytial virus infection. *Antiviral Res.* 131: 131-140. <http://dx.doi.org/10.1016/j.antiviral.2016.05.001>.
- Qiu, Y; Strid, A; Bignert, A; Zhu, Z; Zhao, J; Athanasiadou, M; Athanassiadis, I; Bergman, . (2012). Chlorinated and brominated organic contaminants in fish from Shanghai markets: a case study of human exposure. *Chemosphere.* 89: 458-466. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.099>.
- Ramu, K; Isobe, T; Takahashi, S; Kim, EY; Min, BY; We, SU; Tanabe, S. (2010). Spatial distribution of polybrominated diphenyl ethers and hexabromocyclododecanes in sediments from coastal waters of Korea. *Chemosphere.* 79: 713-719. <http://dx.doi.org/10.1016/j.chemosphere.2010.02.048>.
- Ramu, K; Kajiwara, N; Isobe, T; Takahashi, S; Kim, EY; Min, BY; We, SU; Tanabe, S. (2007). Spatial distribution and accumulation of brominated flame retardants, polychlorinated biphenyls and organochlorine pesticides in blue mussels (*Mytilus edulis*) from coastal waters of Korea. *Environ Pollut.* 148: 562-569. <http://dx.doi.org/10.1016/j.envpol.2006.11.034>.

Fate Literature Search Results

Off Topic

- Rani, M; Shim, WJ; Han, GM; Jang, M; Song, YK; Hong, SH. (2014). Hexabromocyclododecane in polystyrene based consumer products: An evidence of unregulated use. *Chemosphere*. 110: 111-119. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.022>.
- Rauert, C; Lazarov, B; Harrad, S; Covaci, A; Stranger, M. (2014). A review of chamber experiments for determining specific emission rates and investigating migration pathways of flame retardants. *Atmos Environ*. 82: 44-55. <http://dx.doi.org/10.1016/j.atmosenv.2013.10.003>.
- Ravnum, S; Zimmer, KE; Keune, H; Gutleb, AC; Murk, AJ; Koppe, JG; Magnanti, B; Lyche, JL; Eriksen, GS; Ropstad, E; Skaare, JU; Kobernus, M; Yang, A; Bartonova, A; Kreyer von Krauss, M. (2012). Policy relevant results from an expert elicitation on the human health risks of decabromodiphenyl ether (decaBDE) and hexabromocyclododecane (HBCD). *Environ Health*. 11 Suppl 1: S7. <http://dx.doi.org/10.1186/1476-069X-11-S1-S7>.
- Rawan, DF; Gaertner, DW; Weber, D; Curran, IH; Cooke, GM; Goodyer, CG. (2014). Hexabromocyclododecane concentrations in Canadian human fetal liver and placental tissues. *Sci Total Environ*. 468-469: 622-629. <http://dx.doi.org/10.1016/j.scitotenv.2013.08.014>.
- Rawan, DF; Ryan, JJ; Sadler, AR; Sun, WF; Weber, D; Laffey, P; Haines, D; Macey, K; Van Oostdam, J. (2014). Brominated flame retardant concentrations in sera from the Canadian Health Measures Survey (CHMS) from 2007 to 2009. *Environ Int*. 63: 26-34. <http://dx.doi.org/10.1016/j.envint.2013.10.012>.
- Rawan, DF; Sadler, A; Quade, SC; Sun, WF; Lau, BP; Kosarac, I; Hayward, S; Ryan, JJ. (2011). Brominated flame retardants in Canadian chicken egg yolks. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess*. 28: 807-815. <http://dx.doi.org/10.1080/19440049.2010.545443>.
- Rayne, S; Ikononou, MG. (2002). Reconstructing source polybrominated diphenyl ether congener patterns from semipermeable membrane devices in the Fraser River, British Columbia, Canada: Comparison to commercial mixtures. *Environ Toxicol Chem*. 21: 2292-2300. [http://dx.doi.org/10.1897/1551-5028\(2002\)021<2292:RSPDEC>2.0.CO;2](http://dx.doi.org/10.1897/1551-5028(2002)021<2292:RSPDEC>2.0.CO;2).
- Reindl, AR; Falkowska, L. (2014). Flame retardants at the top of a simulated baltic marine food web-A case study concerning african penguins from the Gdansk zoo. *Arch Environ Contam Toxicol*. 68: 259-264. <http://dx.doi.org/10.1007/s00244-014-0081-z>.
- Reiner, JL; Becker, PR; Gribble, MO; Lynch, JM; Moors, AJ; Ness, J; Peterson, D; Pugh, RS; Ragland, T; Rimmer, C; Rhoderick, J; Schantz, MM; Trevillian, J; Kucklick, JR. (2015). Organohalogen Contaminants and Vitamins in Northern Fur Seals (*Callorhinus ursinus*) Collected During Subsistence Hunts in Alaska. *Arch Environ Contam Toxicol*. 70: 96-105. <http://dx.doi.org/10.1007/s00244-015-0179-y>.
- Remberger, M; Sternbeck, J; Palm, A; Kaj, L; Strömberg, K; Brorström-Lundén, E. (2004). The environmental occurrence of hexabromocyclododecane in Sweden. *Chemosphere*. 54: 9-21. [http://dx.doi.org/10.1016/S0045-6535\(03\)00758-6](http://dx.doi.org/10.1016/S0045-6535(03)00758-6).
- Reyes, L; Mañalich, R. (2005). Long-term consequences of low birth weight [Review]. *Kidney Int Suppl*. 68: S107-S111. <http://dx.doi.org/10.1111/j.1523-1755.2005.09718.x>.
- Ribeiro, AR; Nunes, OC; Pereira, MF; Silva, AM. (2015). An overview on the advanced oxidation processes applied for the treatment of water pollutants defined in the recently launched Directive 2013/39/EU [Review]. *Environ Int*. 75: 33-51. <http://dx.doi.org/10.1016/j.envint.2014.10.027>.
- Riddell, N; Arsenaault, G; Klein, J; Lough, A; Marvin, CH; Mcalees, A; Mccrindle, R; Macinnis, G; Sverko, E; Tittlemier, S; Tomy, GT. (2009). Structural characterization and thermal stabilities of the isomers of the brominated flame retardant 1,2,5,6-tetrabromocyclooctane (TBCO). *Chemosphere*. 74: 1538-1543. <http://dx.doi.org/10.1016/j.chemosphere.2008.11.026>.
- Riddell, N; Becker, R; Chittim, B; Emmerling, F; Köppen, R; Lough, A; Mcalees, A; Mccrindle, R. (2011). Preparation and X-ray structural characterization of further stereoisomers of 1,2,5,6,9,10-hexabromocyclododecane. *Chemosphere*. 84: 900-907. <http://dx.doi.org/10.1016/j.chemosphere.2011.06.014>.
- Rivière, G; Sirot, V; Tard, A; Jean, J; Marchand, P; Veyrand, B; Le Bizec, B; Leblanc, JC. (2014). Food risk assessment for perfluoroalkyl acids and brominated flame retardants in the French population: Results from the second French total diet study. *Sci Total Environ*. 491-492: 176-183. <http://dx.doi.org/10.1016/j.scitotenv.2014.01.104>.
- Robson, M; Melymuk, L; Bradley, L; Treen, B; Backus, S. (2013). Wet deposition of brominated flame retardants to the Great Lakes basin - Status and trends. *Environ Pollut*. 182: 299-306. <http://dx.doi.org/10.1016/j.envpol.2013.07.018>.
- Rodriguez, MJ; Adroer, R; de Yebra, L; luísa; Ramonet, D; Mahy, N. (2001). Calcium homeostasis in the central nervous system: Adaptation to neurodegeneration. *Contributions to Science*. 2: 43-61.
- Román, GC; Ghassabian, A; Bongers-Schokking, JJ; Jaddoe, VW; Hofman, A; de Rijke, YB; Verhulst, FC; Tiemeier, H. (2013). Association of gestational maternal hypothyroxinemia and increased autism risk. *Ann Neurol*. 74: 733-742. <http://dx.doi.org/10.1002/ana.23976>.
- Ronisz, D; Finne, EF; Karlsson, H; Förlin, L. (2004). Effects of the brominated flame retardants hexabromocyclododecane (HBCDD), and tetrabromobisphenol A (TBBPA), on hepatic enzymes and other biomarkers in juvenile rainbow trout and feral eelpout. *Aquat Toxicol*. 69: 229-245. <http://dx.doi.org/10.1016/j.aquatox.2004.05.007>.
- Roosens, L; Abdallah, MA; Harrad, S; Neels, H; Covaci, A. (2009). Exposure to hexabromocyclododecanes (HBCDs) via dust ingestion, but not diet, correlates with concentrations in human serum: preliminary results. *Environ Health Perspect*. 117: 1707-1712. <http://dx.doi.org/10.1289/ehp.0900869>.
- Roosens, L; Cornelis, C; D'Hollander, W; Bervoets, L; Reynders, H; Van Campenhout, K; Van Den Heuvel, R; Neels, H; Covaci, A. (2010). Exposure of the Flemish population to brominated flame retardants: model and risk assessment. *Environ Int*. 36: 368-376. <http://dx.doi.org/10.1016/j.envint.2010.02.005>.
- Roosens, L; D'Hollander, W; Bervoets, L; Reynders, H; Van Campenhout, K; Cornelis, C; Van Den Heuvel, R; Koppen, G; Covaci, A. (2010). Brominated flame retardants and perfluorinated chemicals, two groups of persistent contaminants in Belgian human blood and milk. *Environ Pollut*. 158: 2546-2552. <http://dx.doi.org/10.1016/j.envpol.2010.05.022>.
- Roosens, L; Dirtu, AC; Goemans, G; Belpaire, C; Gheorghe, A; Neels, H; Blust, R; Covaci, A. (2008). Brominated flame retardants and polychlorinated biphenyls in fish from the river Scheldt, Belgium. *Environ Int*. 34: 976-983. <http://dx.doi.org/10.1016/j.envint.2008.02.009>.
- Roosens, L; Geeraerts, C; Belpaire, C; Van Pelt, I; Neels, H; Covaci, A. (2010). Spatial variations in the levels and isomeric patterns of PBDEs and HBCDs in the European eel in Flanders. *Environ Int*. 36: 415-423. <http://dx.doi.org/10.1016/j.envint.2010.03.001>.

Fate Literature Search Results

Off Topic

- Rosenberg, C; Hämeilä, M; Tornaesus, J; Säkkinen, K; Puttonen, K; Korpi, A; Kiilunen, M; Linnainmaa, M; Hesso, A. (2011). Exposure to flame retardants in electronics recycling sites. *Ann Occup Hyg.* 55: 658-665. <http://dx.doi.org/10.1093/annhyg/mer033>.
- Rosenfeld, JM; Vargas, R; Xie, W; Evans, RM. (2003). Genetic profiling defines the xenobiotic gene network controlled by the nuclear receptor pregnane X receptor. *Mol Endocrinol.* 17: 1268-1282. <http://dx.doi.org/10.1210/me.2002-0421>.
- Rosol, TJ; DeLellis, RA; Harvey, PW; Sutcliffe, C. (2013). Endocrine system. In W Haschek; C Rousseaux; M Wallig (Eds.), (3rd ed., pp. 2391-2492). Waltham, MA: Academic Press. <http://dx.doi.org/10.1016/B978-0-12-415759-0.00058-3>.
- Ross, MS; Wong, CS. (2010). Comparison of electrospray ionization, atmospheric pressure photoionization, and anion attachment atmospheric pressure photoionization for the analysis of hexabromocyclododecane enantiomers in environmental samples. *J Chromatogr A.* 1217: 7855-7863. <http://dx.doi.org/10.1016/j.chroma.2010.09.083>.
- Routti, H; Lille-Langøy, R; Berg, MK; Fink, T; Harju, M; Kristiansen, K; Rostkowski, P; Rusten, M; Sylte, I; Øygarden, L; Goksøyr, A. (2016). Environmental Chemicals Modulate Polar Bear (*Ursus maritimus*) Peroxisome Proliferator-Activated Receptor Gamma (PPARG) and Adipogenesis in Vitro. *Environ Sci Technol.* 50: 10708-10720. <http://dx.doi.org/10.1021/acs.est.6b03020>.
- Ruan, T; Wang, Y; Wang, C; Wang, P, u; Fu, J; Yin, Y; Qu, G; Wang, T; Jiang, G. (2009). Identification and Evaluation of a Novel Heterocyclic Brominated Flame Retardant Tris(2,3-dibromopropyl) Isocyanurate in Environmental Matrices near a Manufacturing Plant in Southern China. *Environ Sci Technol.* 43: 3080-3086. <http://dx.doi.org/10.1021/es803397x>.
- Rüdel, H; Müller, J; Quack, M; Klein, R. (2012). Monitoring of hexabromocyclododecane diastereomers in fish from European freshwaters and estuaries. *Environ Sci Pollut Res Int.* 19: 772-783. <http://dx.doi.org/10.1007/s11356-011-0604-3>.
- Ryan, JJ; Rawn, DF. (2014). The brominated flame retardants, PBDEs and HBCD, in Canadian human milk samples collected from 1992 to 2005; concentrations and trends. *Environ Int.* 70: 1-8. <http://dx.doi.org/10.1016/j.envint.2014.04.020>.
- Ryoyama, K; Kidachi, Y; Yamaguchi, H; Kajiuira, H; Takata, H. (2004). Anti-tumor activity of an enzymatically synthesized alpha-1,6 branched alpha-1,4-glucan, glycogen. *Biosci Biotechnol Biochem.* 68: 2332-2340.
- Sagerup, K; Helgason, LB; Polder, A; Strøm, H; Josefsen, TD; Skåre, JU; Gabrielsen, GW. (2009). Persistent organic pollutants and mercury in dead and dying glaucous gulls (*Larus hyperboreus*) at Bjørnøya (Svalbard). *Sci Total Environ.* 407: 6009-6016. <http://dx.doi.org/10.1016/j.scitotenv.2009.08.020>.
- Sahlström, L; Sellström, U; de Wit, CA. (2012). Clean-up method for determination of established and emerging brominated flame retardants in dust. *Anal Bioanal Chem.* 404: 459-466. <http://dx.doi.org/10.1007/s00216-012-6160-y>.
- Sahlström, LM; Sellström, U; de Wit, CA; Lignell, S; Darnerud, PO. (2014). Brominated flame retardants in matched serum samples from Swedish first-time mothers and their toddlers. *Environ Sci Technol.* 48: 7584-7592. <http://dx.doi.org/10.1021/es501139d>.
- Sahlström, LM; Sellström, U; de Wit, CA; Lignell, S; Darnerud, PO. (2015). Estimated intakes of brominated flame retardants via diet and dust compared to internal concentrations in a Swedish mother-toddler cohort. *Int J Hyg Environ Health.* 218: 422-432. <http://dx.doi.org/10.1016/j.ijheh.2015.03.011>.
- Sahlstrom, LMO; Sellstrom, U; de Wit, CA; Lignell, S; Darnerud, P. (2015). Feasibility Study of Feces for Noninvasive Biomonitoring of Brominated Flame Retardants in Toddlers. *Environ Sci Technol.* 49: 606-615. <http://dx.doi.org/10.1021/es504708c>.
- Saito, I; Onuki, A; Seto, H. (2007). Indoor organophosphate and polybrominated flame retardants in Tokyo. *Indoor Air.* 17: 28-36. <http://dx.doi.org/10.1111/j.1600-0668.2006.00442.x>.
- Saito, S; Tanoue, A; Matsuo, M. (1992). Applicability of the i/o-characters to a quantitative description of bioconcentration of organic chemicals in fish. *Chemosphere.* 24: 81-88.
- Salamova, A; Hites, RA. (2013). Brominated and chlorinated flame retardants in tree bark from around the globe. *Environ Sci Technol.* 47: 349-354. <http://dx.doi.org/10.1021/es303393z>.
- Sales, C; Portolés, T; Sancho, JV; Abad, E; Ábalos, M; Sauló, J; Fiedler, H; Gómara, B; Beltrán, J. (2016). Potential of gas chromatography-atmospheric pressure chemical ionization-tandem mass spectrometry for screening and quantification of hexabromocyclododecane. *Anal Bioanal Chem.* 408: 449-459. <http://dx.doi.org/10.1007/s00216-015-9146-8>.
- Samsonek, J; Puype, F. (2013). Occurrence of brominated flame retardants in black thermo cups and selected kitchen utensils purchased on the European market. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 30: 1976-1986. <http://dx.doi.org/10.1080/19440049.2013.829246>.
- Saunders, DM; Podaima, M; Wiseman, S; Giesy, JP. (2015). Effects of the brominated flame retardant TBCO on fecundity and profiles of transcripts of the HPGL-axis in Japanese medaka. *Aquat Toxicol.* 160: 180-187. <http://dx.doi.org/10.1016/j.aquatox.2015.01.018>.
- Schantz, MM; Cleveland, D; Heckert, NA; Kucklick, JR; Leigh, SD; Long, SE; Lynch, JM; Murphy, KE; Olfaz, R; Pintar, AL; Porter, BJ; Rabb, SA; Pol, SSV; Wise, SA; Zeisler, R. (2016). Development of two fine particulate matter standard reference materials (< 4 mu m and < 10 mu m) for the determination of organic and inorganic constituents. *Anal Bioanal Chem.* 408: 4257-4266. <http://dx.doi.org/10.1007/s00216-016-9519-7>.
- Schechter, A; Colacino, J; Haffner, D; Patel, K; Opel, M; Pöpke, O; Birnbaum, L. (2010). Perfluorinated compounds, polychlorinated biphenyls, and organochlorine pesticide contamination in composite food samples from Dallas, Texas, USA. *Environ Health Perspect.* 118: 796-802. <http://dx.doi.org/10.1289/ehp.0901347>.
- Schechter, A; Haffner, D; Colacino, J; Patel, K; Pöpke, O; Opel, M; Birnbaum, L. (2010). Polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) in composite U.S. food samples. *Environ Health Perspect.* 118: 357-362. <http://dx.doi.org/10.1289/ehp.0901345>.
- Schechter, A; Harris, TR; Brummitt, S; Shah, N; Paepke, O. (2008). PBDE and HBCD Brominated Flame Retardants in the USA, Update 2008: Levels in Human Milk and Blood, Food, and Environmental Samples. *Epidemiology.* 19: S76-S76.
- Schechter, A; Szabo, DT; Miller, J; Gent, TL; Malik-Bass, N; Petersen, M; Paepke, O; Colacino, JA; Hynan, LS; Harris, TR; Malla, S; Birnbaum, LS. (2012). Hexabromocyclododecane (HBCD) Stereoisomers in U.S. Food from Dallas, Texas. *Environ Health Perspect.* 120: 1260-1264. <http://dx.doi.org/10.1289/ehp.1204993>.

Fate Literature Search Results

Off Topic

- Schisterman, EF; Whitcomb, BW; Louis, GM; Louis, TA. (2005). Lipid adjustment in the analysis of environmental contaminants and human health risks. *Environ Health Perspect.* 113: 853-857. <http://dx.doi.org/10.1289/ehp.7640>.
- Schlummer, M; Vogelsang, J; Fiedler, D; Gruber, L; Wolz, G. (2015). Rapid identification of polystyrene foam wastes containing hexabromocyclododecane or its alternative polymeric brominated flame retardant by X-ray fluorescence spectroscopy. *Waste Manag Res.* 33: 662-670. <http://dx.doi.org/10.1177/0734242X15589783>.
- Schriks, M; Roessig, JM; Murk, AJ; Furlow, JD. (2007). Thyroid hormone receptor isoform selectivity of thyroid hormone disrupting compounds quantified with an in vitro reporter gene assay. *Environ Toxicol Pharmacol.* 23: 302-307. <http://dx.doi.org/10.1016/j.etap.2006.11.007>.
- Schriks, M; Vrabie, CM; Gutleb, AC; Faassen, EJ; Rietjens, IM; Murk, AJ. (2006). T-screen to quantify functional potentiating, antagonistic and thyroid hormone-like activities of poly halogenated aromatic hydrocarbons (PHAHs). *Toxicol In Vitro.* 20: 490-498. <http://dx.doi.org/10.1016/j.tiv.2005.09.001>.
- Schriks, M; Zvinavashe, E; Furlow, JD; Murk, AJ. (2006). Disruption of thyroid hormone-mediated *Xenopus laevis* tadpole tail tip regression by hexabromocyclododecane (HBCD) and 2,2',3,3',4,4',5,5',6-nona brominated diphenyl ether (BDE206). *Chemosphere.* 65: 1904-1908. <http://dx.doi.org/10.1016/j.chemosphere.2006.07.077>.
- Schulze, T; Seiler, T, b; Streck, G; Braunbeck, T; Hollert, H. (2012). Comparison of different exhaustive and biomimetic extraction techniques for chemical and biological analysis of polycyclic aromatic compounds in river sediments. *Journal of Soils and Sediments.* 12: 1419. <http://dx.doi.org/10.1007/s11368-012-0574-1>.
- Schussler, GC. (2000). The thyroxine-binding proteins [Review]. *Thyroid.* 10: 141-149. <http://dx.doi.org/10.1089/thy.2000.10.141>.
- Schwarz, S; Rackstraw, A; Behnisch, PA; Brouwer, A; Koehler, HR; Kotz, A; Kuballa, T; Malisch, R; Neugebauer, F; Schilling, F; Schmidt, D; von Der Trenck, KT. (2016). Peregrine falcon egg pollutants Mirror Stockholm POPs list including methylmercury. *Toxicol Environ Chem.* 98: 886-923. <http://dx.doi.org/10.1080/02772248.2015.1126717>.
- Scott, HM; Mason, JI; Sharpe, RM. (2009). Steroidogenesis in the fetal testis and its susceptibility to disruption by exogenous compounds [Review]. *Endocr Rev.* 30: 883-925. <http://dx.doi.org/10.1210/er.2009-0016>.
- Sedlak, D; Dumler-Grادل, R; Thoma, H; Vierle, O. (1998). Polyhalogenated dibenzo-p-dioxins and dibenzofurans in the exhaust air during textile processings. *Chemosphere.* 37: 9-12.
- Seguí, X; Pujolasus, E; Betrà, S; Agueda, A; Casal, J; Ocampo-Duque, W; Rudolph, I; Barra, R; Páez, M; Barón, E; Eljarrat, E; Barceló, D; Darbra, RM. (2013). Fuzzy model for risk assessment of persistent organic pollutants in aquatic ecosystems. *Environ Pollut.* 178: 23-32. <http://dx.doi.org/10.1016/j.envpol.2013.02.014>.
- Sellström, U; Bignert, A; Kierkegaard, A; Häggberg, L; de Wit, CA; Olsson, M; Jansson, B. (2003). Temporal trend studies on tetra- and pentabrominated diphenyl ethers and hexabromocyclododecane in guillemot egg from the Baltic Sea. *Environ Sci Technol.* 37: 5496-5501. <http://dx.doi.org/10.1021/es0300766>.
- Sellstrom, U; Kierkegaard, A; De Wit, C; Jansson, B. (1998). Polybrominated diphenyl ethers and hexabromocyclododecane in sediment and fish from a Swedish River. *Environ Toxicol Chem.* 17: 1065-1072.
- Serrallach Mila, N; Franco Miranda, E; Riera Canals, L; Aguiló Lucía, F; López-Costeá, MA; Martínez Castelaó, A; Griñó Boira, JM; Gil-Vernet Cebrián, S; González Segura, YC. (1996). [Kidney transplantation with donors in heart block. Long-term results]. *Arch Esp Urol.* 49: 1021-1027.
- Shaffer, BM. (1963). The isolated *Xenopus laevis* tail: a preparation for studying the central nervous system and metamorphosis in culture. *J Embryol Exp Morphol.* 11: 77-90.
- Shaw, SD; Berger, ML; Brenner, D; Kannan, K; Päpke, NL. (2010). Response to Letter to the Editor re "Bioaccumulation of polybrominated diphenyl ethers and hexabromocyclododecane in the northwest Atlantic marine food web" [Letter]. *Sci Total Environ.* 408: 3717-3718. <http://dx.doi.org/10.1016/j.scitotenv.2010.04.044>.
- Shelby, MK; Cherrington, NJ; Vansell, NR; Klaassen, CD. (2003). Tissue mRNA expression of the rat UDP-glucuronosyltransferase gene family. *Drug Metab Dispos.* 31: 326-333. <http://dx.doi.org/10.1124/dmd.31.3.326>.
- SHELL OIL CO. (1982). FLAME RETARDANT POLYPROPYLENE - EVALUATION OF NEW ADDITIVES - TOXICITY AND ENVIRONMENTAL ASPECTS - WITH COVER LETTER. (TSCATS/017888).
- Shi, D; Lv, D; Liu, W; Shen, R; Li, D; Hong, H. (2017). Accumulation and developmental toxicity of hexabromocyclododecanes (HBCDs) on the marine copepod *Tigriopus japonicus*. *Chemosphere.* 167: 155-162. <http://dx.doi.org/10.1016/j.chemosphere.2016.09.160>.
- Shi, L, ei; Feng, H; Zhang, P; Zhou, L; Xie, D; An, D; Cai, Q. (2014). Synthesis of haptens and development of an indirect enzyme-linked immunosorbent assay for tris(2,3-dibromopropyl) isocyanurate. *Anal Biochem.* 447: 15-22. <http://dx.doi.org/10.1016/j.ab.2013.11.004>.
- Shi, YJ; Xu, XB; Zheng, XQ; Lu, YL. (2015). Responses of growth inhibition and antioxidant gene expression in earthworms (*Eisenia fetida*) exposed to tetrabromobisphenol A, hexabromocyclododecane and decabromodiphenyl ether. *Comp Biochem Physiol C Toxicol Pharmacol.* 174-175: 32-38. <http://dx.doi.org/10.1016/j.cbpc.2015.06.005>.
- Shi, Z; Feng, J; Li, J; Zhao, Y; Wu, Y. (2008). [Analysis of hexabromocyclododecane diastereoisomers in foods of animal origin using ultra performance liquid chromatography-mass spectrometry and isotope dilution]. *Sepu.* 26: 1-5.
- Shi, Z; Jiao, Y; Hu, Y; Sun, Z; Zhou, X; Feng, J; Li, J; Wu, Y. (2013). Levels of tetrabromobisphenol A, hexabromocyclododecanes and polybrominated diphenyl ethers in human milk from the general population in Beijing, China. *Sci Total Environ.* 452-453: 10-18. <http://dx.doi.org/10.1016/j.scitotenv.2013.02.038>.
- Shi, Z; Wang, Y; Niu, P; Wang, J; Sun, Z; Zhang, S; Wu, Y. (2013). Concurrent extraction, clean-up, and analysis of polybrominated diphenyl ethers, hexabromocyclododecane isomers, and tetrabromobisphenol A in human milk and serum. *J Sep Sci.* 36: 3402-3410. <http://dx.doi.org/10.1002/jssc.201300579>.

Fate Literature Search Results

Off Topic

- Shi, Z; Zhang, L; Li, J; Zhao, Y; Sun, Z; Zhou, X; Wu, Y. (2016). Novel brominated flame retardants in food composites and human milk from the Chinese Total Diet Study in 2011: Concentrations and a dietary exposure assessment. *Environ Int.* 96: 82-90. <http://dx.doi.org/10.1016/j.envint.2016.09.005>.
- Shi, ZX; Wu, YN; Li, JG; Zhao, YF; Feng, JF. (2009). Dietary exposure assessment of Chinese adults and nursing infants to tetrabromobisphenol-A and hexabromocyclododecanes: occurrence measurements in foods and human milk. *Environ Sci Technol.* 43: 4314-4319. <http://dx.doi.org/10.1021/es8035626>.
- Shields, BM; Knight, BA; Hill, A; Hattersley, AT; Vaidya, B. (2011). Fetal thyroid hormone level at birth is associated with fetal growth. *J Clin Endocrinol Metab.* 96: E934-E938. <http://dx.doi.org/10.1210/jc.2010-2814>.
- Shields, BM; Knight, BA; Hill, A; Hattersley, AT; Vaidya, B. (2011). Fetal thyroid hormone level at birth is associated with fetal growth : Supplemental materials [Supplemental Data]. *J Clin Endocrinol Metab.* 96: E934-E938.
- Shiota, G; Kanki, K. (2013). Retinoids and their target genes in liver functions and diseases [Review]. *J Gastroenterol Hepatol.* 28: 33-37. <http://dx.doi.org/10.1111/jgh.12031>.
- Shmakov, AG; Shvartsberg, VM; Korobeinichev, OP; Beach, MW; Hu, TI; Morgan, TA. (2007). Effect of the addition of triphenylphosphine oxide, hexabromocyclododecane, and ethyl bromide on a CH4/O-2/N-2 flame at atmospheric pressure. *Combustion, Explosion, and Shock Waves.* 43: 501-508.
- Shmakov, AG; Shvartsberg, VM; Korobeinichev, OP; Beach, MW; Hu, TI; Morgan, TA. (2007). Structure of a freely propagation rich CH4/air flame containing triphenylphosphine oxide and hexabromocyclododecane. *Combust Flame.* 149: 384-391. <http://dx.doi.org/10.1016/j.combustflame.2007.03.002>.
- Shoeib, M; Harner, T; Webster, GM; Sverko, E; Cheng, Y. (2012). Legacy and current-use flame retardants in house dust from Vancouver, Canada. *Environ Pollut.* 169: 175-182. <http://dx.doi.org/10.1016/j.envpol.2012.01.043>.
- Simoni, M; Velardo, A; Montanini, V; Faustini Fustini, M; Seghedoni, S; Marrama, P. (1990). Circannual rhythm of plasma thyrotropin in middle-aged and old euthyroid subjects. *Hormone research.* 33: 184-189.
- Sitarek, K; Berlińska, B; Barański, B. (1994). Assessment of the effect of n-butanol given to female rats in drinking water on fertility and prenatal development of their offspring. *Int J Occup Med Environ Health.* 7: 365-370.
- Skarman, E; Darnerud, PO; Ohrvik, H; Oskarsson, A. (2005). Reduced thyroxine levels in mice perinatally exposed to polybrominated diphenyl ethers. *Environ Toxicol Pharmacol.* 19: 273-281. <http://dx.doi.org/10.1016/j.etap.2004.08.001>.
- Skotak, K; Szcotko, M. (2016). Dicofof, endosulfan, trifluralin, hexabromocyclododecane and pentachlorophenol. A review of environmental and human health impact. *Przemysł Chemiczny.* 95: 554-560.
- Skrastina, D; Petrovskis, I; Petraityte, R; Sominskaya, I; Ose, V; Lieknina, I; Bogans, J; Sasnauskas, K; Pumpens, P. (2013). Chimeric derivatives of hepatitis B virus core particles carrying major epitopes of the rubella virus E1 glycoprotein. *Clinical and Vaccine Immunology (Online).* 20: 1719-1728. <http://dx.doi.org/10.1128/CVI.00533-13>.
- Smith, K; Liu, CH; El-Hiti, GA; Kang, GS; Jones, E; Clement, SG; Checquer, AD; Howarth, OW; Hursthouse, MB; Coles, SJ. (2005). An extensive study of bromination of cis,trans,trans-1,5,9-cyclododecatriene: product structures and conformations. *Org Biomol Chem.* 3: 1880-1892. <http://dx.doi.org/10.1039/b417156j>.
- Smith, K; Liu, CH; El-Hiti, GA; Kang, GS; Jones, E; Clement, SG; Checquer, AD; Howarth, OW; Hursthouse, MB; Coles, SJ. (2005). An extensive study of bromination of cis,trans,trans-1,5,9-cyclododecatriene: product structures and conformations : Erratum. *Org Biomol Chem.* 3: 1880-1892.
- Smolarz, K; Berger, A. (2009). Long-term toxicity of hexabromocyclododecane (HBCDD) to the benthic clam *Macoma balthica* (L.) from the Baltic Sea. *Aquat Toxicol.* 95: 239-247. <http://dx.doi.org/10.1016/j.aquatox.2009.09.010>.
- Smoluch, M; Silberring, J; Reszke, E; Kuc, J; Grochowalski, A. (2014). Determination of hexabromocyclododecane by flowing atmospheric pressure afterglow mass spectrometry. *Talanta.* 128: 58-62. <http://dx.doi.org/10.1016/j.talanta.2014.04.042>.
- Somoano-Blanco, L; Rodriguez-Gonzalez, P; Centineo, G; Fonseca, SG; Garcia Alonso, JI. (2016). Simultaneous determination of α -, β - and γ -hexabromocyclododecane diastereoisomers in water samples by isotope dilution mass spectrometry using (81)Br-labeled analogs. *J Chromatogr A.* 1429: 230-237. <http://dx.doi.org/10.1016/j.chroma.2015.12.041>.
- Stapleton, H; Allen, J; Kelly, S; Konstantinov, A; Klosterhaus, S; Watkins, D; Mcclean, M; Webster, T. (2008). Alternate and new brominated flame retardants detected in U.S. house dust. *Environ Sci Technol.* 42: 6910-6916. <http://dx.doi.org/10.1021/es801070p>.
- Stapleton, HM; Eagle, S; Sjödin, A; Webster, TF. (2012). Serum PBDEs in a North Carolina toddler cohort: Associations with hand wipes, house dust and socioeconomic variables. *Environ Health Perspect.* 120: 1049-1054. <http://dx.doi.org/10.1289/ehp.1104802>.
- Stapleton, HM; Kelly, SM; Allen, JG; Watkins, DJ; Heiger-Bernays, WJ; Mcclean, MD; Webster, TF; Konstantinov, A; Losterhaus, S. (2008). Response to Comment on "Alternate and New Brominated Flame Retardants Detected in US House Dust". *Environ Sci Technol.* 42: 9455-9456. <http://dx.doi.org/10.1021/es8026192>.
- Stapleton, HM; Misenheimer, J; Hoffman, K; Webster, TF. (2014). Flame retardant associations between children's handwipes and house dust. *Chemosphere.* 116: 54-60. <http://dx.doi.org/10.1016/j.chemosphere.2013.12.100>.
- Steinmaus, C; Miller, MD; Cushing, L; Blount, BC; Smith, AH. (2013). Combined effects of perchlorate, thiocyanate, and iodine on thyroid function in the National Health and Nutrition Examination Survey 2007-08. *Environ Res.* 123: 17-24. <http://dx.doi.org/10.1016/j.envres.2013.01.005>.
- Stenzel, A; Goss, KU; Endo, S. (2013). Determination of polyparameter linear free energy relationship (pp-LFER) substance descriptors for established and alternative flame retardants. *Environ Sci Technol.* 47: 1399-1406. <http://dx.doi.org/10.1021/es304780a>.
- Stenzel, JI; Nixon, WB. (1997). Hexabromocyclododecane (HBCD): Determination of the vapor pressure using a spinning rotor gauge with cover letter dated 08/15/1997 [TSCA Submission]. (TSCATS/453589. OTS0573702. Doc I.D. 86970000839). Arlington, VA: Wildlife International Ltd. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0573702>.

Fate Literature Search Results

Off Topic

- Stiborova, H; Kolar, M; Vrkoslavova, J; Pulkrabova, J; Hajslova, J; Demnerova, K; Uhlik, O. (2017). Linking toxicity profiles to pollutants in sludge and sediments. *J Hazard Mater.* 321: 672-680. <http://dx.doi.org/10.1016/j.jhazmat.2016.09.051>.
- Stieger, G; Scheringer, M; Ng, CA; Hungerbühler, K. (2014). Assessing the persistence, bioaccumulation potential and toxicity of brominated flame retardants: Data availability and quality for 36 alternative brominated flame retardants. *Chemosphere.* 116: 118-123. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.083>.
- Strid, A; Smedje, G; Athanassiadis, I; Lindgren, T; Lundgren, H; Jakobsson, K; Bergman, A. (2014). Brominated flame retardant exposure of aircraft personnel. *Chemosphere.* 116: 83-90. <http://dx.doi.org/10.1016/j.chemosphere.2014.03.073>.
- Stubbings, WA; Harrad, S. (2014). Extent and mechanisms of brominated flame retardant emissions from waste soft furnishings and fabrics: A critical review [Review]. *Environ Int.* 71: 164-175. <http://dx.doi.org/10.1016/j.envint.2014.06.007>.
- Stubbings, WA; Kajiwara, N; Takigami, H; Harrad, S. (2016). Leaching behaviour of hexabromocyclododecane from treated curtains. *Chemosphere.* 144: 2091-2096. <http://dx.doi.org/10.1016/j.chemosphere.2015.10.121>.
- Stump, DG. (1999). Prenatal developmental toxicity study of hexabromocyclododecane (HBCD) in rats. (WIL-186009). Ashland, OH: WIL Research Laboratories, Inc.
- Su, G; Letcher, RJ; Moore, JN; Williams, LL; Martin, PA; de Solla, SR; Bowerman, WW. (2015). Spatial and temporal comparisons of legacy and emerging flame retardants in herring gull eggs from colonies spanning the Laurentian Great Lakes of Canada and United States. *Environ Res.* 142: 720-730. <http://dx.doi.org/10.1016/j.envres.2015.08.018>.
- Su, J; Lu, Y; Liu, Z; Gao, S; Zeng, X; Yu, Z; Sheng, G; Fu, JM. (2015). Distribution of polybrominated diphenyl ethers and HBCD in sediments of the Hunhe River in Northeast China. *Environ Sci Pollut Res Int.* 22: 16781-16790. <http://dx.doi.org/10.1007/s11356-015-4779-x>.
- Sühling, R; Barber, JL; Wolschke, H; Kötker, D; Ebinghaus, R. (2015). Fingerprint analysis of brominated flame retardants and Dechloranes in North Sea sediments. *Environ Res.* 140: 569-578. <http://dx.doi.org/10.1016/j.envres.2015.05.018>.
- Sühling, R; Busch, F; Fricke, N; Kötker, D; Wolschke, H; Ebinghaus, R. (2016). Distribution of brominated flame retardants and dechloranes between sediments and benthic fish--A comparison of a freshwater and marine habitat. *Sci Total Environ.* 542: 578-585. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.085>.
- Sullivan, KM; Bird, DM; Ritchie, JI; Shutt, JL; Letcher, RJ; Fernie, KJ. (2010). Changes in plasma retinol of American kestrels (*Falco sparverius*) in response to dietary or in ovo exposure to environmentally relevant concentrations of a penta-brominated diphenyl ether mixture, DE-71. *J Toxicol Environ Health A.* 73: 1645-1654. <http://dx.doi.org/10.1080/15287394.2010.501720>.
- Sullivan, KM; Martenson, SC; Letcher, RJ; Bird, DM; Ritchie, JI; Shutt, JL; Fernie, KJ. (2013). Changes in the incubation by American kestrels (*Falco sparverius*) during exposure to the polybrominated diphenyl ether (PBDE) mixture DE-71. *J Toxicol Environ Health A.* 76: 978-989. <http://dx.doi.org/10.1080/15287394.2013.829759>.
- Sun, J; Tang, S; Peng, H; Saunders, DM; Doering, JA; Hecker, M; Jones, PD; Giesy, JP; Wiseman, S. (2016). Combined Transcriptomic and Proteomic Approach to Identify Toxicity Pathways in Early Life Stages of Japanese Medaka (*Oryzias latipes*) Exposed to 1,2,5,6-Tetrabromocyclooctane (TBCO). *Environ Sci Technol.* 50: 7781-7790. <http://dx.doi.org/10.1021/acs.est.6b01249>.
- Suzuki, K; Shiraishi, K; Yoshitani, K; Sugama, K; Kometani, T. (2014). Effect of a sports drink based on highly-branched cyclic dextrin on cytokine responses to exhaustive endurance exercise. *J Sports Med Phys Fitness.* 54: 622-630.
- Suzuki, S; Hasegawa, A. (2006). Determination of hexabromocyclododecane diastereoisomers and tetrabromobisphenol A in water and sediment by liquid chromatography/mass spectrometry. *Anal Sci.* 22: 469-474.
- Svihlikova, V; Lankova, D; Poustka, J; Tomaniova, M; Hajslova, J; Pulkrabova, J. (2015). Perfluoroalkyl substances (PFASs) and other halogenated compounds in fish from the upper Labe River basin. *Chemosphere.* 129: 170-178. <http://dx.doi.org/10.1016/j.chemosphere.2014.09.096>.
- Swaim, SF; Gillette, RL; Sartin, EA; Hinkle, SH; Coolman, SL. (2000). Effects of a hydrolyzed collagen dressing on the healing of open wounds in dogs. *Am J Vet Res.* 61: 1574-1578.
- Takahashi, S; Oshihoi, T; Ramu, K; Isobe, T; Ohmori, K; Kubodera, T; Tanabe, S. (2010). Organohalogen compounds in deep-sea fishes from the western North Pacific, off-Tohoku, Japan: Contamination status and bioaccumulation profiles. *Mar Pollut Bull.* 60: 187-196. <http://dx.doi.org/10.1016/j.marpolbul.2009.09.027>.
- Takata, H; Akiyama, T; Kajiwara, H; Kakutani, R, yo; Furuyashiki, T; Tomioka, E; Kojima, I; Kuriki, T. (2010). Application of branching enzyme in starch processing. *Biocatalysis and Biotransformation.* 28: 60-63. <http://dx.doi.org/10.3109/10242420903408393>.
- Takigami, H; Suzuki, G; Hirai, Y; Ishikawa, Y; Sunami, M; Sakai, S. (2009). Flame retardants in indoor dust and air of a hotel in Japan. *Environ Int.* 35: 688-693. <http://dx.doi.org/10.1016/j.envint.2008.12.007>.
- Takigami, H; Suzuki, G; Hirai, Y; Sakai, S. (2008). Transfer of brominated flame retardants from components into dust inside television cabinets. *Chemosphere.* 73: 161-169. <http://dx.doi.org/10.1016/j.chemosphere.2008.06.032>.
- Takigami, H; Suzuki, G; Hirai, Y; Sakai, S. (2009). Brominated flame retardants and other polyhalogenated compounds in indoor air and dust from two houses in Japan. *Chemosphere.* 76: 270-277. <http://dx.doi.org/10.1016/j.chemosphere.2009.03.006>.
- Takii, H; Ishihara, K; Kometani, T; Okada, S; Fushiki, T. (1999). Enhancement of swimming endurance in mice by highly branched cyclic dextrin. *Biosci Biotechnol Biochem.* 63: 2045-2052.
- Takii, H; Takii Nagao, Y; Kometani, T; Nishimura, T; Nakae, T; Kuriki, T; Fushiki, T. (2005). Fluids containing a highly branched cyclic dextrin influence the gastric emptying rate. *Int J Sports Med.* 26: 314-319.
- Tan, Z; Lu, S; Zhang, J; Jiang, Y; Zhou, J; Zhu, Z; Liu, H; Li, S; Lin, X. (2014). [Determination of hexabromocyclododecane diastereoisomers in human breast milk by HPLC-MS/MS]. *Wei Sheng Yan Jiu.* 43: 809-813.
- Tang, C. (2010). Quantitative determination of the diastereoisomers of hexabromocyclododecane in human plasma using liquid chromatography coupled with electrospray ionization tandem mass spectrometry. *J Chromatogr B Analyt Technol Biomed Life Sci.* 878: 3317-3322. <http://dx.doi.org/10.1016/j.jchromb.2010.10.015>.

Fate Literature Search Results

Off Topic

- Tang, J; Feng, J; Li, X; Li, G. (2014). Levels of flame retardants HBCD, TBBPA and TBC in surface soils from an industrialized region of East China. *Environ Sci Process Impacts*. 16: 1015-1021. <http://dx.doi.org/10.1039/c3em00656e>.
- Tappin, AD; Millward, GE. (2015). The English Channel: Contamination status of its transitional and coastal waters. *Mar Pollut Bull*. 95: 529-550. <http://dx.doi.org/10.1016/j.marpolbul.2014.12.012>.
- Taylor, KW; Novak, RF; Anderson, HA; Birnbaum, LS; Blystone, C; Devito, M; Jacobs, D; Köhrle, J; Lee, DH; Rylander, L; Rignell-Hydbom, A; Tornero-Velez, R; Turyk, ME; Boyles, AL; Thayer, KA; Lind, L. (2013). Evaluation of the association between persistent organic pollutants (POPs) and diabetes in epidemiological studies: a national toxicology program workshop review [Review]. *Environ Health Perspect*. 121: 774-783. <http://dx.doi.org/10.1289/ehp.1205502>.
- ten Dam, G; Pardo, O; Traag, W; van der Lee, M; Peters, R. (2012). Simultaneous extraction and determination of HBCD isomers and TBBPA by ASE and LC-MSMS in fish. *J Chromatogr B Analyt Technol Biomed Life Sci*. 898: 101-110. <http://dx.doi.org/10.1016/j.jchromb.2012.04.025>.
- Thomas, GO; Moss, SE; Asplund, L; Hall, AJ. (2005). Absorption of decabromodiphenyl ether and other organohalogen chemicals by grey seals (*Halichoerus grypus*). *Environ Pollut*. 133: 581-586. <http://dx.doi.org/10.1016/j.envpol.2004.06.011>.
- Thomsen, C; Haug, LS; Stigum, H; Frøshaug, M; Broadwell, SL; Becher, G. (2010). Changes in concentrations of perfluorinated compounds, polybrominated diphenyl ethers, and polychlorinated biphenyls in Norwegian breast-milk during twelve months of lactation. *Environ Sci Technol*. 44: 9550-9556. <http://dx.doi.org/10.1021/es1021922>.
- Thomsen, C; Molander, P; Daae, HL; Janák, K; Frøshaug, M; Liane, VH; Thorud, S; Becher, G; Dybing, E. (2007). Occupational exposure to hexabromocyclododecane at an industrial plant. *Environ Sci Technol*. 41: 5210-5216. <http://dx.doi.org/10.1021/es0702622>.
- Thomsen, C; Stigum, H; Frøshaug, M; Broadwell, SL; Becher, G; Eggesbø, M. (2010). Determinants of brominated flame retardants in breast milk from a large scale Norwegian study. *Environ Int*. 36: 68-74. <http://dx.doi.org/10.1016/j.envint.2009.10.002>.
- Thuresson, K; Björklund, JA; de Wit, CA. (2012). Tri-decabrominated diphenyl ethers and hexabromocyclododecane in indoor air and dust from Stockholm microenvironments 1: levels and profiles. *Sci Total Environ*. 414: 713-721. <http://dx.doi.org/10.1016/j.scitotenv.2011.11.016>.
- Tian, Y; Liu, A, iF; Qu, G, bo; Liu, CX; Chen, J; Handberg, E; Shi, J, bo; Chen, H, wen; Jiang, G, uibin. (2015). Silver ion post-column derivatization electrospray ionization mass spectrometry for determination of tetrabromobisphenol A derivatives in water samples. *RSC Advances*. 5: 17474-17481. <http://dx.doi.org/10.1039/c4ra16166a>.
- Tobitsuka, K; Miura, M; Kobayashi, S. (2006). Retention of a European pear aroma model mixture using different types of saccharides. *J Agric Food Chem*. 54: 5069-5076. <http://dx.doi.org/10.1021/jf060309n>.
- Toms, LM; Guerra, P; Eljarrat, E; Barceló, D; Harden, FA; Hobson, P; Sjodin, A; Ryan, E; Mueller, JF. (2012). Brominated flame retardants in the Australian population: 1993-2009. *Chemosphere*. 89: 398-403. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.053>.
- Tomy, GT; Halldorson, T; Danell, R; Law, K; Arsenault, G; Alae, M; Macinnis, G; Marvin, CH. (2005). Refinements to the diastereoisomer-specific method for the analysis of hexabromocyclododecane. *Rapid Commun Mass Spectrom*. 19: 2819-2826. <http://dx.doi.org/10.1002/rcm.2129>.
- Tomy, GT; Pleskach, K; Ismail, N; Whittle, DM; Helm, PA; Sverko, E, d; Zaruk, D; Marvin, CH. (2007). Isomers of dechlorane plus in Lake Winnipeg and Lake Ontario food webs. *Environ Sci Technol*. 41: 2249-2254. <http://dx.doi.org/10.1021/es062781v>.
- Tomy, GT; Thomas, CR; Zidane, TM; Murison, KE; Pleskach, K; Hare, J; Arsenault, G; Marvin, CH; Sverko, E, d. (2008). Examination of isomer specific bioaccumulation parameters and potential in vivo hepatic metabolites of syn- and anti-Dechlorane Plus isomers in juvenile rainbow trout (*Oncorhynchus mykiss*). *Environ Sci Technol*. 42: 5562-5567. <http://dx.doi.org/10.1021/es800220y>.
- Tonacchera, M; Pinchera, A; Dimida, A; Ferrarini, E; Agretti, P; Vitti, P; Santini, F; Crump, K; Gibbs, J. (2004). Relative potencies and additivity of perchlorate, thiocyanate, nitrate, and iodide on the inhibition of radioactive iodide uptake by the human sodium iodide symporter. *Thyroid*. 14: 1012-1019. <http://dx.doi.org/10.1089/thy.2004.14.1012>.
- Törnkvist, A; Glynn, A; Aune, M; Darnerud, PO; Ankarberg, EH. (2011). PCDD/F, PCB, PBDE, HBCD and chlorinated pesticides in a Swedish market basket from 2005--levels and dietary intake estimations. *Chemosphere*. 83: 193-199. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.042>.
- TRL. (1987). Rat oral subchronic toxicity study: Compound: Normal butanol (Final). (TRL study #032-006). Research Triangle Park, NC: Research Triangle Institute.
- Tso, CP; Shih, YH. (2014). The transformation of hexabromocyclododecane using zerovalent iron nanoparticle aggregates. *J Hazard Mater*. 277: 76-83. <http://dx.doi.org/10.1016/j.jhazmat.2014.04.044>.
- Tue, NM; Sudaryanto, A; Minh, TB; Isobe, T; Takahashi, S; Viet, PH; Tanabe, S. (2010). Accumulation of polychlorinated biphenyls and brominated flame retardants in breast milk from women living in Vietnamese e-waste recycling sites. *Sci Total Environ*. 408: 2155-2162. <http://dx.doi.org/10.1016/j.scitotenv.2010.01.012>.
- Tue, NM; Takahashi, S; Suzuki, G; Isobe, T; Viet, PH; Kobara, Y; Seike, N; Zhang, G; Sudaryanto, A; Tanabe, S. (2013). Contamination of indoor dust and air by polychlorinated biphenyls and brominated flame retardants and relevance of non-dietary exposure in Vietnamese informal e-waste recycling sites. *Environ Int*. 51: 160-167. <http://dx.doi.org/10.1016/j.envint.2012.11.006>.
- Tung, EW; Yan, H; Lefèvre, PL; Berger, RG; Rawn, DF; Gaertner, DW; Kawata, A; Rigidin, M; Robaire, B; Hales, BF; Wade, MG. (2016). Gestational and Early Postnatal Exposure to an Environmentally Relevant Mixture of Brominated Flame Retardants: General Toxicity and Skeletal Variations. *Birth Defects Res B Dev Reprod Toxicol*. 107: 157-168. <http://dx.doi.org/10.1002/bdrb.21180>.
- U.S EPA. (2000). ECONOMIC ANALYSIS OF PROPOSED TEST RULE FOR FIVE BROMINATED FLAME RETARDANTS WITH COVER LETTER DATED 101690. (TSCATS/417953).
- U.S EPA. (2000). RESPONSES OF UNICELLULAR MARINE ALGAE TO BROMINATED ORGANIC COMPOUND IN SIX GROWTH MEDIA WITH COVER LETTER DATED 121886. (TSCATS/412362).
- U.S EPA; OTS. (1990). CATARACTOGENIC STUDY IN CHICKS WITH TEST DATA AND COVER LETTER. (TSCATS/407256). INTL RES and DEV CORP.

Fate Literature Search Results

Off Topic

- U.S. EPA; OTS. (1990). PILOT CATARACTOGENIC STUDY IN CHICKS WITH TEST DATA AND COVER LETTER. (TSCATS/407255). INTL RES and DEV CORP.
- U.S. EPA; OTS. (1992). INITIAL SUBMISSION: ACUTE INHALATION TOXICITY STUDY WITH PYROLYTIC PRODUCTS OF HEXABROMOCYCLODODECANE IN RATS WITH COVER LETTER DATED 080592. (TSCATS/432775). INDUS BIO-TEST LABS.
- U.S. EPA. (1988). Recommendations for and documentation of biological values for use in risk assessment (pp. 1-395). (EPA/600/6-87/008). Cincinnati, OH: U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=34855>.
- U.S. EPA. (1990). Acute toxicity studies in rabbits and rats with test data and cover letter dated 03-08-90. (86900000266).
- U.S. EPA. (1991). Guidelines for developmental toxicity risk assessment (pp. 1-71). (EPA/600/FR-91/001). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=23162>.
- U.S. EPA. (1994). Methods for derivation of inhalation reference concentrations and application of inhalation dosimetry [EPA Report] (pp. 1-409). (EPA/600/8-90/066F). Research Triangle Park, NC: U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office. <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=71993&CFID=51174829&CFTOKEN=25006317>.
- U.S. EPA. (1996). Guidelines for reproductive toxicity risk assessment (pp. 1-143). (EPA/630/R-96/009). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum.
- Ueda, A; Hamadeh, HK; Webb, HK; Yamamoto, Y; Sueyoshi, T; Afshari, CA; Lehmann, JM; Negishi, M. (2002). Diverse roles of the nuclear orphan receptor CAR in regulating hepatic genes in response to phenobarbital. *Mol Pharmacol*. 61: 1-6. <http://dx.doi.org/10.1124/mol.61.1.1>.
- Ueno, D; Alae, M; Marvin, C; Muir, DC; Macinnis, G; Reiner, E; Crozier, P; Furdul, VI; Subramanian, A; Fillmann, G; Lam, PK; Zheng, GJ; Muchtar, M; Razak, H; Prudente, M; Chung, KH; Tanabe, S. (2006). Distribution and transportability of hexabromocyclododecane (HBCD) in the Asia-Pacific region using skipjack tuna as a bioindicator. *Environ Pollut*. 144: 238-247. <http://dx.doi.org/10.1016/j.envpol.2005.12.024>.
- Ueno, D; Isobe, T; Ramu, K; Tanabe, S; Alae, M; Marvin, C; Inoue, K; Someya, T; Miyajima, T; Kodama, H; Nakata, H. (2010). Spatial distribution of hexabromocyclododecanes (HBCDs), polybrominated diphenyl ethers (PBDEs) and organochlorines in bivalves from Japanese coastal waters. *Chemosphere*. 78: 1213-1219. <http://dx.doi.org/10.1016/j.chemosphere.2009.12.058>.
- Ungherese, G; Cincinelli, A; Martellini, T; Ugolini, A. (2012). PBDEs in the supralittoral environment: the sandhopper *Talitrus saltator* (Montagu) as biomonitor? *Chemosphere*. 86: 223-227. <http://dx.doi.org/10.1016/j.chemosphere.2011.09.029>.
- Vagula, MC; Kubeldis, N; Nelatury, CF. (2011). Environmental Monitoring of Brominated Flame Retardants. *Proc SPIE*. 8029. <http://dx.doi.org/10.1117/12.887127>.
- Van den Eede, N; Dirtu, AC; Ali, N; Neels, H; Covaci, A. (2012). Multi-residue method for the determination of brominated and organophosphate flame retardants in indoor dust. *Talanta*. 89: 292-300. <http://dx.doi.org/10.1016/j.talanta.2011.12.031>.
- Van den Eede, N; Dirtu, AC; Neels, H; Covaci, A. (2011). Analytical developments and preliminary assessment of human exposure to organophosphate flame retardants from indoor dust. *Environ Int*. 37: 454-461. <http://dx.doi.org/10.1016/j.envint.2010.11.010>.
- Van der Ven, LT; van de Kuil, T; Leonards, PE; Slob, W; Cantón, RF; Germer, S; Visser, TJ; Litens, S; Håkansson, H; Schrenk, D; van den Berg, M; Piersma, AH; Vos, JG; Opperhuizen, A. (2008). A 28-day oral dose toxicity study in Wistar rats enhanced to detect endocrine effects of decabromodiphenyl ether (decaBDE). *Toxicol Lett*. 179: 6-14. <http://dx.doi.org/10.1016/j.toxlet.2008.03.003>.
- Van der Ven, LT; Van de Kuil, T; Verhoef, A; Verwer, CM; Lilienthal, H; Leonards, PE; Schauer, UM; Cantón, RF; Litens, S; De Jong, FH; Visser, TJ; Dekant, W; Stern, N; Håkansson, H; Slob, W; Van den Berg, M; Vos, JG; Piersma, AH. (2008). Endocrine effects of tetrabromobisphenol-A (TBBPA) in Wistar rats as tested in a one-generation reproduction study and a subacute toxicity study. *Toxicology*. 245: 76-89. <http://dx.doi.org/10.1016/j.tox.2007.12.009>.
- van der Ven, LTM; Lilienthal, H; van de Kuil, A; Piersma, AH. (2007). Endocrine effects of hexabromocyclododecane (HBCD) in a one-generation reproduction study in Wistar rats [Abstract]. *Birth Defects Res A Clin Mol Teratol*. 79: 412.
- van Leeuwen, SP; de Boer, J. (2008). Brominated flame retardants in fish and shellfish - levels and contribution of fish consumption to dietary exposure of Dutch citizens to HBCD. *Mol Nutr Food Res*. 52: 194-203. <http://dx.doi.org/10.1002/mnfr.200700207>.
- Vansell, NR; Klaassen, CD. (2002). Effect of microsomal enzyme inducers on the biliary excretion of triiodothyronine (T₃) and its metabolites. *Toxicol Sci*. 65: 184-191. <http://dx.doi.org/10.1093/toxsci/65.2.184>.
- Velsicol Chem Corp. (1978). Industrial hygiene survey, Velsicol Chemical Corporation, El Dorado, Ark Plant, Fire Master 680 Unit and semi-works summary with attachments and cover letter dated 071978 [TSCA Submission]. (EPA/OTS Doc #88-7800228). Chicago, IL. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0200544>.
- Velsicol Chem Corp. (1990). INTERNAL MEMO FROM VELSICOL CHEMICAL CORPORATION REGARDING HYDROLYSIS OF FIREMASTER 100 WITH TEST DATA AND COVER LETTER. (TSCATS/407263).
- Velsicol Chem Corp. (1990). PARTITION COEFFICIENT OF DICAMBA, ENDRIN VEL 3510 AND SEVERAL INDUSTRIAL CHEMICALS AND FLAME RETARDANTS LABORATORY REPORT WITH TEST DATA AND COVER LETTER. (TSCATS/407261).
- Velsicol Chem Corp. (1990). Water solubility of several industrial chemicals flame retardants and a herbicide vel-3510 laboratory report with test data and cover letter. (TSCATS/407262. OTS0523262. Doc I.D. 86900000270). Washington, DC: U.S. Environmental Protection Agency.
- Venier, M; Wierda, M; Bowerman, WW; Hites, RA. (2010). Flame retardants and organochlorine pollutants in bald eagle plasma from the Great Lakes region. *Chemosphere*. 80: 1234-1240. <http://dx.doi.org/10.1016/j.chemosphere.2010.05.043>.
- Verreault, J; Gabrielsen, GW; Bustnes, JO. (2010). The Svalbard glaucous gull as bioindicator species in the European arctic: insight from 35 years of contaminants research [Review]. *Rev Environ Contam Toxicol*. 205: 77-116. http://dx.doi.org/10.1007/978-1-4419-5623-1_2.
- Verreault, J; Gebbink, WA; Gauthier, LT; Gabrielsen, GW; Letcher, RJ. (2007). Brominated flame retardants in glaucous gulls from the Norwegian Arctic: more than just an issue of polybrominated diphenyl ethers. *Environ Sci Technol*. 41: 4925-4931. <http://dx.doi.org/10.1021/es070522f>.

Fate Literature Search Results

Off Topic

- Vetter, W; Rosenfelder, N. (2008). Gas chromatography retention data of environmentally relevant polybrominated compounds. *Anal Bioanal Chem.* 392: 489-504. <http://dx.doi.org/10.1007/s00216-008-2277-4>.
- Viberg, H; Fredriksson, A; Eriksson, P. (2002). Neonatal exposure to the brominated flame retardant 2,2',4,4',5-pentabromodiphenyl ether causes altered susceptibility in the cholinergic transmitter system in the adult mouse. *Toxicol Sci.* 67: 104-107.
- Viberg, H; Fredriksson, A; Eriksson, P. (2003). Neonatal exposure to polybrominated diphenyl ether (PBDE 153) disrupts spontaneous behaviour, impairs learning and memory, and decreases hippocampal cholinergic receptors in adult mice. *Toxicol Appl Pharmacol.* 192: 95-106. [http://dx.doi.org/10.1016/S0041-008X\(03\)00217-5](http://dx.doi.org/10.1016/S0041-008X(03)00217-5).
- Viberg, H; Fredriksson, A; Eriksson, P. (2004). Investigations of strain and/or gender differences in developmental neurotoxic effects of polybrominated diphenyl ethers in mice. *Toxicol Sci.* 81: 344-353. <http://dx.doi.org/10.1093/toxsci/kfh215>.
- Vilaplana, F; Karlsson, P; Ribes-Greus, A; Ivarsson, P; Karlsson, S. (2008). Analysis of brominated flame retardants in styrenic polymers. Comparison of the extraction efficiency of ultrasonication, microwave-assisted extraction and pressurised liquid extraction. *J Chromatogr A.* 1196-1197: 139-146. <http://dx.doi.org/10.1016/j.chroma.2008.05.001>.
- Villanger, GD; Lydersen, C; Kovacs, KM; Lie, E; Skaare, JU; Jenssen, BM. (2011). Disruptive effects of persistent organohalogen contaminants on thyroid function in white whales (*Delphinapterus leucas*) from Svalbard. *Sci Total Environ.* 409: 2511-2524. <http://dx.doi.org/10.1016/j.scitotenv.2011.03.014>.
- Vojta, Š; Bečanová, J; Melymuk, L; Komprdová, K; Kohoutek, J; Kukučka, P; Klánová, J. (2017). Screening for halogenated flame retardants in European consumer products, building materials and wastes. *Chemosphere.* 168: 457-466. <http://dx.doi.org/10.1016/j.chemosphere.2016.11.032>.
- Von der Recke, R; Vetter, W. (2007). Synthesis and characterization of 2,3-dibromopropyl-2,4,6-tribromophenyl ether (DPTE) and structurally related compounds evidenced in seal blubber and brain. *Environ Sci Technol.* 41: 1590-1595. <http://dx.doi.org/10.1021/es062383s>.
- Vorkamp, K; Bester, K; Rigét, FF. (2012). Species-specific time trends and enantiomer fractions of hexabromocyclododecane (HBCD) in biota from East Greenland. *Environ Sci Technol.* 46: 10549-10555. <http://dx.doi.org/10.1021/es301564z>.
- Vorkamp, K; Bossi, R; Bester, K; Bollmann, UE; Boutrup, S. (2014). New priority substances of the European Water Framework Directive: biocides, pesticides and brominated flame retardants in the aquatic environment of Denmark. *Sci Total Environ.* 470-471: 459-468. <http://dx.doi.org/10.1016/j.scitotenv.2013.09.096>.
- Vorkamp, K; Rigét, FF; Bossi, R; Dietz, R. (2011). Temporal trends of hexabromocyclododecane, polybrominated diphenyl ethers and polychlorinated biphenyls in ringed seals from East Greenland. *Environ Sci Technol.* 45: 1243-1249. <http://dx.doi.org/10.1021/es102755x>.
- Vorkamp, K; Thomsen, M; Falk, K; Leslie, H; Møller, S; Sørensen, PB. (2005). Temporal development of brominated flame retardants in peregrine Falcon (*Falco peregrinus*) eggs from South Greenland (1986-2003). *Environ Sci Technol.* 39: 8199-8206. <http://dx.doi.org/10.1021/es0508830>.
- Vorkamp, K; Thomsen, M; Frederiksen, M; Pedersen, M; Knudsen, LE. (2011). Polybrominated diphenyl ethers (PBDEs) in the indoor environment and associations with prenatal exposure. *Environ Int.* 37: 1-10. <http://dx.doi.org/10.1016/j.envint.2010.06.001>.
- Vos, JG; Becher, G; van den Berg, M; de Boer, J; Leonards, PEG. (2003). Brominated flame retardants and endocrine disruption. *Pure Appl Chem.* 75: 2039-2046.
- Waaijers, SL; Hartmann, J; Soeter, AM; Helmus, R; Kools, SA; de Voogt, P; Admiraal, W; Parsons, JR; Kraak, MH. (2013). Toxicity of new generation flame retardants to *Daphnia magna*. *Sci Total Environ.* 463-464: 1042-1048. <http://dx.doi.org/10.1016/j.scitotenv.2013.06.110>.
- Wäger, PA; Schluep, M; Müller, E; Gloor, R. (2012). RoHS regulated substances in mixed plastics from waste electrical and electronic equipment. *Environ Sci Technol.* 46: 628-635. <http://dx.doi.org/10.1021/es202518n>.
- Walsh, GE; Yoder, MJ; McLaughlin, LL; Loes, EM. (1987). Responses of marine unicellular algae to brominated organic compounds in six growth media. *Ecotoxicol Environ Saf.* 14: 215-222.
- Waner, T; Nyska, A. (1991). The toxicological significance of decreased activities of blood alanine and aspartate aminotransferase [Review]. *Vet Res Commun.* 15: 73-78. <http://dx.doi.org/10.1007/BF00497793>.
- Wang, D; Zhang, P; Wang, X; Wang, Y; Zhou, Z; Zhu, W. (2016). NMR- and LC-MS/MS-based urine metabolomic investigation of the subacute effects of hexabromocyclododecane in mice. *Environ Sci Pollut Res Int.* 23: 8500-8507. <http://dx.doi.org/10.1007/s11356-015-5940-2>.
- Wang, F; Zhang, H; Geng, N; Zhang, B; Ren, X; Chen, J. (2016). New Insights into the Cytotoxic Mechanism of Hexabromocyclododecane from a Metabolomic Approach. *Environ Sci Technol.* 50: 3145-3153. <http://dx.doi.org/10.1021/acs.est.5b03678>.
- Wang, G; Wu, H; Zhang, X; Zhang, H; Yang, X; Tian, X; Li, J; Xiang, W; Li, X. (2013). *Aliidiomarina sanyensis* sp. nov., a hexabromocyclododecane assimilating bacterium from the pool of *Spirulina platensis* cultivation, Sanya, China. *Antonie Van Leeuwenhoek.* 104: 309-314. <http://dx.doi.org/10.1007/s10482-013-9949-6>.
- Wang, H; Xue, Q; Tao, L; Ye, X; Liang, S; Li, Y; Niu, Z. (2013). [Determination of hexabromocyclododecane in coatings by gas chromatography-mass spectrometry]. *Sepu.* 31: 791-794.
- Wang, J, ia; Bever, CRS; Majkova, Z; Dechant, JE; Yang, J, un; Gee, SJ; Xu, T; Hammock, BD. (2014). Heterologous Antigen Selection of Camelid Heavy Chain Single Domain Antibodies against Tetrabromobisphenol A. *Anal Chem.* 86: 8296-8302. <http://dx.doi.org/10.1021/ac5017437>.
- Wang, L; Lee, W; Lee, W; Chang-Chien, G. (2010). Emission estimation and congener-specific characterization of polybrominated diphenyl ethers from various stationary and mobile sources. *Environ Pollut.* 158: 3108-3115. <http://dx.doi.org/10.1016/j.envpol.2010.06.041>.
- Wang, L; Zhang, M; Lou, Y; Ke, R; Zheng, M. (2017). Levels and distribution of tris-(2,3-dibromopropyl) isocyanurate and hexabromocyclododecanes in surface sediments from the Yellow River Delta wetland of China. *Mar Pollut Bull.* 114: 577-582. <http://dx.doi.org/10.1016/j.marpolbul.2016.09.019>.

Fate Literature Search Results

Off Topic

- Wang, X; Lu, M; Pei, Y; Lu, X; Du, X. (2015). Two mesoporous cellular foams materials and their adsorption properties to brominated flame retardants. *Journal of Porous Materials*. 22: 83-90. <http://dx.doi.org/10.1007/s10934-014-9875-7>.
- Wang, XM; Ding, X; Mai, BX; Xie, ZQ; Xiang, CH; Sun, LG; Sheng, GY; Fu, JM; Zeng, EY. (2005). Polybrominated diphenyl ethers in airborne particulates collected during a research expedition from the Bohai Sea to the Arctic. *Environ Sci Technol*. 39: 7803-7809. <http://dx.doi.org/10.1021/es051088p>.
- Wang, YW; Liu, HX; Zhao, CY; Liu, HX; Cai, ZW; Jiang, GB. (2005). Quantitative structure-activity relationship models for prediction of the toxicity of polybrominated diphenyl ether congeners. *Environ Sci Technol*. 39: 4961-4966. <http://dx.doi.org/10.1021/es050017n>.
- Weathers, W; Colon, M; Hines, A; Ulrich, EM. (2014). Use of fluorinated polybrominated diphenyl ethers and simplified cleanup for the analysis of polybrominated diphenyl ethers in house dust. *J Chromatogr A*. 1356: 266-271. <http://dx.doi.org/10.1016/j.chroma.2014.06.054>.
- Webster, L; Walsham, P; Russell, M; Neat, F; Phillips, L; Dalgarno, E; Packer, G; Scurfield, JA; Moffat, CF. (2009). Halogenated persistent organic pollutants in Scottish deep water fish. *J Environ Monit*. 11: 406-417. <http://dx.doi.org/10.1039/b815313b>.
- Weeke, J; Gundersen, HJ. (1978). Circadian and 30 minutes variations in serum TSH and thyroid hormones in normal subjects. *Acta Endocrinol*. 89: 659-672.
- Weil, ED; Levchik, SV. (2007). Flame retardants for polystyrenes in commercial use or development. *J Fire Sci*. 25: 241-265. <http://dx.doi.org/10.1177/0734904107071607>.
- Weil, ED; Levchik, SV. (2008). Flame retardants in commercial use or development for textiles. *J Fire Sci*. 26: 243-281. <http://dx.doi.org/10.1177/0734904108089485>.
- Westerink, R; Heusinkveld, H; Bergman, A; Van Den Berg, M; Dingemans, M. (2010). The brominated flame retardants hexabromocyclododecane (HBCD) and BDE-47 affect calcium homeostasis in rat PC12 cells. *Toxicol Lett*. 196: S222-S223. <http://dx.doi.org/10.1016/j.toxlet.2010.03.747>.
- Wheater, PR; Burkitt, HG. (1996). *Wheater's basic histopathology: a colour atlas and text*. New York: Churchill Livingstone.
- Wichmann, H; Dettmer, FT; Bahadir, M. (2002). Thermal formation of PBDD/F from tetrabromobisphenol A--a comparison of polymer linked TBBP A with its additive incorporation in thermoplastics. *Chemosphere*. 47: 349-355.
- Wikoff, D; Thompson, C; Perry, C; White, M; Borghoff, S; Fitzgerald, L; Haws, LC. (2015). Development of toxicity values and exposure estimates for tetrabromobisphenol A: application in a margin of exposure assessment. *J Appl Toxicol*. 35: 1292-1308. <http://dx.doi.org/10.1002/jat.3132>.
- Wikoff, DS; Birnbaum, L. (2011). *Handbook of Environmental Chemistry Series Human Health Effects of Brominated Flame Retardants*. http://dx.doi.org/10.1007/698_2010_97.
- WILDLIFE INTERNATIONAL LTD. (1997). FINAL REPORT, HEXABROMOCYCLODODECANE (HBCD): A 96-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE RAINBOW TROUT (*ONCORHYNCHUS MYKISS*), WITH COVER LETTER DATED 6/27/1997. (TSCATS/445565). WILDLIFE INTERNATIONAL LTD.
- WILDLIFE INTERNATIONAL LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 48-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE CLADOCERAN (*DAPHNIA MAGNA*), WITH COVER LETTER DATED 6/20/97. (TSCATS/445050). WILDLIFE INTERNATIONAL LTD.
- Wildlife Intl LTD. (1996). HEXABROMOCYCLODODECANE (HBCD): CLOSED BOTTLE TEST WITH COVER LETTER DATED 12/12/1996. (TSCATS/453438).
- Wildlife Intl LTD. (1997). ANALYTICAL METHOD VERIFICATION FOR THE DETERMINATION OF HEXABROMOCYCLODODECANE (HBCD) IN WELL WATER WITH COVER LETTER DATED 06/27/1997. (TSCATS/453551).
- Wildlife Intl LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 48-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE CLADOCERAN (*DAPHNIA MAGNA*) WITH COVER LETTER DATED 06/20/1997. (TSCATS/452984).
- Wildlife Intl LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 96-HOUR TOXICITY TEST WITH THE FRESHWATER ALGA (*SELANASTRUM CAPRICORNUTUM*) WITH COVER LETTER DATED 06/26/1997. (TSCATS/453549).
- Wildlife Intl LTD. (1997). Hexabromocyclododecane (hbcdd): Determination of water solubility with cover letter dated 06/27/1997. (86970000798). Washington, DC: U.S. Environmental Protection Agency.
- Wildlife Intl LTD. (1997). LETTER FROM CHEM MFGS ASSOC TO USEPA REGARDING: TOXICOLOGICAL INVESTIGATION OF HEXABROMOCYCLODODECANE (HBCD) WITH ATTACHMENTS, DATED 06/27/1997. (TSCATS/452990).
- Wildlife Intl LTD. (1998). INITIAL SUBMISSION: HEXABROMOCYCLODODECANE (HBCD) - A FLOW-THROUGH LIFE-CYCLE TOXICITY TEST WITH THE CLADOCERAN (*DAPHNIA MAGNA*), FINAL REPORT, WITH COVER LETTER DATED 5/18/1998. (TSCATS/445953).
- Wildlife Intl LTD. (1998). INITIAL SUBMISSION: LETTER FROM CHEM MFGS ASSN TO USEPA REPORTING RESULTS IN 21-DAY LIFE-CYCLE TOXICITY TEST IN CLADOCERAN (*DAPHNIA MAGNA*) W/HEXABROMOCYCLODODECANE, DATED 4/23/98. (TSCATS/445416).
- Wilford, BH; Thomas, GO; Jones, KC; Davison, B; Hurst, DK. (2008). Decabromodiphenyl ether (deca-BDE) commercial mixture components, and other PBDEs, in airborne particles at a UK site. *Environ Int*. 34: 412-419. <http://dx.doi.org/10.1016/j.envint.2007.09.007>.
- Williams, AL; Desesso, JM. (2010). The potential of selected brominated flame retardants to affect neurological development [Review]. *J Toxicol Environ Health B Crit Rev*. 13: 411-448. <http://dx.doi.org/10.1080/10937401003751630>.
- Wu, HH; Chen, HC; Ding, WH. (2009). Combining microwave-assisted extraction and liquid chromatography-ion-trap mass spectrometry for the analysis of hexabromocyclododecane diastereoisomers in marine sediments. *J Chromatogr A*. 1216: 7755-7760. <http://dx.doi.org/10.1016/j.chroma.2009.09.001>.
- Wu, M; Wu, D; Wang, C; Guo, Z; Li, B; Zuo, Z. (2016). Hexabromocyclododecane exposure induces cardiac hypertrophy and arrhythmia by inhibiting miR-1 expression via up-regulation of the homeobox gene Nkx2.5. *J Hazard Mater*. 302: 304-313. <http://dx.doi.org/10.1016/j.jhazmat.2015.10.004>.
- Wu, M; Zuo, Z; Li, B; Huang, L; Chen, M; Wang, C. (2013). Effects of low-level hexabromocyclododecane (HBCD) exposure on cardiac development in zebrafish embryos. *Ecotoxicology*. 22: 1200-1207. <http://dx.doi.org/10.1007/s10646-013-1107-4>.

Fate Literature Search Results

Off Topic

- Wu, N; Herrmann, T; Paepke, O; Tickner, J; Hale, R; Harvey, E; La Guardia, M; Mcclean, MD; Webster, TF. (2007). Human Exposure to PBDEs: Associations of PBDE Body Burdens with Food Consumption and House Dust Concentrations. *Environ Sci Technol.* 41: 1584-1589. <http://dx.doi.org/10.1021/es0620282>.
- Wu, T; Huang, H; Zhang, S. (2016). Accumulation and phytotoxicity of technical hexabromocyclododecane in maize. *J Environ Sci.* 42: 97-104. <http://dx.doi.org/10.1016/j.jes.2015.06.018>.
- Wu, T; Wang, S; Huang, H; Zhang, S. (2012). Diastereomer-Specific Uptake, Translocation, and Toxicity of Hexabromocyclododecane Diastereoisomers to Maize. *J Agric Food Chem.* 60: 8528-8534. <http://dx.doi.org/10.1021/jf302682p>.
- Xia, C; Lam, JC; Wu, X; Sun, L; Xie, Z; Lam, PK. (2011). Hexabromocyclododecanes (HBCDs) in marine fishes along the Chinese coastline. *Chemosphere.* 82: 1662-1668. <http://dx.doi.org/10.1016/j.chemosphere.2010.11.012>.
- Xian, Q; Ramu, K; Isobe, T; Sudaryanto, A; Liu, X; Gao, Z; Takahashi, S; Yu, H; Tanabe, S. (2008). Levels and body distribution of polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecanes (HBCDs) in freshwater fishes from the Yangtze River, China. *Chemosphere.* 71: 268-276. <http://dx.doi.org/10.1016/j.chemosphere.2007.09.032>.
- Xiao, Z; Feng, J; Shi, Z; Li, J; Zhao, Y; Wu, Y. (2011). [Determination of three brominated flame retardants in human serum using solid-phase extraction coupled with ultra-performance liquid chromatography-tandem mass spectrometry and gas chromatography-mass spectrometry]. *Seppu.* 29: 1165-1172.
- Xu, C; Ou, J; Cui, Y; Wang, L; Lv, C; Liu, K; Wang, B; Xu, T; Li, QX; Liu, S. (2013). Development of a monoclonal antibody-based enzyme-linked immunosorbent assay for tetrabromobisphenol A. 32: 113-118. <http://dx.doi.org/10.1089/mab.2012.0099>.
- Xu, D; Liu, X; Lu, R; Xue, P; Zhang, X; Zhou, H; Jia, J. (2011). New dendritic gelator bearing carbazole in each branching unit: selected response to fluoride ion in gel phase. *Org Biomol Chem.* 9: 1523-1528. <http://dx.doi.org/10.1039/c0ob00786b>.
- Xu, T; Wang, J; Liu, SZ; Lü, C; Shelver, WL; Li, QX; Li, J. (2012). A highly sensitive and selective immunoassay for the detection of tetrabromobisphenol A in soil and sediment. *Anal Chim Acta.* 751: 119-127. <http://dx.doi.org/10.1016/j.aca.2012.06.030>.
- Xu, Z; Juan, L; MinJie, C; Le, W; Chi, Z; Jie, Z; QunFang, Z; Yong, L. (2011). Toxicity of the brominated flame retardant tris-(2,3-dibromopropyl) isocyanurate in zebrafish (*Danio rerio*). *Chin Sci Bull.* 56: 1548-1555. <http://dx.doi.org/10.1007/s11434-011-4471-6>.
- Yamada, T; Takahama, Y; Yamada, Y. (2009). Isolation of *Pseudomonas* sp. strain HB01 which degrades the persistent brominated flame retardant gamma-hexabromocyclododecane. *Biosci Biotechnol Biochem.* 73: 1674-1678. <http://dx.doi.org/10.1271/bbb.90104>.
- Yanagisawa, R; Koike, E; Win-Shwe, TT; Yamamoto, M; Takano, H. (2014). Impaired lipid and glucose homeostasis in hexabromocyclododecane-exposed mice fed a high-fat diet. *Environ Health Perspect.* 122: 277-283. <http://dx.doi.org/10.1289/ehp.1307421>.
- Yanagisawa, R, ie; Win-Shwe, T; Koike, E; Takano, H. (2013). Impact of hexabromocyclododecane on lipid and glucose metabolism in high-fat diet-induced obese mice. *Toxicol Lett.* 221: S252-S252. <http://dx.doi.org/10.1016/j.toxlet.2013.05.628>.
- Yu, L, i; Liu, L; Song, S; Kuang, H, ua; Xu, C. (2016). Development of an immunochromatographic test strip and ic-ELISA for tetrabromobisphenol: a detection in lake water and rice pudding samples. *Food and Agricultural Immunology.* 27: 460-470. <http://dx.doi.org/10.1080/09540105.2015.1126234>.
- Yu, LH; Luo, XJ; Liu, HY; Zeng, YH; Zheng, XB; Wu, JP; Yu, YJ; Mai, BX. (2014). Organohalogen contamination in passerine birds from three metropolises in China: geographical variation and its implication for anthropogenic effects on urban environments. *Environ Pollut.* 188: 118-123. <http://dx.doi.org/10.1016/j.envpol.2014.01.023>.
- Yu, Y; Zhou, D; Wu, F. (2015). Mechanism and products of the photolysis of hexabromocyclododecane in acetonitrile-water solutions under a UV-C lamp. *Chem Eng J.* 281: 892-899. <http://dx.doi.org/10.1016/j.cej.2015.07.031>.
- Yu, Z; Peng, P; Sheng, G; Fu, J. (2008). Determination of hexabromocyclododecane diastereoisomers in air and soil by liquid chromatography-electrospray tandem mass spectrometry. *J Chromatogr A.* 1190: 74-79. <http://dx.doi.org/10.1016/j.chroma.2008.02.082>.
- Yuan, JP; Sun, YM; Liu, JH; Yao, YX; Chen, Y. (2016). Determination of hexabromocyclododecane enantiomers in chicken whole blood by a modified quick, easy, cheap, effective, rugged, and safe method with liquid chromatography and tandem mass spectrometry. *J Sep Sci.* 39: 2846-2852. <http://dx.doi.org/10.1002/jssc.201600005>.
- Zacs, D; Rjabova, J; Bartkevics, V. (2014). New perspectives on diastereoselective determination of hexabromocyclododecane traces in fish by ultra high performance liquid chromatography-high resolution orbitrap mass spectrometry. *J Chromatogr A.* 1330: 30-39. <http://dx.doi.org/10.1016/j.chroma.2014.01.023>.
- Zacs, D; Rjabova, J; Pugajeva, I; Nakurte, I; Viksna, A; Bartkevics, V. (2014). Ultra high performance liquid chromatography-time-of-flight high resolution mass spectrometry in the analysis of hexabromocyclododecane diastereomers: Method development and comparative evaluation versus ultra high performance liquid chromatography coupled to Orbitrap high resolution mass spectrometry and triple quadrupole tandem mass spectrometry. *J Chromatogr A.* 1366: 73-83. <http://dx.doi.org/10.1016/j.chroma.2014.09.021>.
- Zeller. (1962). Assessment of a possible irritating potential to the eye and to the eye mucosa. Letter from BASF to EPA. Zeller.
- Zeng, W; Terada, T. (2000). Freezability of boar spermatozoa is improved by exposure to 2-hydroxypropyl-beta-cyclodextrin. *Reprod Fertil Dev.* 12: 223-228.
- Zeng, WX; Terada, T. (2001). Protection of boar spermatozoa from cold shock damage by 2-hydroxypropyl-beta-cyclodextrin. *Theriogenology.* 55: 615-627.
- Zeng, Y; Luo, X; Chen, H; Wu, JP; Chen, S; Mai, B, iX. (2012). Separation of polybrominated diphenyl ethers in fish for compound-specific stable carbon isotope analysis. *Sci Total Environ.* 425: 208-213. <http://dx.doi.org/10.1016/j.scitotenv.2012.03.014>.
- Zeng, YH; Luo, XJ; Tang, B; Mai, BX. (2016). Habitat- and species-dependent accumulation of organohalogen pollutants in home-produced eggs from an electronic waste recycling site in South China: Levels, profiles, and human dietary exposure. *Environ Pollut.* 216: 64-70. <http://dx.doi.org/10.1016/j.envpol.2016.05.039>.
- Zeng, YH; Tang, B; Luo, XJ; Zheng, XB; Peng, PA; Mai, BX. (2016). Organohalogen pollutants in surface particulates from workshop floors of four major e-waste recycling sites in China and implications for emission lists. *Sci Total Environ.* 569-570: 982-989. <http://dx.doi.org/10.1016/j.scitotenv.2016.06.053>.

Fate Literature Search Results

Off Topic

- Zhang, CC; Zhang, F, uS. (2014). Recovery of triphenyl phosphate from waste printed circuit boards by solvothermal process. *Chem Eng J.* 240: 10-15. <http://dx.doi.org/10.1016/j.cej.2013.11.048>.
- Zhang, CC; Zhang, FS. (2012). Removal of brominated flame retardant from electrical and electronic waste plastic by solvothermal technique. *J Hazard Mater.* 221-222: 193-198. <http://dx.doi.org/10.1016/j.jhazmat.2012.04.033>.
- Zhang, H; Bayen, S; Kelly, BC. (2015). Co-extraction and simultaneous determination of multi-class hydrophobic organic contaminants in marine sediments and biota using GC-EI-MS/MS and LC-ESI-MS/MS. *Talanta.* 143: 7-18. <http://dx.doi.org/10.1016/j.talanta.2015.04.084>.
- Zhang, H; Kuo, YY; Gerecke, AC; Wang, J. (2012). Co-release of hexabromocyclododecane (HBCD) and Nano- and microparticles from thermal cutting of polystyrene foams. *Environ Sci Technol.* 46: 10990-10996. <http://dx.doi.org/10.1021/es302559v>.
- Zhang, H; Pan, L; Tao, Y. (2014). Antioxidant responses in clam *Venerupis philippinarum* exposed to environmental pollutant hexabromocyclododecane. *Environ Sci Pollut Res Int.* 21: 8206-8215. <http://dx.doi.org/10.1007/s11356-014-2801-3>.
- Zhang, H, ui; Pan, L; Tao, Y; Tian, S; Hu, Y. (2013). Identification and expression of differentially expressed genes in clam *Venerupis philippinarum* in response to environmental pollutant hexabromocyclododecane (HBCD). *Exp Mar Bio Ecol.* 445: 166-173. <http://dx.doi.org/10.1016/j.jembe.2013.03.002>.
- Zhang, J; Abdallah, MA; Williams, TD; Harrad, S; Chipman, JK; Viant, MR. (2016). Gene expression and metabolic responses of HepG2/C3A cells exposed to flame retardants and dust extracts at concentrations relevant to indoor environmental exposures. *Chemosphere.* 144: 1996-2003. <http://dx.doi.org/10.1016/j.chemosphere.2015.10.014>.
- Zhang, K; Huang, J; Wang, H; Liu, K; Yu, G; Deng, S; Wang, B. (2014). Mechanochemical degradation of hexabromocyclododecane and approaches for the remediation of its contaminated soil. *Chemosphere.* 116: 40-45. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.006>.
- Zhang, L, i; Na, GS; He, CX; Li, R, uiJ; Gao, H, ui; Ge, L, inKe; Wang, Y, anJie; Yao, Y, ao. (2016). A novel method through solid phase extraction combined with gradient elution for concentration and separation of 66 (ultra) trace persistent toxic pollutants in Antarctic waters. *Chin Chem Lett.* 27: 405-411. <http://dx.doi.org/10.1016/j.ccllet.2015.12.001>.
- Zhang, X; Yang, F; Zhang, X; Xu, Y; Liao, T; Song, S; Wang, J. (2008). Induction of hepatic enzymes and oxidative stress in Chinese rare minnow (*Gobiocypris rarus*) exposed to waterborne hexabromocyclododecane (HBCDD). *Aquat Toxicol.* 86: 4-11. <http://dx.doi.org/10.1016/j.aquatox.2007.07.002>.
- Zhang, Y; Sun, H; Ruan, Y. (2014). Enantiomer-specific accumulation, depuration, metabolism and isomerization of hexabromocyclododecane (HBCD) diastereomers in mirror carp from water. *J Hazard Mater.* 264: 8-15. <http://dx.doi.org/10.1016/j.jhazmat.2013.10.062>.
- Zhang, Y; Wang, L; Sun, H; Yao, T; Zhu, H; Xu, J; Liu, X. (2016). Impacts of loach bioturbation on the selective bioaccumulation of HBCDD diastereoisomers and enantiomers by mirror carp in a microcosm. *Chemosphere.* 163: 471-479. <http://dx.doi.org/10.1016/j.chemosphere.2016.08.065>.
- Zhao, L; Yang, J; Zhan, S; Jiang, J; Yang, S. (2016). BIOREMEDIATION OF SEDIMENT CONTAMINATED WITH DECBROMODIPHENYL ETHER (BDE-209) BY COMPOSTING. *Fresen Environ Bull.* 25: 3700-3708.
- Zhao, RS; Hu, C; Zhou, JB; Yuan, JP; Wang, SS; Wang, X. (2011). Preconcentration and sensitive determination of hexabromocyclododecane diastereomers in environmental water samples using solid phase extraction with bamboo charcoal cartridge prior to rapid resolution liquid chromatography-electrospray tandem mass spectrometry. *Anal Bioanal Chem.* 400: 1189-1195. <http://dx.doi.org/10.1007/s00216-011-4857-y>.
- Zheng, J; Wang, J; Luo, XJ; Tian, M; He, LY; Yuan, JG; Mai, BX; Yang, ZY. (2010). Dechlorane Plus in human hair from an e-waste recycling area in South China: comparison with dust. *Environ Sci Technol.* 44: 9298-9303. <http://dx.doi.org/10.1021/es103105x>.
- Zheng, X; Erratico, C; Abdallah, MA; Negreira, N; Luo, X; Mai, B; Covaci, A. (2015). In vitro metabolism of BDE-47, BDE-99, and α -, β -, γ -HBCD isomers by chicken liver microsomes. *Environ Res.* 143: 221-228. <http://dx.doi.org/10.1016/j.envres.2015.10.023>.
- Zheng, X; Erratico, C; Luo, X; Mai, B; Covaci, A. (2016). Oxidative metabolism of BDE-47, BDE-99, and HBCDs by cat liver microsomes: Implications of cats as sentinel species to monitor human exposure to environmental pollutants. *Chemosphere.* 151: 30-36. <http://dx.doi.org/10.1016/j.chemosphere.2016.02.054>.
- Zhong, Y; Peng, P; Yu, Z; Deng, H. (2010). Effects of metals on the transformation of hexabromocyclododecane (HBCD) in solvents: implications for solvent-based recycling of brominated flame retardants. *Chemosphere.* 81: 72-78. <http://dx.doi.org/10.1016/j.chemosphere.2010.06.061>.
- Zhou, D; Wu, Y; Feng, X; Chen, Y; Wang, Z; Tao, T; Wei, D. (2014). Photodegradation of hexabromocyclododecane (HBCD) by Fe(III) complexes/H₂O₂ under simulated sunlight. *Environ Sci Pollut Res Int.* 21: 6228-6233. <http://dx.doi.org/10.1007/s11356-014-2553-0>.
- Zhou, T; Ross, DG; DeVito, MJ; Crofton, KM. (2001). Effects of short-term in vivo exposure to polybrominated diphenyl ethers on thyroid hormones and hepatic enzyme activities in weanling rats. *Toxicol Sci.* 61: 76-82.
- Zhou, T; Taylor, MM; DeVito, MJ; Crofton, KM. (2002). Developmental exposure to brominated diphenyl ethers results in thyroid hormone disruption. *Toxicol Sci.* 66: 105-116. <http://dx.doi.org/10.1093/toxsci/66.1.105>.
- Zhou, X; Guo, J, ie; Zhang, W, ei; Zhou, P; Deng, J; Lin, K. (2014). Tetrabromobisphenol A contamination and emission in printed circuit board production and implications for human exposure. *J Hazard Mater.* 273: 27-35. <http://dx.doi.org/10.1016/j.jhazmat.2014.03.003>.
- Zhou, Y; Asplund, L; Yin, G; Athanassiadis, I; Wideqvist, U; Bignert, A; Qiu, Y; Zhu, Z; Zhao, J; Bergman, Å. (2016). Extensive organohalogen contamination in wildlife from a site in the Yangtze River Delta. *Sci Total Environ.* 554-555: 320-328. <http://dx.doi.org/10.1016/j.scitotenv.2016.02.176>.
- Zhu, J; Feng, YL; Shoeib, M. (2007). Detection of dechlorane plus in residential indoor dust in the city of Ottawa, Canada. *Environ Sci Technol.* 41: 7694-7698. <http://dx.doi.org/10.1021/es071716y>.
- Zhu, J; Hou, Y; Feng, YL; Shoeib, M; Harner, T. (2008). Identification and determination of hexachlorocyclopentadienyl-dibromocyclooctane (HCDBCO) in residential indoor air and dust: a previously unreported halogenated flame retardant in the environment. *Environ Sci Technol.* 42: 386-391. <http://dx.doi.org/10.1021/es702272s>.

Fate Literature Search Results

Off Topic

- Zhu, L; Ma, B; Hites, RA. (2009). Brominated flame retardants in serum from the general population in northern China. *Environ Sci Technol.* 43: 6963-6968. <http://dx.doi.org/10.1021/es901296t>.
- Zhu, LY; Hites, RA. (2005). Brominated flame retardants in sediment cores from Lakes Michigan and Erie.[erratum appears in *Environ Sci Technol.* 2005 Aug 1;39(15):5904]. *Environ Sci Technol.* 39: 3488-3494. <http://dx.doi.org/10.1021/es048240s>.
- Zieminska, E; Stafiej, A; Toczylowska, B; Lazarewicz, JW. (2012). Acute Cytotoxicity Evoked by Tetrabromobisphenol A in Primary Cultures of Rat Cerebellar Granule Cells Outweighs the Effects of Polychlorinated Biphenyls. *Pol J Environ Stud.* 21: 1079-1087.
- Zimmer, KE; Montaño, M; Olsaker, I; Dahl, E; Berg, V; Karlsson, C; Murk, AJ; Skaare, JU; Ropstad, E; Verhaegen, S. (2011). In vitro steroidogenic effects of mixtures of persistent organic pollutants (POPs) extracted from burbot (*Lota lota*) caught in two Norwegian lakes. *Sci Total Environ.* 409: 2040-2048. <http://dx.doi.org/10.1016/j.scitotenv.2011.01.055>.
- Zitko, V. (1993). Expanded polystyrene as a source of contaminants. *Mar Pollut Bull.* 26: 584-585.
- Zitko, V. (1994). TLC DETECTION OF BROMINATED FLAME RETARDANTS IN STYROFOAM. *Chemosphere.* 28: 1211-1215.
- Zorrilla, LM; Gibson, EK; Jeffay, SC; Crofton, KM; Setzer, WR; Cooper, RL; Stoker, TE. (2009). The effects of triclosan on puberty and thyroid hormones in male Wistar rats. *Toxicol Sci.* 107: 56-64. <http://dx.doi.org/10.1093/toxsci/kfn225>.
- Zou, W; Chen, C; Zhong, Y; An, J; Zhang, X; Yu, Y; Yu, Z; Fu, J. (2013). PI3K/Akt pathway mediates Nrf2/ARE activation in human L02 hepatocytes exposed to low-concentration HBCDs. *Environ Sci Technol.* 47: 12434-12440. <http://dx.doi.org/10.1021/es401791s>.
- Zou, Y; Christensen, ER; Li, A, n. (2013). Characteristic pattern analysis of polybromodiphenyl ethers in Great Lakes sediments: a combination of eigenspace projection and positive matrix factorization analysis. *Environmetrics.* 24: 41-50. <http://dx.doi.org/10.1002/env.2188>.

Engineering/Occupational Exposure Literature Search Results

On Topic

- Abdallah, MA; Harrad, S; Covaci, A. (2008). Hexabromocyclododecanes and tetrabromobisphenol-A in indoor air and dust in Birmingham, U.K: implications for human exposure. *Environ Sci Technol.* 42: 6855-6861. <http://dx.doi.org/10.1021/es801110a>.
- Abdallah, MA; Ibarra, C; Neels, H; Harrad, S; Covaci, A. (2008). Comparative evaluation of liquid chromatography-mass spectrometry versus gas chromatography-mass spectrometry for the determination of hexabromocyclododecanes and their degradation products in indoor dust. *J Chromatogr A.* 1190: 333-341. <http://dx.doi.org/10.1016/j.chroma.2008.03.006>.
- Allen, JG; Stapleton, HM; Vallarino, J; Mcneely, E; Mcclean, MD; Harrad, SJ; Rauer, CB; Spengler, JD. (2013). Exposure to flame retardant chemicals on commercial airplanes. *Environ Health.* 12: 17. <http://dx.doi.org/10.1186/1476-069X-12-17>.
- Allgood, JM; Jimah, T; Mcclaskey, CM; La Guardia, MJ; Hammel, SC; Zeineddine, MM; Tang, IW; Runnerstrom, MG; Ogunseit, OA. (2016). Potential human exposure to halogenated flame-retardants in elevated surface dust and floor dust in an academic environment. *Environ Res.* 153: 55-62. <http://dx.doi.org/10.1016/j.envres.2016.11.010>.
- Al-Odaini, NA; Shim, WJ; Han, GM; Jang, M; Hong, SH. (2015). Enrichment of hexabromocyclododecanes in coastal sediments near aquaculture areas and a wastewater treatment plant in a semi-enclosed bay in South Korea. *Sci Total Environ.* 505: 290-298. <http://dx.doi.org/10.1016/j.scitotenv.2014.10.019>.
- Arsenault, G; Konstantinov, A; Marvin, CH; Macinnis, G; Mcalees, A; Mccrindle, R; Riddell, N; Tomy, GT; Yeo, B. (2007). Synthesis of the two minor isomers, delta- and epsilon-1,2,5,6,9,10-hexabromocyclododecane, present in commercial hexabromocyclododecane. *Chemosphere.* 68: 887-892. <http://dx.doi.org/10.1016/j.chemosphere.2007.02.005>.
- Asante, KA; Takahashi, S; Itai, T; Isobe, T; Devanathan, G; Muto, M; Agyakwah, SK; Adu-Kumi, S; Subramanian, A; Tanabe, S. (2013). Occurrence of halogenated contaminants in inland and coastal fish from Ghana: levels, dietary exposure assessment and human health implications. *Ecotoxicol Environ Saf.* 94: 123-130. <http://dx.doi.org/10.1016/j.ecoenv.2013.05.008>.
- Chen, D; La Guardia, MJ; Luellen, DR; Harvey, E; Mainor, TM; Hale, RC. (2011). Do temporal and geographical patterns of HBCD and PBDE flame retardants in U.S. fish reflect evolving industrial usage? *Environ Sci Technol.* 45: 8254-8261. <http://dx.doi.org/10.1021/es201444w>.
- Duan, H; Yu, D; Zuo, J; Yang, B; Zhang, Y; Niu, Y. (2016). Characterization of brominated flame retardants in construction and demolition waste components: HBCD and PBDEs. *Sci Total Environ.* 572: 77-85. <http://dx.doi.org/10.1016/j.scitotenv.2016.07.165>.
- Eguchi, A; Isobe, T; Ramu, K; Tue, NM; Sudaryanto, A; Devanathan, G; Viet, PH; Tana, RS; Takahashi, S; Subramanian, A; Tanabe, S. (2013). Soil contamination by brominated flame retardants in open waste dumping sites in Asian developing countries. *Chemosphere.* 90: 2365-2371. <http://dx.doi.org/10.1016/j.chemosphere.2012.10.027>.
- Gallen, C; Drage, D; Kaserzon, S; Baduel, C; Gallen, M; Banks, A; Broomhall, S; Mueller, JF. (2016). Occurrence and distribution of brominated flame retardants and perfluoroalkyl substances in Australian landfill leachate and biosolids. *J Hazard Mater.* 312: 55-64. <http://dx.doi.org/10.1016/j.jhazmat.2016.03.031>.
- Gao, S; Wang, J; Yu, Z; Guo, Q; Sheng, G; Fu, J. (2011). Hexabromocyclododecanes in surface soils from E-waste recycling areas and industrial areas in South China: concentrations, diastereoisomer- and enantiomer-specific profiles, and inventory. *Environ Sci Technol.* 45: 2093-2099. <http://dx.doi.org/10.1021/es1033712>.
- Gorga, M; Martínez, E; Ginebreda, A; Eljarrat, E; Barceló, D. (2013). Determination of PBDEs, HBB, PBEB, DBDPE, HBCD, TBBPA and related compounds in sewage sludge from Catalonia (Spain). *Sci Total Environ.* 444: 51-59. <http://dx.doi.org/10.1016/j.scitotenv.2012.11.066>.
- Guerra, P; De La Cal, A; Marsh, G; Eljarrat, E; Barcelo, D. (2009). Transfer of hexabromocyclododecane from industrial effluents to sediments and biota: Case study in Cinca river (Spain). *J Hydrol.* 369: 360-367. <http://dx.doi.org/10.1016/j.jhydrol.2009.02.024>.
- Guerra, P; de La Cal, A; Marsh, G; Raldua, D; Barata, C; Eljarrat, E; Barcelo, D. (2009). Transfer of hexabromocyclododecane from industrial effluents to sediments and biota: Case study in Cinca river (Spain) (vol 369, pg 360, 2009). *J Hydrol.* 378: 355-355. <http://dx.doi.org/10.1016/j.jhydrol.2009.09.008>.

Engineering/Occupational Exposure Literature Search Results

On Topic

- Hale, RC; La Guardia, MJ; Harvey, E; Gaylor, MO; Mainor, TM. (2006). Brominated flame retardant concentrations and trends in abiotic media. *Chemosphere*. 64: 181-186. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.006>.
- Harrad, S; Abdallah, MA. (2008). Calibration of two passive air sampler configurations for monitoring concentrations of hexabromocyclododecanes in indoor air. *J Environ Monit*. 10: 527-531. <http://dx.doi.org/10.1039/b719638e>.
- Harrad, S; Goosey, E; Desborough, J; Abdallah, MA; Roosens, L; Covaci, A. (2010). Dust from U.K. primary school classrooms and daycare centers: the significance of dust as a pathway of exposure of young U.K. children to brominated flame retardants and polychlorinated biphenyls. *Environ Sci Technol*. 44: 4198-4202. <http://dx.doi.org/10.1021/es100750s>.
- Harrad, S; Ibarra, C; Abdallah, MAE; Boon, R; Neels, H; Covaci, A. (2008). Concentrations of brominated flame retardants in dust from United Kingdom cars, homes, and offices: causes of variability and implications for human exposure. *Environ Int*. 34: 1170-1175. <http://dx.doi.org/10.1016/j.envint.2008.05.001>.
- Hassan, Y; Shoeib, T. (2014). Levels of polybrominated diphenyl ethers and novel flame retardants in microenvironment dust from Egypt: An assessment of human exposure. *Sci Total Environ*. 505C: 47-55. <http://dx.doi.org/10.1016/j.scitotenv.2014.09.080>.
- Hloušková, V; Lanková, D; Kalachová, K; Hrádková, P; Poustka, J; Hajšlová, J; Pulkrabová, J. (2013). Occurrence of brominated flame retardants and perfluoroalkyl substances in fish from the Czech aquatic ecosystem. *Sci Total Environ*. 461-462: 88-98. <http://dx.doi.org/10.1016/j.scitotenv.2013.04.081>.
- Hloušková, V; Lanková, D; Kalachová, K; Hrádková, P; Poustka, J; Hajšlová, J; Pulkrabová, J. (2014). Brominated flame retardants and perfluoroalkyl substances in sediments from the Czech aquatic ecosystem. *Sci Total Environ*. 470-471: 407-416. <http://dx.doi.org/10.1016/j.scitotenv.2013.09.074>.
- Iwata, T; Nakai, S. (2011). Exposure Assessment of Hexabromocyclododecane Among Japanese Population. *Epidemiology*. 22: S89-S89.
- Janák, K; Covaci, A; Voorspoels, S; Becher, G. (2005). Hexabromocyclododecane in marine species from the Western Scheldt Estuary: diastereoisomer- and enantiomer-specific accumulation. *Environ Sci Technol*. 39: 1987-1994. <http://dx.doi.org/10.1021/es0484909>.
- Kalantzi, OI; Geens, T; Covaci, A; Siskos, PA. (2011). Distribution of polybrominated diphenyl ethers (PBDEs) and other persistent organic pollutants in human serum from Greece. *Environ Int*. 37: 349-353. <http://dx.doi.org/10.1016/j.envint.2010.10.005>.
- Kemmllein, S; Hahn, O; Jann, O. (2003). Emissions of organophosphate and brominated flame retardants from selected consumer products and building materials. *Atmos Environ*. 37: 5485-5493. <http://dx.doi.org/10.1016/j.atmosenv.2003.09.025>.
- Kim, UJ; Lee, IS; Oh, JE. (2016). Occurrence, removal and release characteristics of dissolved brominated flame retardants and their potential metabolites in various kinds of wastewater. *Environ Pollut*. 218: 551-557. <http://dx.doi.org/10.1016/j.envpol.2016.07.037>.
- Kuo, Y, uY; Zhang, H; Gerecke, AC; Wang, J. (2014). Chemical Composition of Nanoparticles Released from Thermal Cutting of Polystyrene Foams and the Associated Isomerization of Hexabromocyclododecane (HBCD) Diastereomers. *Aerosol Air Qual Res*. 14: 1114-1120. <http://dx.doi.org/10.4209/aaqr.2013.02.0059>.
- La Guardia, MJ; Hale, RC. (2015). Halogenated flame-retardant concentrations in settled dust, respirable and inhalable particulates and polyurethane foam at gymnastic training facilities and residences. *Environ Int*. 79: 106-114. <http://dx.doi.org/10.1016/j.envint.2015.02.014>.
- La Guardia, MJ; Hale, RC; Harvey, E; Mainor, TM; Ciparis, S. (2012). In situ accumulation of HBCD, PBDEs, and several alternative flame-retardants in the bivalve (*Corbicula fluminea*) and gastropod (*Elimia proxima*). *Environ Sci Technol*. 46: 5798-5805. <http://dx.doi.org/10.1021/es3004238>.
- Laborie, S; Moreau-Guigon, E; Alliot, F; Desportes, A; Oziol, L; Chevreuil, M. (2016). A new analytical protocol for the determination of 62 endocrine-disrupting compounds in indoor air. *Talanta*. 147: 132-141. <http://dx.doi.org/10.1016/j.talanta.2015.09.028>.
- Labunska, I; Abdallah, MA; Eulaers, I; Covaci, A; Tao, F; Wang, M; Santillo, D; Johnston, P; Harrad, S. (2015). Human dietary intake of organohalogen contaminants at e-waste recycling sites in Eastern China. *Environ Int*. 74: 209-220. <http://dx.doi.org/10.1016/j.envint.2014.10.020>.
- Law, RJ; Allchin, CR; de Boer, J; Covaci, A; Herzke, D; Lepom, P; Morris, S; Tronczynski, J; de Wit, CA. (2006). Levels and trends of brominated flame retardants in the European environment. *Chemosphere*. 64: 187-208. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.007>.
- Li, H; Zhang, Q; Wang, P; Li, Y; Lv, J; Chen, W; Geng, D; Wang, Y; Wang, T; Jiang, G. (2012). Levels and distribution of hexabromocyclododecane (HBCD) in environmental samples near manufacturing facilities in Laizhou Bay area, East China. *J Environ Monit*. 14: 2591-2597. <http://dx.doi.org/10.1039/c2em30231d>.
- Li, L; Weber, R; Liu, J; Hu, J. (2016). Long-term emissions of hexabromocyclododecane as a chemical of concern in products in China. *Environ Int*. 91: 291-300. <http://dx.doi.org/10.1016/j.envint.2016.03.007>.
- Morf, LS; Tremp, J; Gloor, R; Huber, Y; Stengele, M; Zennegg, M. (2005). Brominated flame retardants in waste electrical and electronic equipment: substance flows in a recycling plant. *Environ Sci Technol*. 39: 8691-8699. <http://dx.doi.org/10.1021/es051170k>.
- Ni, HG; Lu, SY; Mo, T; Zeng, H. (2016). Brominated flame retardant emissions from the open burning of five plastic wastes and implications for environmental exposure in China. *Environ Pollut*. 214: 70-76. <http://dx.doi.org/10.1016/j.envpol.2016.03.049>.
- Ni, HG; Zeng, H. (2013). HBCD and TBBPA in particulate phase of indoor air in Shenzhen, China. *Sci Total Environ*. 458-460: 15-19. <http://dx.doi.org/10.1016/j.scitotenv.2013.04.003>.
- Nie, Z; Yang, Z; Fang, Y; Yang, Y; Tang, Z; Wang, X; Die, Q; Gao, X; Zhang, F; Wang, Q; Huang, Q. (2015). Environmental risks of HBCDD from construction and demolition waste: a contemporary and future issue. *Environ Sci Pollut Res Int*. 22: 17249-17252. <http://dx.doi.org/10.1007/s11356-015-5487-2>.
- Qiu, Y; Strid, A; Bignert, A; Zhu, Z; Zhao, J; Athanasiadou, M; Athanasiadis, I; Bergman, Å. (2012). Chlorinated and brominated organic contaminants in fish from Shanghai markets: a case study of human exposure. *Chemosphere*. 89: 458-466. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.099>.
- Rani, M; Shim, WJ; Han, GM; Jang, M; Song, YK; Hong, SH. (2014). Hexabromocyclododecane in polystyrene based consumer products: An evidence of unregulated use. *Chemosphere*. 110: 111-119. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.022>.

Engineering/Occupational Exposure Literature Search Results

On Topic

- Rauert, C; Lazarov, B; Harrad, S; Covaci, A; Stranger, M. (2014). A review of chamber experiments for determining specific emission rates and investigating migration pathways of flame retardants. *Atmos Environ.* 82: 44-55. <http://dx.doi.org/10.1016/j.atmosenv.2013.10.003>.
- Remberger, M; Sternbeck, J; Palm, A; Kaj, L; Strömberg, K; Brorström-Lundén, E. (2004). The environmental occurrence of hexabromocyclododecane in Sweden. *Chemosphere.* 54: 9-21. [http://dx.doi.org/10.1016/S0045-6535\(03\)00758-6](http://dx.doi.org/10.1016/S0045-6535(03)00758-6).
- Rosenberg, C; Hämeilä, M; Tornaes, J; Säkkinen, K; Puttonen, K; Korpi, A; Kiilunen, M; Linnainmaa, M; Hesso, A. (2011). Exposure to flame retardants in electronics recycling sites. *Ann Occup Hyg.* 55: 658-665. <http://dx.doi.org/10.1093/annhyg/mer033>.
- Saito, I; Onuki, A; Seto, H. (2007). Indoor organophosphate and polybrominated flame retardants in Tokyo. *Indoor Air.* 17: 28-36. <http://dx.doi.org/10.1111/j.1600-0668.2006.00442.x>.
- Strid, A; Smedje, G; Athanassiadis, I; Lindgren, T; Lundgren, H; Jakobsson, K; Bergman, A. (2014). Brominated flame retardant exposure of aircraft personnel. *Chemosphere.* 116: 83-90. <http://dx.doi.org/10.1016/j.chemosphere.2014.03.073>.
- Stubbings, WA; Harrad, S. (2014). Extent and mechanisms of brominated flame retardant emissions from waste soft furnishings and fabrics: A critical review [Review]. *Environ Int.* 71: 164-175. <http://dx.doi.org/10.1016/j.envint.2014.06.007>.
- Stubbings, WA; Kajiwara, N; Takigami, H; Harrad, S. (2016). Leaching behaviour of hexabromocyclododecane from treated curtains. *Chemosphere.* 144: 2091-2096. <http://dx.doi.org/10.1016/j.chemosphere.2015.10.121>.
- Subramanian, A; Tanabe, S. (2007). Developments in Environmental Science Persistent Toxic Substances in India. [http://dx.doi.org/10.1016/S1474-8177\(07\)07009-X](http://dx.doi.org/10.1016/S1474-8177(07)07009-X).
- Takigami, H; Watanabe, M; Kajiwara, N. (2014). Destruction behavior of hexabromocyclododecanes during incineration of solid waste containing expanded and extruded polystyrene insulation foams. *Chemosphere.* 116: 24-33. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.082>.
- Tao, F; Matsukami, H; Suzuki, G; Tue, NM; Viet, PH; Takigami, H; Harrad, S. (2016). Emerging halogenated flame retardants and hexabromocyclododecanes in food samples from an e-waste processing area in Vietnam. *Environ Sci Process Impacts.* 18: 361-370. <http://dx.doi.org/10.1039/c5em00593k>.
- Thomsen, C; Molander, P; Daae, HL; Janák, K; Froshaug, M; Liane, VH; Thorud, S; Becher, G; Dybing, E. (2007). Occupational exposure to hexabromocyclododecane at an industrial plant. *Environ Sci Technol.* 41: 5210-5216. <http://dx.doi.org/10.1021/es0702622>.
- Tomko, G; McDonald, KM. (2013). Environmental fate of hexabromocyclododecane from a new Canadian electronic recycling facility. *J Environ Manage.* 114: 324-327. <http://dx.doi.org/10.1016/j.jenvman.2012.10.024>.
- Velsicol Chem Corp. (1978). Industrial hygiene survey, Velsicol Chemical Corporation, El Dorado, Ark Plant, Fire Master 680 Unit and semi-works summary with attachments and cover letter dated 071978 [TSCA Submission]. (EPA/OTS Doc #88-7800228). Chicago, IL. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0200544>.
- Yi, S; Liu, JG; Jin, J; Zhu, J. (2016). Assessment of the occupational and environmental risks of hexabromocyclododecane (HBCD) in China. *Chemosphere.* 150: 431-437. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.047>.
- Yu, G; Bu, Q; Cao, Z; Du, X; Xia, J; Wu, M; Huang, J. (2016). Brominated flame retardants (BFRs): A review on environmental contamination in China [Review]. *Chemosphere.* 150: 479-490. <http://dx.doi.org/10.1016/j.chemosphere.2015.12.034>.
- Zeng, L; Yang, R; Zhang, Q; Zhang, H; Xiao, K; Zhang, H; Wang, Y; Lam, PK; Jiang, G. (2014). Current levels and composition profiles of emerging halogenated flame retardants and dehalogenated products in sewage sludge from municipal wastewater treatment plants in china. *Environ Sci Technol.* 48: 12586-12594. <http://dx.doi.org/10.1021/es503510q>.
- Zeng, YH; Luo, XJ; Zheng, XB; Tang, B; Wu, JP; Mai, BX. (2014). Species-specific bioaccumulation of halogenated organic pollutants and their metabolites in fish serum from an e-waste site, South China. *Arch Environ Contam Toxicol.* 67: 348-357. <http://dx.doi.org/10.1007/s00244-014-0040-8>.
- Zeng, YH; Tang, B; Luo, XJ; Zheng, XB; Peng, PA; Mai, BX. (2016). Organohalogen pollutants in surface particulates from workshop floors of four major e-waste recycling sites in China and implications for emission lists. *Sci Total Environ.* 569-570: 982-989. <http://dx.doi.org/10.1016/j.scitotenv.2016.06.053>.
- Zhang, CC; Zhang, FS. (2012). Removal of brominated flame retardant from electrical and electronic waste plastic by solvothermal technique. *J Hazard Mater.* 221-222: 193-198. <http://dx.doi.org/10.1016/j.jhazmat.2012.04.033>.
- Zhang, H; Kuo, YY; Gerecke, AC; Wang, J. (2012). Co-release of hexabromocyclododecane (HBCD) and Nano- and microparticles from thermal cutting of polystyrene foams. *Environ Sci Technol.* 46: 10990-10996. <http://dx.doi.org/10.1021/es302559v>.
- Zhang, X; Yang, F; Luo, C; Wen, S; Zhang, X; Xu, Y. (2009). Bioaccumulative characteristics of hexabromocyclododecanes in freshwater species from an electronic waste recycling area in China. *Chemosphere.* 76: 1572-1578. <http://dx.doi.org/10.1016/j.chemosphere.2009.05.031>.
- Zhang, Y; Li, Q; Lu, Y; Jones, K; Sweetman, AJ. (2016). Hexabromocyclododecanes (HBCDDs) in surface soils from coastal cities in North China: Correlation between diastereoisomer profiles and industrial activities. *Chemosphere.* 148: 504-510. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.051>.
- Zhang, Y; Ruan, Y; Sun, H; Zhao, L; Gan, Z. (2013). Hexabromocyclododecanes in surface sediments and a sediment core from Rivers and Harbor in the northern Chinese city of Tianjin. *Chemosphere.* 90: 1610-1616. <http://dx.doi.org/10.1016/j.chemosphere.2012.08.037>.
- Zhu, J; Liu, JG; Hu, JX; Yi, S. (2016). Socio-economic analysis of the risk management of hexabromocyclododecane (HBCD) in China in the context of the Stockholm Convention. *Chemosphere.* 150: 520-527. <http://dx.doi.org/10.1016/j.chemosphere.2015.11.007>.
- Zhu, L; Ma, B; Hites, RA. (2009). Brominated flame retardants in serum from the general population in northern China. *Environ Sci Technol.* 43: 6963-6968. <http://dx.doi.org/10.1021/es901296t>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Abb, M; Stahl, B; Lorenz, W. (2011). Analysis of brominated flame retardants in house dust. *Chemosphere*. 85: 1657-1663. <http://dx.doi.org/10.1016/j.chemosphere.2011.06.022>.
- Abbasi, NA; Malik, RN; Frantz, A; Jaspers, VL. (2016). A review on current knowledge and future prospects of organohalogen contaminants (OHCs) in Asian birds [Review]. *Sci Total Environ*. 542: 411-426. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.088>.
- Abdallah, MA; Harrad, S. (2009). Personal exposure to HBCDs and its degradation products via ingestion of indoor dust. *Environ Int*. 35: 870-876. <http://dx.doi.org/10.1016/j.envint.2009.03.002>.
- Abdallah, MA; Harrad, S. (2011). Tetrabromobisphenol-A, hexabromocyclododecane and its degradation products in UK human milk: relationship to external exposure. *Environ Int*. 37: 443-448. <http://dx.doi.org/10.1016/j.envint.2010.11.008>.
- Abdallah, MA; Pawar, G; Harrad, S. (2015). Evaluation of 3D-human skin equivalents for assessment of human dermal absorption of some brominated flame retardants. *Environ Int*. 84: 64-70. <http://dx.doi.org/10.1016/j.envint.2015.07.015>.
- Abdallah, MA; Tilston, E; Harrad, S; Collins, C. (2012). In vitro assessment of the bioaccessibility of brominated flame retardants in indoor dust using a colon extended model of the human gastrointestinal tract. *J Environ Monit*. 14: 3276-3283. <http://dx.doi.org/10.1039/c2em30690e>.
- Abdallah, MA; Uchea, C; Chipman, JK; Harrad, S. (2014). Enantioselective biotransformation of hexabromocyclododecane by in vitro rat and trout hepatic sub-cellular fractions. *Environ Sci Technol*. 48: 2732-2740. <http://dx.doi.org/10.1021/es404644s>.
- Abdallah, MA; Zhang, J; Pawar, G; Viant, MR; Chipman, JK; D'Silva, K; Bromirski, M; Harrad, S. (2015). High-resolution mass spectrometry provides novel insights into products of human metabolism of organophosphate and brominated flame retardants. *Anal Bioanal Chem*. 407: 1871-1883. <http://dx.doi.org/10.1007/s00216-015-8466-z>.
- Abdallah, MAE; Harrad, S. (2010). Modification and Calibration of a Passive Air Sampler for Monitoring Vapor and Particulate Phase Brominated Flame Retardants in Indoor Air: Application to Car Interiors. *Environ Sci Technol*. 44: 3059-3065. <http://dx.doi.org/10.1021/es100146r>.
- Abdallah, MAE; Harrad, S. (2014). Polybrominated diphenyl ethers in UK human milk: Implications for infant exposure and relationship to external exposure. *Environ Int*. 63: 130-136. <http://dx.doi.org/10.1016/j.envint.2013.11.009>.
- Abdallah, MAE; Harrad, S; Ibarra, C; Diamond, M; Melymuk, L; Robson, M; Covaci, A. (2008). Hexabromocyclododecanes in indoor dust from Canada, the United Kingdom, and the United States. *Environ Sci Technol*. 42: 459-464. <http://dx.doi.org/10.1021/es702378t>.
- Abou-Elwafa Abdallah, M; Drage, D; Harrad, S. (2013). A one-step extraction/clean-up method for determination of PCBs, PBDEs and HBCDs in environmental solid matrices. *Environ Sci Process Impacts*. 15: 2279-2287. <http://dx.doi.org/10.1039/c3em00395g>.
- ACC. (2000). LETTER FROM AMER CHEM CNCL SUBMITTING FLOW-THROUGH BIOCONCENTRATION TEST W/RAINBOW TROUT and END-USER SURVEY-PHASE 1 STUDY OF BROMINATED FLAME RETARDANT, W/ATTCHMNTS and DATED 8/28/00. (TSCATS/446539). American Chemistry Council.
- ACC. (2002). INITIAL SUBMISSION: LTR FR ACC TO USEPA SUBMITTING ENVIRONMENTAL EFFECTS STUDIES WITH HEXABROMOCYCLODODECANE and DECABROMODIPHENYL OXIDE, W/ATTACHMENTS and DATED 121101. (TSCATS/454513). WILDLIFE INTERNATIONAL LTD.
- ACC. (2002). SUPPORT: LTR FR AMER CHEM COUNCIL TO USEPA SUBMITTING 2 ENV EFFCTS STDIES ON TETRABROMOBISPHENOL A and AN ADDENDUM TO A 90-DAY TOX STDY ON HBCD IN RATS, W/ATTCHMNTS and DTD 072502. (TSCATS/454846). WILDLIFE INTERNATIONAL LTD.
- Akiyama, E, ma; Kakutani, H; Nakao, T; Motomura, Y; Takano, Y; Sorakubo, R; Mizuno, A; Aozasa, O; Tachibana, K; Doi, T; Ohta, S. (2015). Facilitation of adipocyte differentiation of 3T3-L1 cells by debrominated tetrabromobisphenol A compounds detected in Japanese breast milk. *Environ Res*. 140: 157-164. <http://dx.doi.org/10.1016/j.envres.2015.03.035>.
- Alaee, M. (2003). An overview of commercially used brominated flame retardants, their applications, their use patterns in different countries/regions and possible modes of release [Review]. *Environ Int*. 29: 683-689. [http://dx.doi.org/10.1016/s0160-4120\(03\)00121-1](http://dx.doi.org/10.1016/s0160-4120(03)00121-1).
- Albemarle. (2000). Saytex ® HP-900 Flame Retardant [Fact Sheet]. Baton Rouge, LA. http://www.albemarle.com/_filelib/FileCabinet/Products/Fire_Safety/SAYTEX_PURshield_online.pdf.
- Alcock, RE; Busby, J. (2006). Risk migration and scientific advance: The case of flame-retardant compounds. *Risk Anal*. 26: 369-381. <http://dx.doi.org/10.1111/j.1539-6924.2006.00739.x>.
- Ali, N; Dirtu, AC; Van Den Eede, N; Goosey, E; Harrad, S; Neels, H; 'T Mannelte, A; Coakley, J; Douwes, J; Covaci, A. (2012). Occurrence of alternative flame retardants in indoor dust from New Zealand: indoor sources and human exposure assessment. *Chemosphere*. 88: 1276-1282. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.100>.
- Almroth, BC; Sturve, J; Berglund, A; Forlin, L. (2005). Oxidative damage in eelpout (*Zoarces viviparus*), measured as protein carbonyls and TBARS, as biomarkers. *Aquat Toxicol*. 73: 171-180. <http://dx.doi.org/10.1016/j.aquatox.2005.03.007>.
- Almughamsi, H; Whalen, M. (2015). Hexabromocyclododecane and tetrabromobisphenol A alter secretion of interferon gamma (IFN gamma) from human immune cells [Abstract]. *FASEB J*. 29: 726.724.
- Al-Omran, LS; Harrad, S. (2016). Distribution pattern of legacy and "novel" brominated flame retardants in different particle size fractions of indoor dust in Birmingham, United Kingdom. *Chemosphere*. 157: 124-131. <http://dx.doi.org/10.1016/j.chemosphere.2016.05.041>.
- Al-Zaidan, AS; Al-Sarawi, HA; Massoud, MS; Al-Enezi, M; Smith, AJ; Bignell, JP; Green, MJ; Askem, C; Bolam, TP; Barber, JL; Bersuder, P; Lyons, BP. (2015). Histopathology and contaminant concentrations in fish from Kuwait's marine environment. *Mar Pollut Bull*. 100: 637-645. <http://dx.doi.org/10.1016/j.marpolbul.2015.07.030>.
- AMERIBROM INC. (1990). LETTER FROM AMERIBROM INC TO US EPA REGARDING 8D SUBMISSION FOR HEXABROMOCYCLODODECANE WITH ATTACHMENTS. (TSCATS/410157).

Engineering/Occupational Exposure Literature Search Results

Off Topic

- An, J; Guo, P; Shang, Y; Zhong, Y; Zhang, X; Yu, Y; Yu, Z. (2016). The "adaptive responses" of low concentrations of HBCD in L02 cells and the underlying molecular mechanisms. *Chemosphere*. 145: 68-76. <http://dx.doi.org/10.1016/j.chemosphere.2015.11.071>.
- An, J; Wang, X; Guo, P; Zhong, Y; Zhang, X; Yu, Z. (2014). Hexabromocyclododecane and polychlorinated biphenyls increase resistance of hepatocellular carcinoma cells to cisplatin through the phosphatidylinositol 3-kinase/protein kinase B pathway. *Toxicol Lett*. 229: 265-272. <http://dx.doi.org/10.1016/j.toxlet.2014.06.025>.
- An, J; Zou, W; Chen, C; Zhong, FY; Yu, QZ; Wang, QJ. (2013). The cytological effects of HBCDs on human hepatocyte L02 and the potential molecular mechanism. *J Environ Sci Health A Tox Hazard Subst Environ Eng*. 48: 1333-1342. <http://dx.doi.org/10.1080/10934529.2013.781875>.
- Andersen, MS; Fuglei, E; König, M; Lipasti, I; Pedersen, ÅØ; Polder, A; Yoccoz, NG; Routti, H. (2015). Levels and temporal trends of persistent organic pollutants (POPs) in arctic foxes (*Vulpes lagopus*) from Svalbard in relation to dietary habits and food availability. *Sci Total Environ*. 511: 112-122. <http://dx.doi.org/10.1016/j.scitotenv.2014.12.039>.
- Andersen, S; Pedersen, KM; Bruun, NH; Laurberg, P. (2002). Narrow individual variations in serum T4 and T3 in normal subjects: a clue to the understanding of subclinical thyroid disease. *J Clin Endocrinol Metab*. 87: 1068-1072. <http://dx.doi.org/10.1210/jcem.87.3.8165>.
- Andersson, PL; Oberg, K; Orn, U. (2006). Chemical characterization of brominated flame retardants and identification of structurally representative compounds. *Environ Toxicol Chem*. 25: 1275-1282. <http://dx.doi.org/10.1897/05-342R.1>.
- Aniagu, SO; Williams, TD; Allen, Y; Katsiadaki, I; Chipman, JK. (2008). Global genomic methylation levels in the liver and gonads of the three-spine stickleback (*Gasterosteus aculeatus*) after exposure to hexabromocyclododecane and 17-beta oestradiol. *Environ Int*. 34: 310-317. <http://dx.doi.org/10.1016/j.envint.2007.03.009>.
- Anon. (1996). Hexabromocyclododecan (Aug 1995). (RISKLINE/1999030020). Anonymous.
- Anon. (1997). LETTER FROM CHEM MFGS ASSOC TO USEPA REGARDING: TOXICITY STUDIES ON HEXABROMOCYCLODODECANE, PENTABROMODIPHENYL OXIDE, AND OCTABROMODIPHENYL OXIDE WITH ATTACHMENTS, DATED 11/26/1996. (TSCATS/452961).
- ANON. (1998). HEXABROMOCYCLODODECANE (HBCD): A FLOW-THROUGH LIFE-CYCLE TOXICITY TEST WITH THE CLADOCERAN (DAPHNIA MAGNA), WITH COVER LETTER DATED 5/18/1998. (TSCATS/445631). WILDLIFE INTERNATIONAL LTD.
- Anon. (2015). Substance Monograph for 1,2,5,6,9,10-Hexabromocyclododecane (HBCDD) - HBM-levels for HBCDD in the Fatty Component of Breast Milk or of Blood Plasma. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz*. 58: 889-907. <http://dx.doi.org/10.1007/s00103-015-2193-7>.
- Anselmo, HMR; Koerting, L; Devito, S; van den Berg, JHJ; Dubbeldam, M; Kwadijk, C; Murk, AJ. (2011). Early life developmental effects of marine persistent organic pollutants on the sea urchin *Psammechinus miliaris*. *Ecotoxicol Environ Saf*. 74: 2182-2192. <http://dx.doi.org/10.1016/j.ecoenv.2011.07.037>.
- Antignac, JP; Cariou, R; Maume, D; Marchand, P; Monteau, F; Zalko, D; Berrebi, A; Cravedi, JP; Andre, F; Le Bizec, B. (2008). Exposure assessment of fetus and newborn to brominated flame retardants in France: preliminary data. *Mol Nutr Food Res*. 52: 258-265. <http://dx.doi.org/10.1002/mnfr.200700077>.
- Antignac, JP; Main, KM; Virtanen, HE; Boquien, CY; Marchand, P; Venisseau, A; Guiffard, I; Bichon, E; Wohlfahrt-Veje, C; Legrand, A; Boscher, C; Skakkebaek, NE; Toppari, J; Le Bizec, B. (2016). Country-specific chemical signatures of persistent organic pollutants (POPs) in breast milk of French, Danish and Finnish women. *Environ Pollut*. 218: 728-738. <http://dx.doi.org/10.1016/j.envpol.2016.07.069>.
- Arinaitwe, K; Muir, DC; Kiremire, BT; Fellin, P; Li, H; Teixeira, C. (2014). Polybrominated diphenyl ethers and alternative flame retardants in air and precipitation samples from the northern Lake Victoria region, East Africa. *Environ Sci Technol*. 48: 1458-1466. <http://dx.doi.org/10.1021/es403600a>.
- Arnot, JA; Armitage, JM; Mccarty, LS; Wania, F; Cousins, IT; Toose-Reid, L. (2011). Toward a Consistent Evaluative Framework for POP Risk Characterization. *Environ Sci Technol*. 45: 97-103. <http://dx.doi.org/10.1021/es102551d>.
- Arsenault, G; Chittim, B; Mcalees, A; Mccrindle, R. (2007). Nuclear magnetic resonance spectral characterization and semi-empirical calculations of conformations of alpha- and gamma-1,2,5,6,9,10-hexabromocyclododecane. *Chemosphere*. 67: 1684-1694. <http://dx.doi.org/10.1016/j.chemosphere.2006.05.122>.
- Asante, KA; Adu-Kumi, S; Nakahiro, K; Takahashi, S; Isobe, T; Sudaryanto, A; Devanathan, G; Clarke, E; Ansa-Asare, OD; Dapaah-Siakwan, S; Tanabe, S. (2011). Human exposure to PCBs, PBDEs and HBCDs in Ghana: Temporal variation, sources of exposure and estimation of daily intakes by infants. *Environ Int*. 37: 921-928. <http://dx.doi.org/10.1016/j.envint.2011.03.011>.
- Asnake, S; Pradhan, A; Banjop-Kharlyngdoh, J; Modig, C; Olsson, P. (2014). 1,2-dibromo-4-(1,2-dibromoethyl) cyclohexane (TBECH)-mediated steroid hormone receptor activation and gene regulation in chicken LMH cells. *Environ Toxicol Chem*. 33: 891-899. <http://dx.doi.org/10.1002/etc.2509>.
- Aurell, M; Cramér, K. (1966). Serum lipids and lipoproteins in human pregnancy. *Clin Chim Acta*. 13: 278-284. [http://dx.doi.org/10.1016/0009-8981\(66\)90206-3](http://dx.doi.org/10.1016/0009-8981(66)90206-3).
- Ausó, E; Lavado-Autric, R; Cuevas, E; Del Rey, FE; Morreale De Escobar, G; Berbel, P. (2004). A moderate and transient deficiency of maternal thyroid function at the beginning of fetal neocortico-genesis alters neuronal migration. *Endocrinology*. 145: 4037-4047. <http://dx.doi.org/10.1210/en.2004-0274>.
- Aylward, LL; Hays, SM. (2011). Biomonitoring-based risk assessment for hexabromocyclododecane (HBCD) [Review]. *Int J Hyg Environ Health*. 214: 179-187. <http://dx.doi.org/10.1016/j.ijheh.2011.02.002>.
- Aznar-Alemany, Ö; Tralalón, L; Jacobs, S; Barbosa, VL; Tejedor, MF; Granby, K; Kwadijk, C; Cunha, SC; Ferrari, F; Vandermeersch, G; Sioen, I; Verbeke, W; Vilavert, L; Domingo, JL; Eljarrat, E; Barceló, D. (2016). Occurrence of halogenated flame retardants in commercial seafood species available in European markets. *Food Chem Toxicol*. 24. <http://dx.doi.org/10.1016/j.fct.2016.12.034>.
- Badea, SL; Niculescu, VC; Ionete, RE; Eljarrat, E. (2016). Advances in enantioselective analysis of chiral brominated flame retardants. Current status, limitations and future perspectives [Review]. *Sci Total Environ*. 566-567: 1120-1130. <http://dx.doi.org/10.1016/j.scitotenv.2016.05.148>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Bailey, SA; Zidell, RH; Perry, RW. (2004). Relationships between organ weight and body/brain weight in the rat: What is the best analytical endpoint? *Toxicol Pathol.* 32: 448-466. <http://dx.doi.org/10.1080/01926230490465874>.
- Balch, GC; Vélez-Espino, LA; Sweet, C; Alae, M; Metcalfe, CD. (2006). Inhibition of metamorphosis in tadpoles of *Xenopus laevis* exposed to polybrominated diphenyl ethers (PBDEs). *Chemosphere.* 64: 328-338. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.019>.
- Barghi, M; Shin, ES; Son, MH; Choi, SD; Pyo, H; Chang, YS. (2016). Hexabromocyclododecane (HBCD) in the Korean food basket and estimation of dietary exposure. *Environ Pollut.* 213: 268-277. <http://dx.doi.org/10.1016/j.envpol.2016.02.026>.
- Barker, DJP. (2007). The origins of the developmental origins theory. *J Intern Med.* 261: 412-417. <http://dx.doi.org/10.1111/j.1365-2796.2007.01809.x>.
- Baron, E; Bosch, C; Manez, M; Andreu, A; Sergio, F; Hiraldo, F; Eljarrat, E; Barcelo, D. (2015). Temporal trends in classical and alternative flame retardants in bird eggs from Donana Natural Space and surrounding areas (south-western Spain) between 1999 and 2013. *Chemosphere.* 138: 316-323. <http://dx.doi.org/10.1016/j.chemosphere.2015.06.013>.
- Baron, E; Gimenez, J; Verborgh, R; Gauffier, P; De Stephanis, R; Eljarrat, E; Barcelo, D. (2015). Bioaccumulation and biomagnification of classical flame retardants, related halogenated natural compounds and alternative flame retardants in three delphinids from Southern European waters. *Environ Pollut.* 203: 107-115. <http://dx.doi.org/10.1016/j.envpol.2015.03.041>.
- Barontini, F; Cozzani, V; Cuzzola, A; Petarca, L. (2001). Investigation of hexabromocyclododecane thermal degradation pathways by gas chromatography/mass spectrometry. *Rapid Commun Mass Spectrom.* 15: 690-698. <http://dx.doi.org/10.1002/rcm.281>.
- Barontini, F; Cozzani, V; Petarca, L. (2001). Thermal stability and decomposition products of hexabromocyclododecane. *Ind Eng Chem Res.* 40: 3270-3280.
- BASF. (1990). Determination of the acute toxicity of hexabromid S to the waterflea *Daphnia magna* straus with cover letter dated 040590. (EPA/OTS Doc #86-900000392). Wyandotte, MI.
- BASF CORP. (1990). ALGAL GROWTH INHIBITION TEST WITH COVER LETTER DATED 031290. (TSCATS/406648).
- BASF CORP. (1990). OXYGEN CONSUMPTION TEST (USING PSEUDOMONAS PUTIDA BY THE TEST METHOD OF ROBRA) WITH COVER LETTER DATED 031290. (TSCATS/406650).
- Beach, MW; Vozar, SE; Filipi, SZ; Shmakov, AG; Shvartsberg, VM; Korobeinichev, OP; Morgan, TA; Hu, TI; Sick, V. (2009). Screening approaches for gas-phase activity of flame retardants. *Proc Combust Inst.* 32: 2625-2632. <http://dx.doi.org/10.1016/j.proci.2008.07.039>.
- Becher, G. (2005). The stereochemistry of 1,2,5,6,9,10-hexabromocyclododecane and its graphic representation. *Chemosphere.* 58: 989-991. <http://dx.doi.org/10.1016/j.chemosphere.2004.09.071>.
- Behall, KM; Scholfield, DJ; Hallfrisch, JG; Kelsay, JL; Reiser, S. (1984). Seasonal variation in plasma glucose and hormone levels in adult men and women. *Am J Clin Nutr.* 40: 1352-1356.
- Bennett, DH; Moran, RE; Wu, XM; Tulve, NS; Clifton, MS; Colón, M; Weathers, W; Sjödin, A; Jones, R; Hertz-Picciotto, I. (2014). Polybrominated diphenyl ether (PBDE) concentrations and resulting exposure in homes in California: relationships among passive air, surface wipe and dust concentrations, and temporal variability. *Indoor Air.* 25: 220-229. <http://dx.doi.org/10.1111/ina.12130>.
- Berger, RD; Kasper, EK; Baughman, KL; Marban, E; Calkins, H; Tomaselli, GF. (1997). Beat-to-beat QT interval variability: novel evidence for repolarization lability in ischemic and nonischemic dilated cardiomyopathy. *Circulation.* 96: 1557-1565.
- Berger, RG; Lefèvre, PL; Ernest, SR; Wade, MG; Ma, YQ; Rawn, DF; Gaertner, DW; Robaire, B; Hales, BF. (2014). Exposure to an environmentally relevant mixture of brominated flame retardants affects fetal development in Sprague-Dawley rats. *Toxicology.* 320: 56-66. <http://dx.doi.org/10.1016/j.tox.2014.03.005>.
- Bernheim, M; Otto, P. (1990). DEGRADATION OF PYROVATEX-TREATED FABRICS DURING STORAGE - REPLY. *Text Res J.* 60: 616-616.
- Berntssen, MH; Valdernes, S; Rosenlund, G; Torstensen, BE; Zeilmaker, MJ; van Eijkeren, JC. (2011). Toxicokinetics and carry-over model of α -hexabromocyclododecane (HBCD) from feed to consumption-sized Atlantic salmon (*Salmo salar*). *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 28: 1274-1286. <http://dx.doi.org/10.1080/19440049.2011.587029>.
- Besis, A; Katsoyiannis, A; Botsaropoulou, E; Samara, C. (2014). Concentrations of polybrominated diphenyl ethers (PBDEs) in central air-conditioner filter dust and relevance of non-dietary exposure in occupational indoor environments in Greece. *Environ Pollut.* 188: 64-70. <http://dx.doi.org/10.1016/j.envpol.2014.01.021>.
- Bester, K; Vorkamp, K. (2013). A two-dimensional HPLC separation for the enantioselective determination of hexabromocyclododecane (HBCD) isomers in biota samples. *Anal Bioanal Chem.* 405: 6519-6527. <http://dx.doi.org/10.1007/s00216-013-7100-1>.
- Betts, K. (2003). More flame-proofed fish. *Environ Sci Technol.* 37: 380A-382A.
- Betts, K. (2005). More clues to HBCD isomer mystery. *Environ Sci Technol.* 39: 146A-147A.
- Betts, K. (2008). More flame retardants found in house dust [Comment]. *Environ Sci Technol.* 42: 337.
- Bezares-Cruz, J; Jafvert, CT; Hua, I. (2004). Solar photodecomposition of decabromodiphenyl ether: products and quantum yield. *Environ Sci Technol.* 38: 4149-4156. <http://dx.doi.org/10.1021/es0498608o>.
- Birnbaum, LS; Staskal, DF. (2004). Brominated flame retardants: Cause for concern? [Review]. *Environ Health Perspect.* 112: 9-17. <http://dx.doi.org/10.1289/ehp.6559>.
- Bjermo, H; Aune, M; Cantillana, T; Glynn, A; Lind, PM; Ridefelt, P; Darnerud, PO. (2017). Serum levels of brominated flame retardants (BFRs: PBDE, HBCD) and influence of dietary factors in a population-based study on Swedish adults. *Chemosphere.* 167: 485-491. <http://dx.doi.org/10.1016/j.chemosphere.2016.10.008>.
- Björklund, JA; Sellström, U; de Wit, CA; Aune, M; Lignell, S; Darnerud, PO. (2012). Comparisons of polybrominated diphenyl ether and hexabromocyclododecane concentrations in dust collected with two sampling methods and matched breast milk samples. *Indoor Air.* 22: 279-288. <http://dx.doi.org/10.1111/j.1600-0668.2011.00765.x>.
- Bjorklund, JA; Thuresson, K, aj; Cousins, AP; Sellstrom, U; Emenius, G; de Wit, CA. (2012). Indoor Air Is a Significant Source of Tri-decabrominated Diphenyl Ethers to Outdoor Air via Ventilation Systems. *Environ Sci Technol.* 46: 5876-5884. <http://dx.doi.org/10.1021/es204122v>.
- Boerescu, I. (1991). Interrelationships between the metabolism of thyroid hormones and the liver. Part one [Review]. 28: 123-132.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Bogdal, C; Naef, M; Schmid, P; Kohler, M; Zennegg, M; Bernet, D; Scheringer, M; Hungerbühler, K. (2009). Unexplained gonad alterations in whitefish (*Coregonus* spp.) from Lake Thun, Switzerland: levels of persistent organic pollutants in different morphs. *Chemosphere*. 74: 434-440. <http://dx.doi.org/10.1016/j.chemosphere.2008.09.058>.
- Bogdal, C; Schmid, P; Kohler, M; Müller, CE; Iozza, S; Bucheli, TD; Scheringer, M; Hungerbühler, K. (2008). Sediment record and atmospheric deposition of brominated flame retardants and organochlorine compounds in Lake Thun, Switzerland: lessons from the past and evaluation of the present. *Environ Sci Technol*. 42: 6817-6822. <http://dx.doi.org/10.1021/es800964z>.
- Bongers-Schokking, JJ; Koot, HM; Wiersma, D; Verkerk, PH; de Muinck Keizer-Schrama, SM. (2000). Influence of timing and dose of thyroid hormone replacement on development in infants with congenital hypothyroidism. *J Pediatr*. 136: 292-297. <http://dx.doi.org/10.1067/mpd.2000.103351>.
- Boyles, E; Tan, H; Wu, Y; Nielsen, CK; Shen, L; Reiner, EJ; Chen, D. (2017). Halogenated flame retardants in bobcats from the midwestern United States. *Environ Pollut*. 221: 191-198. <http://dx.doi.org/10.1016/j.envpol.2016.11.063>.
- Brabant, G; Prank, K; Hoang-Vu, C; Hesch, RD; von Zur Mühlen, A. (1991). Hypothalamic regulation of pulsatile thyrotropin secretion. *J Clin Endocrinol Metab*. 72: 145-150. <http://dx.doi.org/10.1210/jcem-72-1-145>.
- Bradley, PW; Wan, Y, i; Jones, PD; Wiseman, S; Chang, H; Lam, MHW; Long, DT; Giesy, JP. (2011). PBDES AND METHOXYLATED ANALOGUES IN SEDIMENT CORES FROM TWO MICHIGAN, USA, INLAND LAKES. *Environ Toxicol Chem*. 30: 1236-1242. <http://dx.doi.org/10.1002/etc.500>.
- Bradshaw, C; Näslund, J; Hansen, J; Kozlowsky-Suzuki, B; Sundström, B; Gustafsson, K. (2015). Hexabromocyclododecane affects benthic-pelagic coupling in an experimental ecosystem. *Environ Pollut*. 206: 306-314. <http://dx.doi.org/10.1016/j.envpol.2015.07.012>.
- Bradshaw, C; Strid, A; von Stedingk, H; Gustafsson, K. (2015). Effects of benthos, temperature, and dose on the fate of hexabromocyclododecane in experimental coastal ecosystems. *Environ Toxicol Chem*. 34: 1246-1257. <http://dx.doi.org/10.1002/etc.2947>.
- Branchi, I; Alleva, E; Costa, LG. (2002). Effects of perinatal exposure to a polybrominated diphenyl ether (PBDE 99) on mouse neurobehavioural development. *Neurotoxicology*. 23: 375-384. [http://dx.doi.org/10.1016/S0161-813X\(02\)00078-5](http://dx.doi.org/10.1016/S0161-813X(02)00078-5).
- Brandli, RC; Kupper, T; Bucheli, TD; Zennegg, M; Huber, S; Ortelli, D; Müller, J; Schaffner, C; Iozza, S; Schmid, P; Berger, U; Edder, P; Oehme, M; Stadelmann, FX; Tarradellas, J. (2007). Organic pollutants in compost and digestate. Part 2. Polychlorinated dibenzo-p-dioxins, and -furans, dioxin-like polychlorinated biphenyls, brominated flame retardants, perfluorinated alkyl substances, pesticides, and other compounds. *J Environ Monit*. 9: 465-472. <http://dx.doi.org/10.1039/b617103f>.
- Brandsma, SH; Leonards, PE; Leslie, HA; de Boer, J. (2014). Tracing organophosphorus and brominated flame retardants and plasticizers in an estuarine food web. *Sci Total Environ*. 505C: 22-31. <http://dx.doi.org/10.1016/j.scitotenv.2014.08.072>.
- Brandsma, SH; Van der Ven, LT; De Boer, J; Leonards, PE. (2009). Identification of hydroxylated metabolites of hexabromocyclododecane in wildlife and 28-days exposed Wistar rats. *Environ Sci Technol*. 43: 6058-6063. <http://dx.doi.org/10.1021/es900879k>.
- Braune, BM; Letcher, RJ; Gaston, AJ; Mallory, ML. (2015). Trends of polybrominated diphenyl ethers and hexabromocyclododecane in eggs of Canadian Arctic seabirds reflect changing use patterns. *Environ Res*. 142: 651-661. <http://dx.doi.org/10.1016/j.envres.2015.08.010>.
- Braune, BM; Mallory, ML; Grant Gilchrist, H; Letcher, RJ; Drouillard, KG. (2007). Levels and trends of organochlorines and brominated flame retardants in ivory gull eggs from the Canadian Arctic, 1976 to 2004. *Sci Total Environ*. 378: 403-417. <http://dx.doi.org/10.1016/j.scitotenv.2007.03.003>.
- Bu, D, an; Zhuang, H; Zhou, X; Yang, G. (2014). A heterogeneous biotin-streptavidin-amplified enzyme-linked immunosorbent assay for detecting tris(2,3-dibromopropyl) isocyanurate in natural samples. *Anal Biochem*. 462: 51-59. <http://dx.doi.org/10.1016/j.ab.2014.06.003>.
- Budakowski, W; Tomy, G. (2003). Congener-specific analysis of hexabromocyclododecane by high-performance liquid chromatography/electrospray tandem mass spectrometry. *Rapid Commun Mass Spectrom*. 17: 1399-1404. <http://dx.doi.org/10.1002/rcm.1066>.
- Bustnes, JO; Borgå, K; Dempster, T; Lie, E; Nygård, T; Uglem, I. (2012). Latitudinal distribution of persistent organic pollutants in pelagic and demersal marine fish on the Norwegian Coast. *Environ Sci Technol*. 46: 7836-7843. <http://dx.doi.org/10.1021/es301191t>.
- Bustnes, JO; Lie, E; Herzke, D; Dempster, T; Bjørn, PA; Nygård, T; Uglem, I. (2010). Salmon farms as a source of organohalogenated contaminants in wild fish. *Environ Sci Technol*. 44: 8736-8743. <http://dx.doi.org/10.1021/es102195d>.
- Bustnes, JO; Yoccoz, NG; Bangjord, G; Polder, A; Skaare, JU. (2007). Temporal trends (1986-2004) of organochlorines and brominated flame retardants in tawny owl eggs from northern Europe. *Environ Sci Technol*. 41: 8491-8497. <http://dx.doi.org/10.1021/es071581w>.
- Butt, CM; Miranda, ML; Stapleton, HM. (2016). Development of an analytical method to quantify PBDEs, OH-BDEs, HBCDs, 2,4,6-TBP, EH-TBB, and BEH-TEBP in human serum. *Anal Bioanal Chem*. 408: 2449-2459. <http://dx.doi.org/10.1007/s00216-016-9340-3>.
- Canbaz, D; Hamers, T; Logiantara, A; van Ree, R; van Rijt, L. (2012). Indoor pollutant hexabromocyclododecane promotes interleukin-17A production in a mouse model for house dust mite driven allergic asthma. *Allergy*. 67: 598-598.
- Canbaz, D; Logiantara, A; Hamers, T; van Ree, R; van Rijt, LS. (2016). Indoor Pollutant Hexabromocyclododecane Has a Modest Immunomodulatory Effect on House Dust Mite Induced Allergic Asthma in Mice. *Environ Sci Technol*. 50: 405-411. <http://dx.doi.org/10.1021/acs.est.5b05348>.
- Canton, RF; Bovee, T; Daamen, F; van Duursen, M; van Den Berg, M. (2007). In Vitro antiandrogenicity of PBDEs, HBCD, TBP and hydroxylated and methoxylated PBDEs based on a yeast bioassay. *Chem Biol Interact*. 169: 133-133. <http://dx.doi.org/10.1016/j.cbi.2007.06.007>.
- Canton, RF; Sanderson, T; Letcher, R; Bergman, A; Berg, M. (2004). Effects Of Brominated Flame Retardants On The Activity Of The Steroidogenic Enzyme Aromatase (CYP19) In H295R Human Adrenocortical Carcinoma Cells In Culture. *Toxicologist*. 78.
- Cao, Z; Xu, F; Li, W; Sun, J; Shen, M; Su, X; Feng, J; Yu, G; Covaci, A. (2015). Seasonal and Particle Size-Dependent Variations of Hexabromocyclododecanes in Settled Dust: Implications for Sampling. *Environ Sci Technol*. 49: 11151-11157. <http://dx.doi.org/10.1021/acs.est.5b01717>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Carignan, CC; Abdallah, MA; Wu, N; Heiger-Bernays, W; Mcclean, MD; Harrad, S; Webster, TF. (2012). Predictors of tetrabromobisphenol-A (TBBP-A) and hexabromocyclododecanes (HBCD) in milk from Boston mothers. *Environ Sci Technol.* 46: 12146-12153. <http://dx.doi.org/10.1021/es302638d>.
- Cariou, R; Antignac, JP; Marchand, P; Berrebi, A; Zalko, D; Andre, F; Le Bizec, B. (2005). New multiresidue analytical method dedicated to trace level measurement of brominated flame retardants in human biological matrices. *J Chromatogr A.* 1100: 144-152. <http://dx.doi.org/10.1016/j.chroma.2005.09.040>.
- Chandra, S; Gupta, LK. (2004). Spectroscopic characterization of tetradentate macrocyclic ligand: its transition metal complexes. *Spectrochim Acta A Mol Biomol Spectrosc.* 60: 2767-2774. <http://dx.doi.org/10.1016/j.saa.2004.01.015>.
- Cheaib, Z; Grandjean, D; Kupper, T; de Alencastro, LF. (2009). Brominated flame retardants in fish of Lake Geneva (Switzerland). *Bull Environ Contam Toxicol.* 82: 522-527. <http://dx.doi.org/10.1007/s00128-008-9628-x>.
- Chen, C; Staudinger, JL; Klaassen, CD. (2003). Nuclear receptor, pregnane X receptor, is required for induction of UDP-glucuronosyltransferases in mouse liver by pregnenolone-16 alpha-carbonitrile. *Drug Metab Dispos.* 31: 908-915. <http://dx.doi.org/10.1124/dmd.31.7.908>.
- Chen, D; Hale, RC; La Guardia, MJ; Luellen, D; Kim, S; Geisz, HN. (2015). Hexabromocyclododecane flame retardant in Antarctica: Research stations as sources. *Environ Pollut.* 206: 611-618. <http://dx.doi.org/10.1016/j.envpol.2015.08.024>.
- Chen, D; La Guardia, MJ; Harvey, E; Amaral, M; Wohlfort, K; Hale, RC. (2008). Polybrominated diphenyl ethers in peregrine falcon (*Falco peregrinus*) eggs from the northeastern U.S. *Environ Sci Technol.* 42: 7594-7600. <http://dx.doi.org/10.1021/es8010749>.
- Chen, D; Letcher, RJ; Burgess, NM; Champoux, L; Elliott, JE; Hebert, CE; Martin, P; Wayland, M; Chip Weseloh, DV; Wilson, L. (2012). Flame retardants in eggs of four gull species (Laridae) from breeding sites spanning Atlantic to Pacific Canada [Review]. *Environ Pollut.* 168: 1-9. <http://dx.doi.org/10.1016/j.envpol.2012.03.040>.
- Chen, D; Letcher, RJ; Gauthier, LT; Chu, S. (2013). Tetradecabromodiphenoxybenzene flame retardant undergoes photolytic debromination. *Environ Sci Technol.* 47: 1373-1380. <http://dx.doi.org/10.1021/es3042252>.
- Chen, D; Letcher, RJ; Gauthier, LT; Chu, S; Mccrindle, R; Potter, D. (2011). Novel methoxylated polybrominated diphenoxybenzene congeners and possible sources in herring gull eggs from the Laurentian Great Lakes of North America. *Environ Sci Technol.* 45: 9523-9530. <http://dx.doi.org/10.1021/es201325g>.
- Chen, D; Mai, B; Song, J; Sun, Q; Luo, Y; Luo, X; Zeng, EY; Hale, RC. (2007). Polybrominated diphenyl ethers in birds of prey from Northern China. *Environ Sci Technol.* 41: 1828-1833. <http://dx.doi.org/10.1021/es062045r>.
- Chen, LG; Mai, BX; Bi, XH; Chen, SJ; Wang, XM; Ran, Y; Luo, XJ; Sheng, GY; Fu, JM; Zeng, EY. (2006). Concentration levels, compositional profiles, and gas-particle partitioning of polybrominated diphenyl ethers in the atmosphere of an urban city in South China. *Environ Sci Technol.* 40: 1190-1196. <http://dx.doi.org/10.1021/es052123v>.
- Chen, MYY; Tang, ASP; Ho, YY; Xiao, Y. (2010). Dietary exposure of secondary school students in Hong Kong to polybrominated diphenyl ethers from foods of animal origin. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 27: 521-529. <http://dx.doi.org/10.1080/19440040903419723>.
- Chen, Y; Hu, Y; Liu, S; Zheng, H; Wu, X; Huang, Z; Li, H; Peng, B; Long, J; Pan, B; Huang, C; Dong, Q. (2016). Whole-body aerosol exposure of cadmium chloride (CdCl₂) and tetrabromobisphenol A (TBBPA) induced hepatic changes in CD-1 male mice. *J Hazard Mater.* 318: 109-116. <http://dx.doi.org/10.1016/j.jhazmat.2016.06.054>.
- Chen, Y; Sun, B; Zhang, H; Zhou, X. (2016). Synthesis and application of a sulfur-containing phosphoric amide flame retardant for nylon fabric. *Fire and Materials.* 40: 959-972. <http://dx.doi.org/10.1002/fam.2354>.
- Choi, SS; Danielewska-Nikiel, B; Ohdan, K; Kojima, I; Takata, H; Kuriki, T. (2009). Safety evaluation of highly-branched cyclic dextrin and a 1,4-alpha-glucan branching enzyme from *Bacillus stearothermophilus*. *Regul Toxicol Pharmacol.* 55: 281-290. <http://dx.doi.org/10.1016/j.yrtph.2009.07.011>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2012). Optimization and Simultaneous Determination of Alkyl Phenol Ethoxylates and Brominated Flame Retardants in Water after SPE and Heptafluorobutyric Anhydride Derivatization followed by GC/MS. *Chromatographia.* 75: 1165-1176. <http://dx.doi.org/10.1007/s10337-012-2293-6>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2014). Improved derivatization protocol for simultaneous determination of alkylphenol ethoxylates and brominated flame retardants followed by gas chromatography-mass spectrometry analyses. *Water Sci Technol.* 69: 2389-2396. <http://dx.doi.org/10.2166/wst.2014.144>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2015). Alkylphenol ethoxylates and brominated flame retardants in water, fish (carp) and sediment samples from the Vaal River, South Africa. *Environ Sci Pollut Res Int.* 22: 11922-11929. <http://dx.doi.org/10.1007/s11356-015-4430-x>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2015). Improved derivatization protocol for simultaneous determination of alkylphenol ethoxylates and brominated flame retardants followed by gas chromatography-mass spectrometry analyses. *Water SA.* 41: 189-193. <http://dx.doi.org/10.4314/wsa.v41i2.03>.
- Chokwe, TB; Okonkwo, OJ; Sibali, LL; Mpretji, SM. (2016). Occurrence and Distribution Pattern of Alkylphenol Ethoxylates and Brominated Flame Retardants in Sediment Samples from Vaal River, South Africa. *Bull Environ Contam Toxicol.* 97: 353-358. <http://dx.doi.org/10.1007/s00128-016-1886-4>.
- Chou, S; Wu, CJ. (1995). EFFECT OF BROMINATED FLAME RETARDANTS ON THE PROPERTIES OF ACRYLONITRILE/VINYL ACETATE COPOLYMER FIBERS. *Text Res J.* 65: 533-539.
- Christen, V; Crettaz, P; Oberli-Schrämli, A; Fent, K. (2010). Some flame retardants and the antimicrobials triclosan and triclocarban enhance the androgenic activity in vitro. *Chemosphere.* 81: 1245-1252. <http://dx.doi.org/10.1016/j.chemosphere.2010.09.031>.
- Christensen, JH; Platz, J. (2001). Screening of polybrominated diphenyl ethers in blue mussels, marine and freshwater sediments in Denmark. *J Environ Monit.* 3: 543-547.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Chu, S; Gauthier, LT; Letcher, RJ. (2012). Alpha and Beta Isomers of Tetrabromoethylcyclohexane (TBECH) Flame Retardant: Depletion and Metabolite Formation In Vitro Using a Model Rat Microsomal Assay. *Environ Sci Technol.* 46: 10263-10270. <http://dx.doi.org/10.1021/es301546h>.
- Coelho, SD; Sousa, A, naCA; Isobe, T; Tanabe, S; Nogueira, AJA. (2014). Flame Retardants in Indoor Dust - A Review on the Levels of Polybrominated Diphenyl Ethers and Hexabromocyclododecanes. *Current Organic Chemistry.* 18: 2218-2230.
- Coelho, SD; Sousa, AC; Isobe, T; Kim, JW; Kunisue, T; Nogueira, AJ; Tanabe, S. (2016). Brominated, chlorinated and phosphate organic contaminants in house dust from Portugal. *Sci Total Environ.* 569-570: 442-449. <http://dx.doi.org/10.1016/j.scitotenv.2016.06.137>.
- Coelho, SD; Sousa, AC; Isobe, T; Kunisue, T; Nogueira, AJ; Tanabe, S. (2016). Brominated flame retardants and organochlorine compounds in duplicate diet samples from a Portuguese academic community. *Chemosphere.* 160: 89-94. <http://dx.doi.org/10.1016/j.chemosphere.2016.06.038>.
- Colles, A; Koppen, G; Hanot, V; Nelen, V; Dewolf, MC; Noël, E; Malisch, R; Kotz, A; Kypke, K; Biot, P; Vinkx, C; Schoeters, G. (2008). Fourth WHO-coordinated survey of human milk for persistent organic pollutants (POPs): Belgian results. *Chemosphere.* 73: 907-914. <http://dx.doi.org/10.1016/j.chemosphere.2008.07.002>.
- Connell, DW; Schueuermann, G. (1988). EVALUATION OF VARIOUS MOLECULAR PARAMETERS AS PREDICTORS OF BIOCONCENTRATION IN FISH. *Ecotoxicol Environ Saf.* 15: 324-335.
- Cooper, G; Lunn, R; Agerstrand, M; Glenn, B; Kraft, A; Luke, A; Ratcliffe, J. (2016). Study sensitivity: Evaluating the ability to detect effects in systematic reviews of chemical exposures. *Environ Int.* 92-93: 605-610. <http://dx.doi.org/10.1016/j.envint.2016.03.017>.
- Cousins, AP; Holmgren, T; Remberger, M. (2014). Emissions of two phthalate esters and BDE 209 to indoor air and their impact on urban air quality. *Sci Total Environ.* 470-471: 527-535. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.023>.
- Covaci, A; Abdallah, M; Roosens, L; Harrad, S. (2010). Hexabromocyclododecane (HBCD) complex chemistry: Detection and analytical methods. *Toxicol Lett.* 196: S33-S33. <http://dx.doi.org/10.1016/j.toxlet.2010.03.149>.
- Covaci, A; Gerecke, AC; Law, RJ; Voorspoels, S; Kohler, M; Heeb, NV; Leslie, H; Allchin, CR; De Boer, J. (2006). Hexabromocyclododecanes (HBCDs) in the environment and humans: a review [Review]. *Environ Sci Technol.* 40: 3679-3688. <http://dx.doi.org/10.1021/es0602492>.
- Covaci, A; Harrad, S; Abdallah, MA; Ali, N; Law, RJ; Herzke, D; de Wit, CA. (2011). Novel brominated flame retardants: a review of their analysis, environmental fate and behaviour [Review]. *Environ Int.* 37: 532-556. <http://dx.doi.org/10.1016/j.envint.2010.11.007>.
- Covaci, A; Losada, S; Roosens, L; Vetter, W; Santos, FJ; Neels, H; Storelli, A; Storelli, MM. (2008). Anthropogenic and naturally occurring organobrominated compounds in two deep-sea fish species from the Mediterranean Sea. *Environ Sci Technol.* 42: 8654-8660. <http://dx.doi.org/10.1021/es8016528>.
- Covaci, A; Roosens, L; Dirtu, AC; Waegeneers, N; Van Overmeire, I; Neels, H; Goeyens, L. (2009). Brominated flame retardants in Belgian home-produced eggs: levels and contamination sources. *Sci Total Environ.* 407: 4387-4396. <http://dx.doi.org/10.1016/j.scitotenv.2008.09.057>.
- Covaci, A; Voorspoels, S; de Boer, J. (2003). Determination of brominated flame retardants, with emphasis on polybrominated diphenyl ethers (PBDEs) in environmental and human samples--a review [Review]. *Environ Int.* 29: 735-756. [http://dx.doi.org/10.1016/S0160-4120\(03\)00114-4](http://dx.doi.org/10.1016/S0160-4120(03)00114-4).
- Croes, K; Colles, A; Koppen, G; Govarts, E; Bruckers, L; Van de Mieroop, E; Nelen, V; Covaci, A; Dirtu, AC; Thomsen, C; Haug, LS; Becher, G; Mampaey, M; Schoeters, G; Van Larebeke, N; Baeyens, W. (2012). Persistent organic pollutants (POPs) in human milk: a biomonitoring study in rural areas of Flanders (Belgium). *Chemosphere.* 89: 988-994. <http://dx.doi.org/10.1016/j.chemosphere.2012.06.058>.
- Crump, D; Chiu, S; Kennedy, SW. (2012). Effects of tris(1,3-dichloro-2-propyl) phosphate and tris(1-chloropropyl) phosphate on cytotoxicity and mRNA expression in primary cultures of avian hepatocytes and neuronal cells. *Toxicol Sci.* 126: 140-148. <http://dx.doi.org/10.1093/toxsci/kfs015>.
- Daniels, JL; Pan, I; Jones, R; Anderson, S; Patterson, DG, Jr; Needham, LL; Sjodin, A. (2010). Individual characteristics associated with PBDE levels in us human milk samples. *Environ Health Perspect.* 118: 155-160. <http://dx.doi.org/10.1289/ehp.0900759>.
- Darnerud, P; Lignell, S; Aune, M; Isaksson, M; Cantillana, T; Redeby, J; Glynn, A. (2015). Time trends of polybrominated diphenylether (PBDE) congeners in serum of Swedish mothers and comparisons to breast milk data. *Environ Res.* 138: 352-360. <http://dx.doi.org/10.1016/j.envres.2015.02.031>.
- Darnerud, PO. (2003). Toxic effects of brominated flame retardants in man and in wildlife [Review]. *Environ Int.* 29: 841-853. [http://dx.doi.org/10.1016/S0160-4120\(03\)00107-7](http://dx.doi.org/10.1016/S0160-4120(03)00107-7).
- Darnerud, PO; Aune, M; Larsson, L; Hallgren, S. (2007). Plasma PBDE and thyroxine levels in rats exposed to Bromkal or BDE-47. *Chemosphere.* 67: S386-S392. <http://dx.doi.org/10.1016/j.chemosphere.2006.05.133>.
- Darnerud, PO; Aune, M; Larsson, L; Lignell, S; Mutshatshi, T; Okonkwo, J; Botha, B; Agyei, N. (2011). Levels of brominated flame retardants and other persistent organic pollutants in breast milk samples from Limpopo Province, South Africa. *Sci Total Environ.* 409: 4048-4053. <http://dx.doi.org/10.1016/j.scitotenv.2011.05.054>.
- Davis, JW; Gonsior, S; Marty, G; Ariano, J. (2005). The transformation of hexabromocyclododecane in aerobic and anaerobic soils and aquatic sediments. *Water Res.* 39: 1075-1084. <http://dx.doi.org/10.1016/j.watres.2004.11.024>.
- Davis, JW; Gonsior, SJ; Markham, DA; Friederich, U; Hunziker, RW; Ariano, JM. (2006). Biodegradation and product identification of [14C]hexabromocyclododecane in wastewater sludge and freshwater aquatic sediment. *Environ Sci Technol.* 40: 5395-5401. <http://dx.doi.org/10.1021/es060009m>.
- de Boer, J. (2004). Brominated Flame Retardants in the Environment-The Price for our Convenience? *Environ Chem.* 1: 81-85. <http://dx.doi.org/10.1071/EN04038>.
- de Ceaurriz, J; Ban, M. (1990). Role of gamma-glutamyltranspeptidase and beta-lyase in the nephrotoxicity of hexachloro-1,3-butadiene and methyl mercury in mice. *Toxicol Lett.* 50: 249-256.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- De Vito, P; Balducci, V; Leone, S; Percario, Z; Mangino, G; Davis, PJ; Davis, FB; Affabris, E; Luly, P; Pedersen, JZ; Incerpi, S. (2012). Nongenomic effects of thyroid hormones on the immune system cells: New targets, old players [Review]. *Steroids*. 77: 988-995. <http://dx.doi.org/10.1016/j.steroids.2012.02.018>.
- De Vito, P; Incerpi, S; Pedersen, JZ; Luly, P; Davis, FB; Davis, PJ. (2011). Thyroid hormones as modulators of immune activities at the cellular level [Review]. *Thyroid*. 21: 879-890. <http://dx.doi.org/10.1089/thy.2010.0429>.
- de Wit, CA. (2002). An overview of brominated flame retardants in the environment [Review]. *Chemosphere*. 46: 583-624.
- de Wit, CA; Alaee, M; Muir, DC. (2006). Levels and trends of brominated flame retardants in the Arctic. *Chemosphere*. 64: 209-233. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.029>.
- de Wit, CA; Björklund, JA; Thuresson, K. (2012). Tri-decaborinated diphenyl ethers and hexabromocyclododecane in indoor air and dust from Stockholm microenvironments 2: indoor sources and human exposure. *Environ Int*. 39: 141-147. <http://dx.doi.org/10.1016/j.envint.2011.11.001>.
- de Wit, CA; Herzke, D; Vorkamp, K. (2010). Brominated flame retardants in the Arctic environment -- trends and new candidates [Review]. *Sci Total Environ*. 408: 2885-2918. <http://dx.doi.org/10.1016/j.scitotenv.2009.08.037>.
- Debenest, T; Gagné, F; Petit, AN; André, C; Kohli, M; Blaise, C. (2010). Ecotoxicity of a brominated flame retardant (tetrabromobisphenol A) and its derivatives to aquatic organisms. *Comp Biochem Physiol C Toxicol Pharmacol*. 152: 407-412. <http://dx.doi.org/10.1016/j.cbpc.2010.06.009>.
- Deng, J; Yu, L; Liu, C; Yu, K; Shi, X; Yeung, LW; Lam, PK; Wu, RS; Zhou, B. (2009). Hexabromocyclododecane-induced developmental toxicity and apoptosis in zebrafish embryos. *Aquat Toxicol*. 93: 29-36. <http://dx.doi.org/10.1016/j.aquatox.2009.03.001>.
- Deshpande, AD; Dockum, BW. (2013). Polybrominated diphenyl ether congeners in the young-of-the-year bluefish, *Pomatomus saltatrix*, from several nursery habitats along the US Atlantic coastline. *Mar Pollut Bull*. 77: 237-250. <http://dx.doi.org/10.1016/j.marpolbul.2013.09.051>.
- Desmet, K; Schelfaut, M; Sandra, P. (2005). Determination of bromophenols as dioxin precursors in combustion gases of fire retarded extruded polystyrene by sorptive sampling-capillary gas chromatography-mass spectrometry. *J Chromatogr A*. 1071: 125-129.
- Devanathan, G; Subramanian, A; Sudaryanto, A; Takahashi, S; Isobe, T; Tanabe, S. (2012). Brominated flame retardants and polychlorinated biphenyls in human breast milk from several locations in India: potential contaminant sources in a municipal dumping site. *Environ Int*. 39: 87-95. <http://dx.doi.org/10.1016/j.envint.2011.10.005>.
- D'Hollander, W; Roosens, L; Covaci, A; Cornelis, C; Reynders, H; Campenhout, KV; Voogt, P, d; Bervoets, L. (2010). Brominated flame retardants and perfluorinated compounds in indoor dust from homes and offices in Flanders, Belgium. *Chemosphere*. 81: 478-487. <http://dx.doi.org/10.1016/j.chemosphere.2010.07.043>.
- Dietz, R; Rigét, FF; Sonne, C; Born, EW; Bechshøft, T; Mckinney, MA; Drimmie, RJ; Muir, DC; Letcher, RJ. (2013). Three decades (1983-2010) of contaminant trends in East Greenland polar bears (*Ursus maritimus*). Part 2: Brominated flame retardants. *Environ Int*. 59: 494-500. <http://dx.doi.org/10.1016/j.envint.2012.09.008>.
- Ding, WW; Tian, Y; Jin, J; Wang, Y; Cui, C; Zhang, L; Gao, Y; Wang, XJ; Shi, R. (2011). [Levels of hexabromocyclododecane in human breast milk and the daily intake of newborns in a Shanghai hospital]. *Zhonghua Yufang Yixue Zazhi*. 45: 498-501.
- Dirtu, AC; Ali, N; Van den Eede, N; Neels, H; Covaci, A. (2012). Country specific comparison for profile of chlorinated, brominated and phosphate organic contaminants in indoor dust. Case study for Eastern Romania, 2010. *Environ Int*. 49: 1-8. <http://dx.doi.org/10.1016/j.envint.2012.08.002>.
- Dirtu, AC; Covaci, A. (2010). Estimation of daily intake of organohalogenated contaminants from food consumption and indoor dust ingestion in Romania. *Environ Sci Technol*. 44: 6297-6304. <http://dx.doi.org/10.1021/es101233z>.
- Dodder, NG; Maruya, KA; Lee Ferguson, P; Grace, R; Klosterhaus, S; La Guardia, MJ; Lauenstein, GG; Ramirez, J. (2014). Occurrence of contaminants of emerging concern in mussels (*Mytilus* spp.) along the California coast and the influence of land use, storm water discharge, and treated wastewater effluent. *Mar Pollut Bull*. 81: 340-346. <http://dx.doi.org/10.1016/j.marpolbul.2013.06.041>.
- Dodder, NG; Peck, AM; Kucklick, JR; Sander, LC. (2006). Analysis of hexabromocyclododecane diastereomers and enantiomers by liquid chromatography/tandem mass spectrometry: chromatographic selectivity and ionization matrix effects. *J Chromatogr A*. 1135: 36-42. <http://dx.doi.org/10.1016/j.chroma.2006.09.024>.
- Dominguez-Romero, E; Cariou, R; Omer, E; Marchand, P; Dervilly-Pinel, G; Le Bizec, B; Travel, A; Jondreville, C. (2016). Tissue Distribution and Transfer to Eggs of Ingested α -Hexabromocyclododecane (α -HBCDD) in Laying Hens (*Gallus domesticus*). *J Agric Food Chem*. 64: 2112-2119. <http://dx.doi.org/10.1021/acs.jafc.5b05574>.
- Dong, Z; Hu, Z; Zhu, H; Li, N; Zhao, H; Mi, W, ei; Jiang, W; Hu, X; Ye, L. (2015). Tris-(2,3-dibromopropyl) isocyanurate induces depression-like behaviors and neurotoxicity by oxidative damage and cell apoptosis in vitro and in vivo. *J Toxicol Sci*. 40: 701-709.
- Dorosh, A; Ded, L; Elzeinova, F; Peknicova, J. (2009). Hexabromocyclododecane but not tetrabromobisphenol A promotes MCF-7 proliferation and TFF1 gene upregulation. *J Reprod Immunol*. 81: 153-153. <http://dx.doi.org/10.1016/j.jri.2009.06.212>.
- Drage, D; Mueller, JF; Birch, G; Eaglesham, G; Hearn, LK; Harrad, S. (2015). Historical trends of PBDEs and HBCDs in sediment cores from Sydney estuary, Australia. *Sci Total Environ*. 512-513: 177-184. <http://dx.doi.org/10.1016/j.scitotenv.2015.01.034>.
- Drage, DS; Mueller, JF; Hobson, P; Harden, FA; Toms, LL. (2017). Demographic and temporal trends of hexabromocyclododecanes (HBCDD) in an Australian population. *Environ Res*. 152: 192-198. <http://dx.doi.org/10.1016/j.envres.2016.10.015>.
- Drage, DS; Newton, S; de Wit, CA; Harrad, S. (2016). Concentrations of legacy and emerging flame retardants in air and soil on a transect in the UK West Midlands. *Chemosphere*. 148: 195-203. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.034>.
- Driffield, M; Harmer, N; Bradley, E; Fernandes, AR; Rose, M; Mortimer, D; Dicks, P. (2008). Determination of brominated flame retardants in food by LC-MS/MS: diastereoisomer-specific hexabromocyclododecane and tetrabromobisphenol A. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess*. 25: 895-903. <http://dx.doi.org/10.1080/02652030701882999>.
- Drohmann, D. (2006). HBCD: facts and insinuations [Letter]. *Environ Sci Technol*. 40: 1; author reply 2.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Drottar, KR; Krueger, HO. (2000). Hexabromocyclododecane (HBCD): A flow-through bioconcentration test with the rainbow trout (*Oncorhynchus mykiss*). Easton, MD: Wildlife International Ltd.
- Du, M; Fang, C; Qiu, L; Dong, S; Zhang, X; Yan, C. (2015). Diastereoisomer-specific effects of hexabromocyclododecanes on hepatic aryl hydrocarbon receptors and cytochrome P450s in zebrafish (*Danio rerio*). *Chemosphere*. 132: 24-31. <http://dx.doi.org/10.1016/j.chemosphere.2015.02.049>.
- Du, M; Lin, L; Yan, C; Wang, C; Zhang, X. (2013). Enantiomer-specific bioaccumulation and depuration of hexabromocyclododecanes in zebrafish (*Danio rerio*). *J Hazard Mater*. 248-249: 167-171. <http://dx.doi.org/10.1016/j.jhazmat.2012.12.046>.
- Du, M; Lin, L; Yan, C; Zhang, X. (2012). Diastereoisomer- and enantiomer-specific accumulation, depuration, and bioisomerization of hexabromocyclododecanes in zebrafish (*Danio rerio*). *Environ Sci Technol*. 46: 11040-11046. <http://dx.doi.org/10.1021/es302166p>.
- Du, M; Zhang, D; Yan, C; Zhang, X. (2012). Developmental toxicity evaluation of three hexabromocyclododecane diastereoisomers on zebrafish embryos. *Aquat Toxicol*. 112-113: 1-10. <http://dx.doi.org/10.1016/j.aquatox.2012.01.013>.
- Dufour, DR; Lott, JA; Nolte, FS; Gretch, DR; Koff, RS; Seeff, LB. (2000). Diagnosis and monitoring of hepatic injury. I. Performance characteristics of laboratory tests [Review]. *Clin Chem*. 46: 2027-2049.
- Dumler, R; Thoma, H; Lenoir, D; Hutzinger, O. (1989). PBDF and PBDD from the Combustion of Bromine Containing Flame Retarded Polymers: A Survey. *Chemosphere*. 19: 2023-2031.
- Durmaz, V; Schmidt, S; Sabri, P; Piechotta, C; Weber, M. (2013). Hands-off Linear Interaction Energy Approach to Binding Mode and Affinity Estimation of Estrogens. *J Chem Inf Model*. 53: 2681-2688. <http://dx.doi.org/10.1021/ci400392p>.
- Durmaz, V; Weber, M; Becker, R. (2012). How to simulate affinities for host-guest systems lacking binding mode information: application to the liquid chromatographic separation of hexabromocyclododecane stereoisomers. *J Mol Model*. 18: 2399-2408. <http://dx.doi.org/10.1007/s00894-011-1239-5>.
- Earnshaw, MR; Jones, KC; Sweetman, AJ. (2013). Estimating European historical production, consumption and atmospheric emissions of decabromodiphenyl ether. *Sci Total Environ*. 447: 133-142. <http://dx.doi.org/10.1016/j.scitotenv.2012.12.049>.
- EC. (1990). PRIMARY EYE IRRITATION TEST EPA/82 WITH ATTACHMENTS AND COVER LETTER DATED 030890. (TSCATS/405819). PHARMACKON RESEARCH INTL INC.
- EFSA. (2011). Scientific opinion on hexabromocyclododecanes (HBCDDs) in food. *EFSA J*. 9: 2296. <http://dx.doi.org/10.2903/j.efsa.2011.2296>.
- Eggesbø, M; Thomsen, C; Jørgensen, JV; Becher, G; Odland, JØ; Longnecker, MP. (2011). Associations between brominated flame retardants in human milk and thyroid-stimulating hormone (TSH) in neonates. *Environ Res*. 111: 737-743. <http://dx.doi.org/10.1016/j.envres.2011.05.004>.
- Eljarrat, E; de la Cal, A; Raldua, D; Duran, C; Barcelo, D. (2005). Brominated flame retardants in *Alburnus alburnus* from Cinca River Basin (Spain). *Environ Pollut*. 133: 501-508. <http://dx.doi.org/10.1016/j.envpol.2004.06.017>.
- Eljarrat, E; de la Cal, A; Raldua, D; Duran, C; Barceló, D. (2004). Occurrence and bioavailability of polybrominated diphenyl ethers and hexabromocyclododecane in sediment and fish from the Cinca River, a tributary of the Ebro River (Spain). *Environ Sci Technol*. 38: 2603-2608.
- Eljarrat, E; Gorga, M; Gasser, M; Díaz-Ferrero, J; Barceló, D. (2014). Dietary exposure assessment of Spanish citizens to hexabromocyclododecane through the diet. *J Agric Food Chem*. 62: 2462-2468. <http://dx.doi.org/10.1021/jf405007x>.
- Eljarrat, E; Guerra, P; Martínez, E; Farré, M; Alvarez, JG; López-Teijón, M; Barceló, D. (2009). Hexabromocyclododecane in human breast milk: levels and enantiomeric patterns. *Environ Sci Technol*. 43: 1940-1946. <http://dx.doi.org/10.1021/es802919e>.
- Eljarrat, E; Labandeira, A; Marsh, G; Raldua, D; Barceló, D. (2007). Decabrominated diphenyl ether in river fish and sediment samples collected downstream an industrial park. *Chemosphere*. 69: 1278-1286. <http://dx.doi.org/10.1016/j.chemosphere.2007.05.052>.
- Elliott, JE; Wilson, LK; Wakeford, B. (2005). Polybrominated diphenyl ether trends in eggs of marine and freshwater birds from British Columbia, Canada, 1979-2002. *Environ Sci Technol*. 39: 5584-5591. <http://dx.doi.org/10.1021/es050496q>.
- EMEA. (2008). Non-clinical guideline on drug induced hepatotoxicity. (Doc. Ref. EMEA/CHMP/SWP/150115/2006). London, UK. http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2009/09/WC500003355.pdf.
- Environment Canada. (2010). Draft screening assessment: Cyclododecane, 1,2,5,6,9,10-hexabromo-: Chemical abstracts service registry number 3194-55-6. Ottawa, Canada: Environment Canada, Health Canada. http://www.ec.gc.ca/lcpe-cepa/documents/substances/hbcd/draft_screening_assessment_hbcd-eng.pdf.
- Environment Canada. (2011). Proposed risk management approach for hexabromocyclododecane (HBCD) Chemical Abstracts Service Registry Number 3194-55-6. Environment Canada, Health Canada.
- Environment Canada. (2012). Consultation document. Proposed risk management measure for hexabromocyclododecane (HBCD). Chemical abstracts service registry number (CAS RN): 3194-55-6. Gatineau, QC, Canada. <http://ec.gc.ca/ese-ees/default.asp?lang=En&n=6668F8BC-1>.
- Eriksson, P; Fischer, C; Wallin, M; Jakobsson, E; Fredriksson, A. (2006). Impaired behaviour, learning and memory, in adult mice neonatally exposed to hexabromocyclododecane (HBCDD). *Environ Toxicol Pharmacol*. 21: 317-322. <http://dx.doi.org/10.1016/j.etap.2005.10.001>.
- Eriksson, P; Jakobsson, E; Fredriksson, A. (2001). Brominated flame retardants: a novel class of developmental neurotoxicants in our environment. *Environ Health Perspect*. 109: 903-908.
- Ernest, SR; Wade, MG; Lalancette, C; Ma, YQ; Berger, RG; Robaire, B; Hales, BF. (2012). Effects of chronic exposure to an environmentally relevant mixture of brominated flame retardants on the reproductive and thyroid system in adult male rats. *Toxicol Sci*. 127: 496-507. <http://dx.doi.org/10.1093/toxsci/kfs098>.
- Erratico, C; Zheng, X; van den Eede, N; Tomy, G; Covaci, A. (2016). Stereoselective Metabolism of α -, β -, and γ -Hexabromocyclododecanes (HBCDs) by Human Liver Microsomes and CYP3A4. *Environ Sci Technol*. 50: 8263-8273. <http://dx.doi.org/10.1021/acs.est.6b01059>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Eshraghian, A; Jahromi, AH. (2014). Non-alcoholic fatty liver disease and thyroid dysfunction: A systematic review. *World J Gastroenterol*. 20: 8102–8109. <http://dx.doi.org/10.3748/wjg.v20.i25.8102>.
- Esslinger, S; Becker, R; Jung, C; Schröter-Kermani, C; Bremser, W; Nehls, I. (2011). Temporal trend (1988-2008) of hexabromocyclododecane enantiomers in herring gull eggs from the German coastal region. *Chemosphere*. 83: 161-167. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.047>.
- Esslinger, S; Becker, R; Maul, R; Nehls, I. (2011). Hexabromocyclododecane enantiomers: microsomal degradation and patterns of hydroxylated metabolites. *Environ Sci Technol*. 45: 3938-3944. <http://dx.doi.org/10.1021/es1039584>.
- Esslinger, S; Becker, R; Müller-Belecke, A; Bremser, W; Jung, C; Nehls, I. (2010). HBCD stereoisomer pattern in mirror carps following dietary exposure to pure gamma-HBCD enantiomers. *J Agric Food Chem*. 58: 9705-9710. <http://dx.doi.org/10.1021/jf101469q>.
- Eulaers, I; Jaspers, VL; Pinxten, R; Covaci, A; Eens, M. (2014). Legacy and current-use brominated flame retardants in the Barn Owl. *Sci Total Environ*. 472: 454-462. <http://dx.doi.org/10.1016/j.scitotenv.2013.11.054>.
- Evenset, A; Christensen, GN; Carroll, J; Zaborska, A; Berger, U; Herzke, D; Gregor, D. (2007). Historical trends in persistent organic pollutants and metals recorded in sediment from Lake Ellasjoen, Bjornoya, Norwegian Arctic. *Environ Pollut*. 146: 196-205. <http://dx.doi.org/10.1016/j.envpol.2006.04.038>.
- Fång, J; Nyberg, E; Winnberg, U; Bignert, A; Bergman, Å. (2015). Spatial and temporal trends of the Stockholm Convention POPs in mothers' milk - a global review. *Environ Sci Pollut Res Int*. 22: 8989-9041. <http://dx.doi.org/10.1007/s11356-015-4080-z>.
- Fangstrom, B; Athanasiadou, M; Athanassiadis, I; Bignert, A; Grandjean, P; Weihe, P; Bergman, A. (2005). Polybrominated diphenyl ethers and traditional organochlorine pollutants in fulmars (*Fulmarus glacialis*) from the Faroe Islands. *Chemosphere*. 60: 836-843. <http://dx.doi.org/10.1016/j.chemosphere.2005.01.065>.
- Feng, AH; Chen, SJ; Chen, MY; He, MJ; Luo, XJ; Mai, BX. (2012). Hexabromocyclododecane (HBCD) and tetrabromobisphenol A (TBBPA) in riverine and estuarine sediments of the Pearl River Delta in southern China, with emphasis on spatial variability in diastereoisomer- and enantiomer-specific distribution of HBCD. *Mar Pollut Bull*. 64: 919-925. <http://dx.doi.org/10.1016/j.marpolbul.2012.03.008>.
- Feng, J; Shi, Z; Wu, Y; Li, J; Zhao, Y. (2009). DIETARY EXPOSURE ASSESSMENT OF CHINESE ADULTS AND NURSING INFANTS TO TETRABROMOBISPHENOL-A AND HEXABROMOCYCLODODECANES: OCCURRENCE MEASUREMENTS IN FOODS AND HUMAN MILK. *Ann Nutr Metab*. 55: 523-523.
- Feng, J; Wang, Y; Ruan, T; Qu, G; Jiang, G. (2010). Simultaneous determination of hexabromocyclododecanes and tris (2,3-dibromopropyl) isocyanurate using LC-APCI-MS/MS. *Talanta*. 82: 1929-1934. <http://dx.doi.org/10.1016/j.talanta.2010.08.014>.
- Feng, M; Li, Y; Qu, R; Wang, L; Wang, Z. (2013). Oxidative stress biomarkers in freshwater fish *Carassius auratus* exposed to decabromodiphenyl ether and ethane, or their mixture. *Ecotoxicology*. 22: 1101-1110. <http://dx.doi.org/10.1007/s10646-013-1097-2>.
- Feng, M; Qu, R; Li, Y; Wei, Z; Wang, Z. (2014). Biochemical Biomarkers in Liver and Gill Tissues of Freshwater Fish *Carassius auratus* Following In Vivo Exposure to Hexabromobenzene. *Environ Toxicol*. 29: 1460-1470. <http://dx.doi.org/10.1002/tox.21876>.
- Feng, M; Qu, R; Wang, C; Wang, L; Wang, Z. (2013). Comparative antioxidant status in freshwater fish *Carassius auratus* exposed to six current-use brominated flame retardants: A combined experimental and theoretical study. *Aquat Toxicol*. 140-141: 314-323. <http://dx.doi.org/10.1016/j.aquatox.2013.07.001>.
- Fernandes, A; Dicks, P; Mortimer, D; Gem, M; Smith, F; Driffield, M; White, S; Rose, M. (2008). Brominated and chlorinated dioxins, PCBs and brominated flame retardants in Scottish shellfish: methodology, occurrence and human dietary exposure. *Mol Nutr Food Res*. 52: 238-249. <http://dx.doi.org/10.1002/mnfr.200700135>.
- Fernandes, AR; Mortimer, D; Rose, M; Smith, F; Panton, S; Garcia-Lopez, M. (2016). Bromine content and brominated flame retardants in food and animal feed from the UK. *Chemosphere*. 150: 472-478. <http://dx.doi.org/10.1016/j.chemosphere.2015.12.042>.
- Fernandez Canton, R; Sanderson, T; Nijmeijer, S; Bergman, A; Van Den Berg, M. (2005). In vitro effects of brominated flame retardants on the adrenocortical enzyme CYP17. A novel endocrine mechanism of action? [Abstract]. *Toxicologist*. 84: 356.
- Fernie, KJ; Letcher, RJ. (2010). Historical contaminants, flame retardants, and halogenated phenolic compounds in peregrine Falcon (*Falco peregrinus*) nestlings in the Canadian Great Lakes Basin. *Environ Sci Technol*. 44: 3520-3526. <http://dx.doi.org/10.1021/es100400n>.
- Fernie, KJ; Martinson, SC; Bird, DM; Ritchie, IJ; Letcher, RJ. (2011). Reproductive changes in American kestrels (*Falco sparverius*) in relation to exposure to technical hexabromocyclododecane flame retardant. *Environ Toxicol Chem*. 30: 2570-2575. <http://dx.doi.org/10.1002/etc.652>.
- Fernie, KJ; Shutt, JL; Letcher, RJ; Ritchie, IJ; Bird, DM. (2009). Environmentally relevant concentrations of DE-71 and HBCD alter eggshell thickness and reproductive success of American kestrels. *Environ Sci Technol*. 43: 2124-2130. <http://dx.doi.org/10.1021/es8027346>.
- Finken, MJ; van Eijdsden, M; Loomans, EM; Vrijlkotte, TG; Rotteveel, J. (2013). Maternal hypothyroxinemia in early pregnancy predicts reduced performance in reaction time tests in 5- to 6-year-old offspring. *J Clin Endocrinol Metab*. 98: 1417-1426. <http://dx.doi.org/10.1210/jc.2012-3389>.
- Fisher, DA; Nelson, JC. (2012). Application of TSH and free thyroxine measurements to thyroid diagnosis: Laboratory support of diagnosis and management. Fisher, DA; Nelson, JC. http://www.questdiagnostics.com/testcenter/testguide.action?dc=WP_AppTSH.
- Fliedner, A; Lohmann, N; Rüdél, H; Teubner, D; Wellmitz, J; Koschorreck, J. (2016). Current levels and trends of selected EU Water Framework Directive priority substances in freshwater fish from the German environmental specimen bank. *Environ Pollut*. 216: 866-876. <http://dx.doi.org/10.1016/j.envpol.2016.06.060>.
- Foekema, EM; Lopez Parron, M; Mergia, MT; Carolus, ER; Vd Berg, JH; Kwadijk, C; Dao, Q; Murk, AJ. (2014). Internal effect concentrations of organic substances for early life development of egg-exposed fish. *Ecotoxicol Environ Saf*. 101: 14-22. <http://dx.doi.org/10.1016/j.ecoenv.2013.12.006>.
- Forhead, AJ; Fowden, AL. (2014). Thyroid hormones in fetal growth and prepartum maturation [Review]. *J Endocrinol*. 221: R87-R103. <http://dx.doi.org/10.1530/JOE-14-0025>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Fournier, A; Feidt, C; Marchand, P; Vénisseau, A; Le Bizec, B; Sellier, N; Engel, E; Ratel, J; Travel, A; Jondreville, C. (2012). Kinetic study of γ -hexabromocyclododecane orally given to laying hens (*Gallus domesticus*). "Transfer of HBCD in laying hens". *Environ Sci Pollut Res Int.* 19: 440-447. <http://dx.doi.org/10.1007/s11356-011-0573-6>.
- François, A; Técher, R; Houde, M; Spear, P; Verreault, J. (2016). Relationships between polybrominated diphenyl ethers and transcription and activity of type 1 deiodinase in a gull highly exposed to flame retardants. *Environ Toxicol Chem.* 35: 2215-2222. <http://dx.doi.org/10.1002/etc.3372>.
- Frederiksen, M; Vorkamp, K; Bossi, R; Riget, F; Dam, M; Svensmark, B, o. (2007). Method development for simultaneous analysis of HBCD, TBBPA, and dimethyl-TBBPA in marine biota from Greenland and the Faroe Islands. *Int J Environ Anal Chem.* 87: 1095-1109.
- Frith, SD; Eales, JG. (1996). Thyroid hormone deiodination pathways in brain and liver of rainbow trout, *Oncorhynchus mykiss*. *Gen Comp Endocrinol.* 101: 323-332. <http://dx.doi.org/10.1006/gcen.1996.0035>.
- Fromme, H; Becher, G; Hilger, B; Völkel, W. (2015). Brominated flame retardants - Exposure and risk assessment for the general population [Review]. *Int J Hyg Environ Health.* 219: 1-23. <http://dx.doi.org/10.1016/j.ijheh.2015.08.004>.
- Fromme, H; Hilger, B; Albrecht, M; Gries, W; Leng, G; Völkel, W. (2016). Occurrence of chlorinated and brominated dioxins/furans, PCBs, and brominated flame retardants in blood of German adults. *Int J Hyg Environ Health.* 219: 380-388. <http://dx.doi.org/10.1016/j.ijheh.2016.03.003>.
- Fromme, H; Hilger, B; Kopp, E; Miserok, M; Völkel, W. (2014). Polybrominated diphenyl ethers (PBDEs), hexabromocyclododecane (HBCD) and "novel" brominated flame retardants in house dust in Germany. *Environ Int.* 64: 61-68. <http://dx.doi.org/10.1016/j.envint.2013.11.017>.
- Fu, J; Suuberg, EM. (2012). Vapor pressure of three brominated flame retardants determined by using the Knudsen effusion method. *Environ Toxicol Chem.* 31: 574-578. <http://dx.doi.org/10.1002/etc.1736>.
- Fujimoto, H; Woo, G, yeH; Inoue, K; Igarashi, K; Kanno, J, un; Hirose, M; Nishikawa, A; Shibutani, M. (2012). Increased cellular distribution of vimentin and Ret in the cingulum induced by developmental hypothyroidism in rat offspring maternally exposed to anti-thyroid agents. *Reprod Toxicol.* 34: 93-100. <http://dx.doi.org/10.1016/j.reprotox.2012.03.005>.
- Fujimoto, H; Woo, G, yeH; Inoue, K; Igarashi, K; Kanno, J, un; Hirose, M; Nishikawa, A; Shibutani, M. (2012). Increased cellular distribution of vimentin and Ret in the cingulum induced by developmental hypothyroidism in rat offspring maternally exposed to anti-thyroid agents : Supplemental materials [Review]. *Reprod Toxicol.* 34: 93-100.
- Furlow, JD; Yang, HY; Hsu, M; Lim, W; Ermio, DJ; Chiellini, G; Scanlan, TS. (2004). Induction of larval tissue resorption in *Xenopus laevis* tadpoles by the thyroid hormone receptor agonist GC-1. *J Biol Chem.* 279: 26555-26562. <http://dx.doi.org/10.1074/jbc.M402847200>.
- Furuyashiki, T; Tanimoto, H; Yokoyama, Y; Kitaoura, Y; Kuriki, T; Shimomura, Y. (2014). Effects of ingesting highly branched cyclic dextrin during endurance exercise on rating of perceived exertion and blood components associated with energy metabolism. *Biosci Biotechnol Biochem.* 78: 2117-2119. <http://dx.doi.org/10.1080/09168451.2014.943654>.
- Galantino-Homer, HL; Zeng, WX; Megee, SO; Dallmeyer, M; Voelkl, D; Dobrinski, I. (2006). Effects of 2-hydroxypropyl-beta-cyclodextrin and cholesterol on porcine sperm viability and capacitation status following cold shock or incubation. *Mol Reprod Dev.* 73: 638-650. <http://dx.doi.org/10.1002/mrd.20437>.
- Galbraith, WM; Voytek, P; Ryon, MS. (1983). *Advances in Modern Environmental Toxicology Assessment of risks to human reproduction and development of the human conceptus from exposure to environmental substances.* Princeton, NJ: Princeton Scientific Publishing.
- Galindo-Iranzo, P; Quintanilla-López, JE; Lebrón-Aguilar, R; Gómara, B. (2009). Improving the sensitivity of liquid chromatography-tandem mass spectrometry analysis of hexabromocyclododecanes by chlorine adduct generation. *J Chromatogr A.* 1216: 3919-3926. <http://dx.doi.org/10.1016/j.chroma.2009.02.086>.
- García-Alcega, S; Rauert, C; Harrad, S; Collins, CD. (2016). Does the source migration pathway of HBCDs to household dust influence their bio-accessibility? *Sci Total Environ.* 569-570: 244-251. <http://dx.doi.org/10.1016/j.scitotenv.2016.04.178>.
- García-Valcárcel, AI; Tadeo, JL. (2009). Determination of hexabromocyclododecane isomers in sewage sludge by LC-MS/MS. *J Sep Sci.* 32: 3890-3897. <http://dx.doi.org/10.1002/jssc.200900424>.
- Gard, MN; Reiter, RC; Stevenson, CD. (2004). Anion radicals of di-trans-[12]annulene and heptalene in a one-pot synthesis from a common fire retardant. *Org Lett.* 6: 393-396. <http://dx.doi.org/10.1021/ol0362921>.
- Gauthier, LT; Hebert, CE; Weseloh, DV; Letcher, RJ. (2007). Current-use flame retardants in the eggs of herring gulls (*Larus argentatus*) from the Laurentian Great Lakes. *Environ Sci Technol.* 41: 4561-4567. <http://dx.doi.org/10.1021/es0630487>.
- Gauthier, LT; Hebert, CE; Weseloh, DVC; Letcher, RJ. (2008). Dramatic changes in the temporal trends of polybrominated diphenyl ethers (PBDEs) in herring gull eggs from the Laurentian Great Lakes: 1982-2006. *Environ Sci Technol.* 42: 1524-1530. <http://dx.doi.org/10.1021/es702382k>.
- Gebbink, WA; Sonne, C; Dietz, R; Kirkegaard, M; Born, EW; Muir, DC; Letcher, RJ. (2008). Target tissue selectivity and burdens of diverse classes of brominated and chlorinated contaminants in polar bears (*Ursus maritimus*) from East Greenland. *Environ Sci Technol.* 42: 752-759. <http://dx.doi.org/10.1021/es071941f>.
- Gereben, B; Zeöld, A; Dentice, M; Salvatore, D; Bianco, AC. (2008). Activation and inactivation of thyroid hormone by deiodinases: local action with general consequences [Review]. *Cell Mol Life Sci.* 65: 570-590. <http://dx.doi.org/10.1007/s00018-007-7396-0>.
- Gerecke, AC; Giger, W; Hartmann, PC; Heeb, NV; Kohler, HP; Schmid, P; Zennegg, M; Kohler, M. (2006). Anaerobic degradation of brominated flame retardants in sewage sludge. *Chemosphere.* 64: 311-317. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.016>.
- Gerecke, AC; Hartmann, PC; Heeb, NV; Kohler, HPE; Giger, W; Schmid, P; Zennegg, M; Kohler, M. (2005). Anaerobic degradation of decabromodiphenyl ether. *Environ Sci Technol.* 39: 1078-1083. <http://dx.doi.org/10.1021/es048634j>.
- Gerecke, AC; Schmid, P; Bogdal, C; Kohler, M; Zennegg, M; Heeb, NV. (2008). Brominated flame retardants - Endocrine-disrupting chemicals in the Swiss environment. *Chimia.* 62: 352-357. <http://dx.doi.org/10.2533/chimia.2008.352>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Germer, S; van der Ven, L; Piersma, AH; Schrenk, D. (2005). Effect of hexabromocyclododecane (HBCDD), a flame retardant, on expression of cytochrome P450 enzymes in rat liver [Abstract]. *Naunyn Schmiedebergs Arch Pharmacol.* 371: R109-R109.
- Gevao, B; Al-Bahloul, M; Al-Ghadban, AN; Ali, L; Al-Omair, A; Helaleh, M; Al-Matrouk, K; Zafar, J. (2006). Polybrominated diphenyl ethers in indoor air in Kuwait: Implications for human exposure. *Atmos Environ.* 40: 1419-1426. <http://dx.doi.org/10.1016/j.atmosenv.2005.10.053>.
- Gevao, B; Beg, MU; Al-Ghadban, AN; Al-Omair, A; Helaleh, M; Zafar, J. (2006). Spatial distribution of polybrominated diphenyl ethers in coastal marine sediments receiving industrial and municipal effluents in Kuwait. *Chemosphere.* 62: 1078-1086. <http://dx.doi.org/10.1016/j.chemosphere.2005.05.030>.
- Ghanem, R; Baker, H. (2009). Determination of decabromodiphenyl ether in backcoated textile preparation. *J Hazard Mater.* 162: 249-253. <http://dx.doi.org/10.1016/j.jhazmat.2008.05.071>.
- Ghanem, R; Delmani, FA. (2012). Kinetics of thermal and photolytic degradation of decabromodiphenyl ether (BDE 209) in backcoated textile samples. *J Anal Appl Pyrol.* 98: 79-85. <http://dx.doi.org/10.1016/j.jaap.2012.09.001>.
- Gilbert, ME. (2011). Impact of low-level thyroid hormone disruption induced by propylthiouracil on brain development and function. *Toxicol Sci.* 124: 432-445. <http://dx.doi.org/10.1093/toxsci/kfr244>.
- Gilbert, ME; Hedge, JM; Valentin-Blasini, L; Blount, BC; Kannan, K; Tietge, J; Zoeller, RT; Crofton, KM; Jarrett, JM; Fisher, JW. (2013). An animal model of marginal iodine deficiency during development: The thyroid axis and neurodevelopmental outcome. *Toxicol Sci.* 132: 177-195. <http://dx.doi.org/10.1093/toxsci/kfs335>.
- Gilbert, ME; Ramos, RL; McCloskey, DP; Goodman, JH. (2014). Subcortical band heterotopia in rat offspring following maternal hypothyroxinaemia: structural and functional characteristics. *J Neuroendocrinol.* 26: 528-541. <http://dx.doi.org/10.1111/jne.12169>.
- Gilbert, ME; Ramos, RL; McCloskey, DP; Goodman, JH. (2014). Subcortical band heterotopia in rat offspring following maternal hypothyroxinaemia: structural and functional characteristics : Supplemental material [Supplemental Data]. *J Neuroendocrinol.* 26: 528-541.
- Gilbert, ME; Rovet, J; Chen, Z; Koibuchi, N. (2012). Developmental thyroid hormone disruption: prevalence, environmental contaminants and neurodevelopmental consequences. *Neurotoxicology.* 33: 842-852. <http://dx.doi.org/10.1016/j.neuro.2011.11.005>.
- Gilbert, ME; Sanchez-Huerta, K; Wood, C. (2016). Mild thyroid hormone insufficiency during development compromises activity-dependent neuroplasticity in the hippocampus of adult male rats. *Endocrinology.* 157: 774-787. <http://dx.doi.org/10.1210/en.2015-1643>.
- Gilbert, ME; Sanchez-Huerta, K; Wood, C. (2016). Mild thyroid hormone insufficiency during development compromises activity-dependent neuroplasticity in the hippocampus of adult male rats : Supplemental data [Supplemental Data]. *Endocrinology.* 157: 774-787.
- Gilbert, ME; Zoeller, RT. (2010). Chapter 4. Thyroid hormones—Impact on the developing brain. In GJ Harry; HA Tilson (Eds.), *Target organ toxicology series* (3rd ed., pp. 79-111). New York, NY: CRC Press.
- Gilchrist, TT; Letcher, RJ; Thomas, P; Fernie, KJ. (2014). Polybrominated diphenyl ethers and multiple stressors influence the reproduction of free-ranging tree swallows (*Tachycineta bicolor*) nesting at wastewater treatment plants. *Sci Total Environ.* 472: 63-71. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.090>.
- GLCC. (1990). INTERNAL MEMO FROM MICHIGAN CHEMICAL CORPORATION REGARDING HBCD BIODEGRADATION STUDY WITH TEST DATA AND COVER LETTER. (TSCATS/407264). Great Lakes Chemical Corporation,.
- GLCC. (1994). INITIAL SUBMISSION: LETTER FROM GREAT LAKES CHEM CORP TO DYNAMAC CORP/USEPA SUBMITTING INFO RE HEXABROMOCYCLODODECANE AND BIS(TRIBROMOPHENOXY) ETHANE W/ATTCHMTS, DATED 2/13/89. (TSCATS/443687).
- Glynn, A; Lignell, S; Darnerud, PO; Aune, M; Halldin Ankarberg, E; Bergdahl, IA; Barregård, L; Bensryd, I. (2011). Regional differences in levels of chlorinated and brominated pollutants in mother's milk from primiparous women in Sweden. *Environ Int.* 37: 71-79. <http://dx.doi.org/10.1016/j.envint.2010.07.003>.
- Gnatta, E; Zaninotto, M; Epifani, MG; Padoan, A; Gjini, R; Plebani, M. (2014). A new sampling device for faecal immunochemical testing: haemoglobin stability is still an open issue. *Clin Chem Lab Med.* 52: 1203-1209. <http://dx.doi.org/10.1515/cclm-2013-1074>.
- Gómara, B; Lebrón-Aguilar, R; Quintanilla-López, JE; González, MJ. (2007). Development of a new method for the enantiomer specific determination of HBCD using an ion trap mass spectrometer. *Anal Chim Acta.* 605: 53-60. <http://dx.doi.org/10.1016/j.jca.2007.10.019>.
- Gonchikzhapov, MB; Paletsky, AA; Kuibida, LV; Shundrina, IK; Korobeinichev, OP. (2012). Reducing the flammability of ultra-high-molecular-weight polyethylene by triphenyl phosphate additives. *Combustion, Explosion, and Shock Waves.* 48: 579-589. <http://dx.doi.org/10.1134/S0010508212050097>.
- Gong, W; Zhu, L; Hao, Y. (2016). Lethal and Sublethal Toxicity Comparison of BFRs to Three Marine Planktonic Copepods: Effects on Survival, Metabolism and Ingestion. *PLoS ONE.* 11: e0147790. <http://dx.doi.org/10.1371/journal.pone.0147790>.
- Gosciny, S; Vandevijvere, S; Maleki, M; Van Overmeire, I; Windal, I; Hanot, V; Blaude, MN; Vleminckx, C; Van Locu, J. (2011). Dietary intake of hexabromocyclododecane diastereoisomers (α -, β -, and γ -HBCD) in the Belgian adult population. *Chemosphere.* 84: 279-288. <http://dx.doi.org/10.1016/j.chemosphere.2011.04.048>.
- Goss, K, aiUwe; Arp, HPH; Bronner, G; Niederer, C. (2008). Partition behavior of hexachlorocyclohexane isomers. *Journal of Chemical and Engineering Data.* 53: 750-754. <http://dx.doi.org/10.1021/jc700595y>.
- Gou, Y, anYou; Hsu, Y, iC; Chao, H, owRan; Que, DE; Tayo, LL; Lin, CH; Huang, SM; Tsai, CH; Shih, SI. (2016). Pollution Characteristics and Diurnal Variations in Polybrominated Diphenyl Ethers in Indoor and Outdoor Air from Vehicle Dismantler Factories in Southern Taiwan. *Aerosol Air Qual Res.* 16: 1931-1941. <http://dx.doi.org/10.4209/aaqr.2016.06.0249>.
- GREAT LAKES CHEM CORP. (1990). THE ACUTE TOXICITY OF HBCD LOT 990-17 TO THE BLUEGILL SUNFISH LEPOMIS MACROCHIRUS RAFINESQUE WITH TEST DATA AND COVER LETTER. (TSCATS/407260). UNION CARBIDE CORP.
- Great Lakes Chemical Corporation. (2007). CD-75P™ Halogenated flame retardant. Technical information. Middlebury, CT. <http://greatlakes.com/deployedfiles/ChemturaV8/GreatLakes/Flame%20Retardants/FR%20Products/CD-75P%20TDS.pdf>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Gregoraszcuk, EL; Milczarek, K; Wojtowicz, AK; Berg, V; Skaare, JU; Ropstad, E. (2008). Steroid secretion following exposure of ovarian follicular cells to three different natural mixtures of persistent organic pollutants (POPs). *Reprod Toxicol.* 25: 58-66. <http://dx.doi.org/10.1016/j.reprotox.2007.10.00>.
- Gronstal, A; Pearson, V; Kappler, A; Dooris, C; Anand, M; Poitrasson, F; Kee, TP; Cockell, CS. (2009). Laboratory experiments on the weathering of iron meteorites and carbonaceous chondrites by iron-oxidizing bacteria. *Meteoritics and Planetary Science.* 44: 233-247.
- GSRI. (1994). Initial submission: Letter from Ethyl Corp to USEPA re technical and toxicity data on brominated flame retardants including hexabromocyclododecane, * w/attchmts, dated 5/23/88 [TSCA Submission]. (FYIOTS07940947). Baton Rouge, LA: Ethyl Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0000947>.
- Guan, J, inP; Chen, G, uoQ. (2006). Flame retardancy finish with an organophosphorus retardant on silk fabrics. *Fire and Materials.* 30: 415-424. <http://dx.doi.org/10.1002/fam.920>.
- Guerra, P; Alae, M; Jiménez, B; Papepavicius, G; Marvin, C; Macinnis, G; Eljarrat, E; Barceló, D; Champoux, L; Fernie, K. (2012). Emerging and historical brominated flame retardants in peregrine falcon (*Falco peregrinus*) eggs from Canada and Spain. *Environ Int.* 40: 179-186. <http://dx.doi.org/10.1016/j.envint.2011.07.014>.
- Guerra, P; de la Torre, A; Martínez, MA; Eljarrat, E; Barceló, D. (2008). Identification and trace level determination of brominated flame retardants by liquid chromatography/quadrupole linear ion trap mass spectrometry. *Rapid Commun Mass Spectrom.* 22: 916-924. <http://dx.doi.org/10.1002/rcm.3443>.
- Guerra, P; Eljarrat, E; Barceló, D. (2010). Analysis and occurrence of emerging brominated flame retardants in the Llobregat River basin. *J Hydrol.* 383: 39-43. <http://dx.doi.org/10.1016/j.jhydrol.2009.06.052>.
- Guerra, P; Eljarrat, E; Barceló, D. (2008). Enantiomeric specific determination of hexabromocyclododecane by liquid chromatography-quadrupole linear ion trap mass spectrometry in sediment samples. *J Chromatogr A.* 1203: 81-87. <http://dx.doi.org/10.1016/j.chroma.2008.07.027>.
- Guerra, P; Eljarrat, E; Barceló, D. (2010). Simultaneous determination of hexabromocyclododecane, tetrabromobisphenol A, and related compounds in sewage sludge and sediment samples from Ebro River basin (Spain). *Anal Bioanal Chem.* 397: 2817-2824. <http://dx.doi.org/10.1007/s00216-010-3670-3>.
- Gyalpo, T; Toms, LM; Mueller, JF; Harden, FA; Scheringer, M; Hungerbühler, K. (2015). Insights into PBDE Uptake, Body Burden, and Elimination Gained from Australian Age-Concentration Trends Observed Shortly after Peak Exposure. *Environ Health Perspect.* 123: 978-984. <http://dx.doi.org/10.1289/ehp.1408960>.
- Haddow, JE; Palomaki, GE; Allan, WC; Williams, J. R.; Knight, GJ; Gagnon, J; O'Heir, CE; Mitchell, ML; Hermos, RJ; Waisbren, SE; Faix, JD; Klein, RZ. (1999). Maternal thyroid deficiency during pregnancy and subsequent neuropsychological development of the child. *N Engl J Med.* 341: 549-555. <http://dx.doi.org/10.1056/NEJM199908193410801>.
- Hajslova, J; Pulkrabova, J; Poustka, J, an; Cajka, T; Randak, T. (2007). Brominated flame retardants and related chlorinated persistent organic pollutants in fish from river Elbe and its main tributary Vltava. *Chemosphere.* 69: 1195-1203. <http://dx.doi.org/10.1016/j.chemosphere.2007.06.030>.
- Hakk, H. (2010). Different HBCD stereoisomers are metabolized differently. *Toxicol Lett.* 196: S33-S34. <http://dx.doi.org/10.1016/j.toxlet.2010.03.151>.
- Hakk, H. (2016). Comparative Metabolism Studies of Hexabromocyclododecane (HBCD) Diastereomers in Male Rats Following a Single Oral Dose. *Environ Sci Technol.* 50: 89-96. <http://dx.doi.org/10.1021/acs.est.5b04510>.
- Hakk, H; Letcher, RJ. (2003). Metabolism in the toxicokinetics and fate of brominated flame retardants--a review [Review]. *Environ Int.* 29: 801-828. [http://dx.doi.org/10.1016/S0160-4120\(03\)00109-0](http://dx.doi.org/10.1016/S0160-4120(03)00109-0).
- Hakk, H; Szabo, DT; Huwe, J; Diliberto, J; Birnbaum, LS. (2012). Novel and distinct metabolites identified following a single oral dose of α - or γ -hexabromocyclododecane in mice. *Environ Sci Technol.* 46: 13494-13503. <http://dx.doi.org/10.1021/es303209g>.
- Hall, AP; Elcombe, CR; Foster, JR; Harada, T; Kaufmann, W; Knippel, A; Küttler, K; Malarkey, DE; Maronpot, RR; Nishikawa, A; Nolte, T; Schulte, A; Strauss, V; York, MJ. (2012). Liver hypertrophy: a review of adaptive (adverse and non-adverse) changes--conclusions from the 3rd International ESTP Expert Workshop [Review]. *Toxicol Pathol.* 40: 971-994. <http://dx.doi.org/10.1177/0192623312448935>.
- Hallgren, S; Darnerud, PO. (2002). Polybrominated diphenyl ethers (PBDEs), polychlorinated biphenyls (PCBs) and chlorinated paraffins (CPs) in rats-testing interactions and mechanisms for thyroid hormone effects. *Toxicology.* 177: 227-243. [http://dx.doi.org/10.1016/S0300-483X\(02\)00222-6](http://dx.doi.org/10.1016/S0300-483X(02)00222-6).
- Ham, K; Jin, H; Al-Raoush, R; Xie, XG; Willson, CS; Byerly, GR; Simeral, LS; Rivers, ML; Kurtz, RL; Butler, LG. (2004). Three-dimensional chemical analysis with synchrotron tomography at multiple x-ray energies: Brominated aromatic flame retardant and antimony oxide in polystyrene. *Chem Mater.* 16: 4032-4042. <http://dx.doi.org/10.1021/cm0350333>.
- Hamdani-Devarenes, S; El Hage, R; Dumazert, L; Sonnier, R; Ferry, L; Lopez-Cuesta, JM; Bert, C. (2016). Water-based flame retardant coating using nano-boehmite for expanded polystyrene (EPS) foam. *Progr Org Coating.* 99: 32-46. <http://dx.doi.org/10.1016/j.porgcoat.2016.04.036>.
- Han, C; Chen, X; Xie, W; Zhu, Z; Liu, C; Chen, F; Shen, Y. (2010). Determination of hexabromocyclododecane diastereoisomers in *Sargassum fusiforme* and comparison of the extraction efficiency of ultrasonication, microwave-assisted extraction, Soxhlet extraction and pressurised liquid extraction. *J Sep Sci.* 33: 3319-3325. <http://dx.doi.org/10.1002/jssc.201000558>.
- Han, Q; Song, H; Gao, S; Zeng, X; Yu, Z; Yu, Y; Sheng, G; Fu, J. (2014). Determination of ten hexabromocyclododecane diastereoisomers using two coupled reversed-phase columns and liquid chromatography/tandem mass spectrometry. *Rapid Commun Mass Spectrom.* 28: 1473-1478. <http://dx.doi.org/10.1002/rcm.6922>.
- Hardy, ML. (1999). Regulatory status and environmental properties of brominated flame retardants undergoing risk assessment in the EU: DBDPO, OBDPO, PeBDPO and HBCD. *Polym Degrad Stabil.* 64: 545-556.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Hardy, ML. (2004). A comparison of the fish bioconcentration factors for brominated flame retardants with their nonbrominated analogues. *Environ Toxicol Chem.* 23: 656-661.
- Hardy, ML; ASSOC, FRC. (1997). Status of regulatory activities on brominated flame retardants in Europe and the United States. 237-244.
- Hardy, ML; Biesemeier, J; Manor, O; Gentit, W. (2003). Industry-sponsored research on the potential health and environmental effects of selected brominated flame retardants. *Environ Int.* 29: 793-799. [http://dx.doi.org/10.1016/S0160-4120\(03\)00111-9](http://dx.doi.org/10.1016/S0160-4120(03)00111-9).
- Harju, M; Hamers, T; Kamstra, JH; Sonneveld, E; Boon, JP; Tysklind, M; Andersson, PL. (2007). Quantitative structure-activity relationship modeling on in vitro endocrine effects and metabolic stability involving 26 selected brominated flame retardants. *Environ Toxicol Chem.* 26: 816-826. <http://dx.doi.org/10.1897/06-308R.1>.
- Harrad, S; Abdallah, MA. (2011). Brominated flame retardants in dust from UK cars--within-vehicle spatial variability, evidence for degradation and exposure implications. *Chemosphere.* 82: 1240-1245. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.038>.
- Harrad, S; Abdallah, MA. (2015). Concentrations of polybrominated diphenyl ethers, hexabromocyclododecanes and tetrabromobisphenol-A in breast milk from United Kingdom women do not decrease over twelve months of lactation. *Environ Sci Technol.* 49: 13899-13903. <http://dx.doi.org/10.1021/acs.est.5b00539>.
- Harrad, S; Abdallah, MA; Covaci, A. (2009). Causes of variability in concentrations and diastereomer patterns of hexabromocyclododecanes in indoor dust. *Environ Int.* 35: 573-579. <http://dx.doi.org/10.1016/j.envint.2008.10.005>.
- Harrad, S; Abdallah, MA; Rose, NL; Turner, SD; Davidson, TA. (2009). Current-use brominated flame retardants in water, sediment, and fish from English lakes. *Environ Sci Technol.* 43: 9077-9083. <http://dx.doi.org/10.1021/es902185u>.
- Harrad, S; de Wit, CA; Abdallah, MA; Bergh, C; Björklund, JA; Covaci, A; Darnerud, PO; de Boer, J; Diamond, M; Huber, S; Leonards, P; Mandalakis, M; Ostman, C; Haug, LS; Thomsen, C; Webster, TF. (2010). Indoor contamination with hexabromocyclododecanes, polybrominated diphenyl ethers, and perfluoroalkyl compounds: an important exposure pathway for people [Review]. *Environ Sci Technol.* 44: 3221-3231. <http://dx.doi.org/10.1021/es903476t>.
- Harry, GJ; Tilson, HA. (2010). *Neurotoxicology. In Target organ toxicology series (3rd ed.)*. New York, NY: CRC Press.
- Haskell Laboratories. (1990). LETTER FROM E I DUPONT DE NEMOURS AND CO TO USEPA CONCERNING ENCLOSED STUDIES ON DECABROMODIPHENYL ETHER, HEXABROMOCYCLODODECANE AND 4-VINYLCYCLOHEXANE WITH ATTACHMENTS (SANITIZED). (TSCATS/405773).
- Hattis, D; Goble, R; Russ, A; Chu, M; Ericson, J. (2004). Age-related differences in susceptibility to carcinogenesis: A quantitative analysis of empirical animal bioassay data. *Environ Health Perspect.* 112: 1152-1158. <http://dx.doi.org/10.1289/ehp.6871>.
- Haug, LS; Thomsen, C; Liane, VH; Becher, G. (2008). Comparison of GC and LC determinations of hexabromocyclododecane in biological samples - results from two interlaboratory comparison studies. *Chemosphere.* 71: 1087-1092. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.044>.
- Haukås, M; Hylland, K; Berge, JA; Nygård, T; Mariussen, E. (2009). Spatial diastereomer patterns of hexabromocyclododecane (HBCD) in a Norwegian fjord. *Sci Total Environ.* 407: 5907-5913. <http://dx.doi.org/10.1016/j.scitotenv.2009.08.024>.
- Haukås, M; Hylland, K; Nygård, T; Berge, JA; Mariussen, E. (2010). Diastereomer-specific bioaccumulation of hexabromocyclododecane (HBCD) in a coastal food web, Western Norway. *Sci Total Environ.* 408: 5910-5916. <http://dx.doi.org/10.1016/j.scitotenv.2010.08.026>.
- Haukås, M; Mariussen, E; Ruus, A; Tollefsen, KE. (2009). Accumulation and disposition of hexabromocyclododecane (HBCD) in juvenile rainbow trout (*Oncorhynchus mykiss*). *Aquat Toxicol.* 95: 144-151. <http://dx.doi.org/10.1016/j.aquatox.2009.08.010>.
- Haukås, M; Ruus, A; Hylland, K; Berge, JA; Mariussen, E. (2010). Bioavailability of hexabromocyclododecane to the polychaete *Hediste diversicolor*: exposure through sediment and food from a contaminated fjord. *Environ Toxicol Chem.* 29: 1709-1715. <http://dx.doi.org/10.1002/etc.201>.
- Haynes, WM. (2014). *CRC handbook of chemistry and physics*. In WM Haynes (Ed.), (95 ed.). Boca Raton, FL: CRC Press. <http://www.hbcnpnetbase.com/>.
- Hayward, SJ; Lei, YD; Wania, F. (2006). Comparative evaluation of three high-performance liquid chromatography-based Kow estimation methods for highly hydrophobic organic compounds: polybrominated diphenyl ethers and hexabromocyclododecane. *Environ Toxicol Chem.* 25: 2018-2027.
- He, MJ; Luo, X; Yu, L, eH; Liu, J; Zhang, X; Chen, S; Mai, B, iX. (2010). Tetrabromobisphenol-A and Hexabromocyclododecane in Birds from an E-Waste Region in South China: Influence of Diet on Diastereoisomer- and Enantiomer-specific Distribution and Trophodynamics (vol 44, pg 5748, 2010). *Environ Sci Technol.* 44: 8357-8357. <http://dx.doi.org/10.1021/es1032597>.
- He, MJ; Luo, XJ; Yu, LH; Liu, J; Zhang, XL; Chen, SJ; Chen, D; Mai, BX. (2010). Tetrabromobisphenol-A and hexabromocyclododecane in birds from an e-waste region in South China: influence of diet on diastereoisomer- and enantiomer-specific distribution and trophodynamics. *Environ Sci Technol.* 44: 5748-5754. <http://dx.doi.org/10.1021/es101503r>.
- He, MJ; Luo, XJ; Yu, LH; Wu, JP; Chen, SJ; Mai, BX. (2013). Diastereoisomer and enantiomer-specific profiles of hexabromocyclododecane and tetrabromobisphenol A in an aquatic environment in a highly industrialized area, South China: vertical profile, phase partition, and bioaccumulation. *Environ Pollut.* 179: 105-110. <http://dx.doi.org/10.1016/j.envpol.2013.04.016>.
- He, Q, un; Wang, X; Sun, P; Wang, Z; Wang, L. (2015). Acute and chronic toxicity of tetrabromobisphenol A to three aquatic species under different pH conditions. *Aquat Toxicol.* 164: 145-154. <http://dx.doi.org/10.1016/j.aquatox.2015.05.005>.
- Hebeish, A; Elaref, A; Aboushousha, M; Zamzam, N. (1994). CHEMICAL FINISHING OF COTTON .2. COMBINED EASY-CARE FLAME RETARDANCY FINISHING OF COTTON. *Cellulose Chemistry and Technology.* 28: 299-314.
- Hebeish, A; Elaref, AT; Higazy, A; Zamzam, N. (1994). CHEMICAL FINISHING OF COTTON .3. MULTIFINISHING OF COTTON FABRIC IN A SINGLE-STAGE PROCESS. *Cellulose Chemistry and Technology.* 28: 315-327.
- Heeb, NV; Graf, H; Bernd Schweizer, W; Lienemann, P. (2010). Isobutoxypentabromocyclododecanes (iPBPCDs): a new class of polybrominated compounds. *Chemosphere.* 78: 950-957. <http://dx.doi.org/10.1016/j.chemosphere.2009.12.045>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Heeb, NV; Graf, H; Schweizer, WB; Heeb, M; Lienemann, P. (2011). Crystal structure of δ -isobutoxypentabromo-cyclododecanes, kinetics and selectivity of their isomerization during thermal treatment of flame-proofed polystyrenes. *Chemosphere*. 83: 1568-1574. <http://dx.doi.org/10.1016/j.chemosphere.2011.01.022>.
- Heeb, NV; Graf, H; Schweizer, WB; Lienemann, P. (2010). Thermally-induced transformation of hexabromocyclo dodecanes and isobutoxypenta bromocyclododecanes in flame-proofed polystyrene materials. *Chemosphere*. 80: 701-708. <http://dx.doi.org/10.1016/j.chemosphere.2010.05.034>.
- Heeb, NV; Schweizer, WB; Kohler, M; Gerecke, AC. (2005). Structure elucidation of hexabromocyclododecanes--a class of compounds with a complex stereochemistry. *Chemosphere*. 61: 65-73. <http://dx.doi.org/10.1016/j.chemosphere.2005.03.015>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Gerecke, AC; Kohler, M; Schmid, P; Zennegg, M; Wolfensberger, M. (2007). Solid-state conformations and absolute configurations of (+) and (-) alpha-, beta-, and gamma-hexabromocyclododecanes (HBCDs). *Chemosphere*. 68: 940-950. <http://dx.doi.org/10.1016/j.chemosphere.2007.01.032>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Gerecke, AC; Schmid, P; Zennegg, M; Vonmont, H. (2008). Regio- and stereoselective isomerization of hexabromocyclododecanes (HBCDs): kinetics and mechanism of gamma- to alpha-HBCD isomerization. *Chemosphere*. 73: 1201-1210. <http://dx.doi.org/10.1016/j.chemosphere.2008.07.045>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Kohler, M. (2007). Crystal structure analysis of enantiomerically pure (+) and (-) beta-hexabromocyclododecanes. *Chemosphere*. 66: 1590-1594. <http://dx.doi.org/10.1016/j.chemosphere.2006.09.051>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Kohler, M; Schmid, P; Zennegg, M; Wolfensberger, M. (2008). Regio- and stereoselective isomerization of hexabromocyclododecanes (HBCDs): kinetics and mechanism of beta-HBCD racemization. *Chemosphere*. 71: 1547-1556. <http://dx.doi.org/10.1016/j.chemosphere.2007.11.044>.
- Heeb, NV; Wyss, SA; Geueke, B; Fleischmann, T; Kohler, HP; Bernd Schweizer, W; Moor, H; Lienemann, P. (2015). Stereochemistry of enzymatic transformations of (+) β - and (-) β -HBCD with LinA2--a HCH-degrading bacterial enzyme of *Spingobium indicum* B90A. *Chemosphere*. 122: 70-78. <http://dx.doi.org/10.1016/j.chemosphere.2014.11.008>.
- Heeb, NV; Wyss, SA; Geueke, B; Fleischmann, T; Kohler, HP; Lienemann, P. (2014). LinA2, a HCH-converting bacterial enzyme that dehydrohalogenates HBCDs. *Chemosphere*. 107: 194-202. <http://dx.doi.org/10.1016/j.chemosphere.2013.12.035>.
- Heeb, NV; Zindel, D; Bernd Schweizer, W; Lienemann, P. (2012). 2,5,6,9,10-Pentabromocyclododecanols (PBCDOHs): A new class of HBCD transformation products. *Chemosphere*. 88: 655-662. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.052>.
- Heeb, NV; Zindel, D; Geueke, B; Kohler, HP; Lienemann, P. (2012). Biotransformation of Hexabromocyclododecanes (HBCDs) with LinB--an HCH-converting bacterial enzyme. *Environ Sci Technol*. 46: 6566-6574. <http://dx.doi.org/10.1021/es2046487>.
- Heeb, NV; Zindel, D; Graf, H; Azara, V; Schweizer, WB; Geueke, B; Kohler, HP; Lienemann, P. (2013). Stereochemistry of LinB-catalyzed biotransformation of δ -HBCD to 1R,2R,5S,6R,9R,10S-pentabromocyclododecanol. *Chemosphere*. 90: 1911-1919. <http://dx.doi.org/10.1016/j.chemosphere.2012.10.019>.
- Helgason, LB; Polder, A; Føreid, S; Baek, K; Lie, E; Gabrielsen, GW; Barrett, RT; Skaare, JU. (2009). Levels and temporal trends (1983-2003) of polybrominated diphenyl ethers and hexabromocyclododecanes in seabird eggs from north Norway. *Environ Toxicol Chem*. 28: 1096-1103. <http://dx.doi.org/10.1016/j.chemosphere.2012.10.019>.
- Henny, CJ; Kaiser, JL; Grove, RA; Johnson, BL; Letcher, RJ. (2009). Polybrominated diphenyl ether flame retardants in eggs may reduce reproductive success of ospreys in Oregon and Washington, USA. *Ecotoxicology*. 18: 802-813. <http://dx.doi.org/10.1007/s10646-009-0323-4>.
- Hermanson, MH; Isaksson, E; Forsström, S; Teixeira, C; Muir, DC; Pohjola, VA; van de Wal, RS. (2010). Deposition history of brominated flame retardant compounds in an ice core from Holtedahlfonna, Svalbard, Norway. *Environ Sci Technol*. 44: 7405-7410. <http://dx.doi.org/10.1021/es1016608>.
- Herzke, D; Berger, U; Kallenborn, R; Nygård, T; Vetter, W. (2005). Brominated flame retardants and other organobromines in Norwegian predatory bird eggs. *Chemosphere*. 61: 441-449. <http://dx.doi.org/10.1016/j.chemosphere.2005.01.066>.
- Hiebl, J; Vetter, W. (2007). Detection of hexabromocyclododecane and its metabolite pentabromocyclododecene in chicken egg and fish from the official food control. *J Agric Food Chem*. 55: 3319-3324. <http://dx.doi.org/10.1021/jf063428b>.
- Hites, RA. (2005). Brominated flame retardants in the environment. *J Environ Monit*. 7: 1033-1036.
- Hogue, C. (2016). Releases of HBCD tapped for reporting. *Chem Eng News*. 94: 17-17.
- Hoguet, J; Keller, JM; Reiner, JL; Kucklick, JR; Bryan, CE; Moors, AJ; Pugh, RS; Becker, PR. (2013). Spatial and temporal trends of persistent organic pollutants and mercury in beluga whales (*Delphinapterus leucas*) from Alaska. *Sci Total Environ*. 449: 285-294. <http://dx.doi.org/10.1016/j.scitotenv.2013.01.072>.
- Hoh, E; Hites, RA. (2005). Brominated flame retardants in the atmosphere of the East-Central United States. *Environ Sci Technol*. 39: 7794-7802. <http://dx.doi.org/10.1021/es050718k>.
- Holm, G; Lundstrom, J; Andersson, T; Norrgren, L. (1994). Influences of halogenated organic substances on ovarian development and hepatic EROD activity in the three-spined stickleback, *Gasterosteus aculeatus*, and rainbow trout, *Oncorhynchus mykiss*. *Aquat Toxicol*. 29: 241-256. [http://dx.doi.org/10.1016/0166-445X\(94\)90071-X](http://dx.doi.org/10.1016/0166-445X(94)90071-X).
- Holm, G; Norrgren, L; Andersson, T; Thuren, A. (1993). EFFECTS OF EXPOSURE TO FOOD CONTAMINATED WITH PBDE, PCN OR PCB ON REPRODUCTION, LIVER MORPHOLOGY AND CYTOCHROME-P450 ACTIVITY IN THE 3-SPINED STICKLEBACK, *GASTEROSTEUS-ACULEATUS*. *Aquat Toxicol*. 27: 33-50. [http://dx.doi.org/10.1016/0166-445X\(93\)90045-3](http://dx.doi.org/10.1016/0166-445X(93)90045-3).
- Hong, H; Li, D; Shen, R; Wang, X; Shi, D. (2014). Mechanisms of hexabromocyclododecanes induced developmental toxicity in marine medaka (*Oryzias melastigma*) embryos. *Aquat Toxicol*. 152: 173-185. <http://dx.doi.org/10.1016/j.aquatox.2014.04.010>.
- Hong, H; Shen, R; Liu, W; Li, D; Huang, L; Shi, D. (2015). Developmental toxicity of three hexabromocyclododecane diastereoisomers in embryos of the marine medaka *Oryzias melastigma*. *Mar Pollut Bull*. 101: 110-118. <http://dx.doi.org/10.1016/j.marpolbul.2015.11.009>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Hong, J; Gao, S; Chen, L; Han, Q; Yu, Z; Peng, P; Fu, J. (2016). Hexabromocyclododecanes in the indoor environment of two cities in South China: their occurrence and implications of human inhalation exposure. *Indoor Built Environ.* 25: 41-49. <http://dx.doi.org/10.1177/1420326X13499170>.
- Hong, SH; Shim, WJ; Han, GM; Ha, SY; Jang, M; Rani, M; Hong, S; Yeo, GY. (2014). Levels and profiles of persistent organic pollutants in resident and migratory birds from an urbanized coastal region of South Korea. *Sci Total Environ.* 470-471: 1463-1470. <http://dx.doi.org/10.1016/j.scitotenv.2013.07.089>.
- Houde, M; Wang, X; Ferguson, SH; Gagnon, P; Brown, TM; Tanabe, S; Kunito, T; Kwan, M; Muir, DC. (2017). Spatial and temporal trends of alternative flame retardants and polybrominated diphenyl ethers in ringed seals (*Phoca hispida*) across the Canadian Arctic. *Environ Pollut.* <http://dx.doi.org/10.1016/j.envpol.2017.01.023>.
- Hrádková, P; Pulkrová, J; Kalachová, K; Hloušková, V; Tomaniová, M; Poustka, J; Hajšlová, J. (2012). Occurrence of halogenated contaminants in fish from selected river localities and ponds in the Czech Republic. *Arch Environ Contam Toxicol.* 62: 85-96. <http://dx.doi.org/10.1007/s00244-011-9681-z>.
- Hu, F; Pan, L; Xiu, M; Jin, Q. (2015). Exposure of *Chlamys farreri* to tetrabromobisphenol A: accumulation and multibiomarker responses. *Environ Sci Pollut Res Int.* 22: 12224-12234. <http://dx.doi.org/10.1007/s11356-015-4487-6>.
- Hu, F; Pan, L; Xiu, M; Jin, Q; Wang, G; Wang, C. (2015). Bioaccumulation and detoxification responses in the scallop *Chlamys farreri* exposed to tetrabromobisphenol A (TBBPA). *Environ Toxicol Pharmacol.* 39: 997-1007. <http://dx.doi.org/10.1016/j.etap.2015.03.006>.
- Hu, J; Jin, J; Wang, Y; Ma, Z; Zheng, W. (2011). Levels of polybrominated diphenyl ethers and hexabromocyclododecane in the atmosphere and tree bark from Beijing, China. *Chemosphere.* 84: 355-360. <http://dx.doi.org/10.1016/j.chemosphere.2011.04.002>.
- Hu, J; Liang, Y; Chen, M; Wang, X. (2009). Assessing the toxicity of TBBPA and HBCD by zebrafish embryo toxicity assay and biomarker analysis. *Environ Toxicol.* 24: 334-342. <http://dx.doi.org/10.1002/tox.20436>.
- Hu, J; tao, Y; Yao, Y; nan; Liu, X; iusen; Ao, Y; uhui; Zhang, H, uiX. (2009). The application of a novel flame retardant on viscose fiber. *Fire and Materials.* 33: 145-156. <http://dx.doi.org/10.1002/fam.990>.
- Hu, X; Hu, D; Song, Q; Li, J; Wang, P. (2011). Determinations of hexabromocyclododecane (HBCD) isomers in channel catfish, crayfish, hen eggs and fish feeds from China by isotopic dilution LC-MS/MS. *Chemosphere.* 82: 698-707. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.096>.
- Huang, H; Zhang, S; Lv, J; Wen, B; Wang, S; Wu, T. (2016). Experimental and Theoretical Evidence for Diastereomer- and Enantiomer-Specific Accumulation and Biotransformation of HBCD in Maize Roots. *Environ Sci Technol.* 50: 12205-12213. <http://dx.doi.org/10.1021/acs.est.6b03223>.
- Huang, X; Chen, C; Shang, Y; Zhong, Y; Ren, G; Yu, Z; An, J. (2016). In vitro study on the biotransformation and cytotoxicity of three hexabromocyclododecane diastereoisomers in liver cells. *Chemosphere.* 161: 251-258. <http://dx.doi.org/10.1016/j.chemosphere.2016.07.001>.
- Hühnerfuss, H; Shah, MR. (2009). Enantioselective chromatography-a powerful tool for the discrimination of biotic and abiotic transformation processes of chiral environmental pollutants [Review]. *J Chromatogr A.* 1216: 481-502. <http://dx.doi.org/10.1016/j.chroma.2008.09.043>.
- Hung, W, eiHan; Liu, CW, ei; Liang, C, ij; Kang, SC. (2016). Strategies to accelerate the computation of erection paths for construction cranes. *Automation in Construction.* 62: 1-13. <http://dx.doi.org/10.1016/j.autcon.2015.10.008>.
- Hwang, IK; Kang, HH; Lee, IS; Oh, JE. (2012). Assessment of characteristic distribution of PCDD/Fs and BFRs in sludge generated at municipal and industrial wastewater treatment plants. *Chemosphere.* 88: 888-894. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.098>.
- Ibhazehiebo, K; Iwasaki, T; Shimokawa, N; Kimura-Kuroda, J; Koibuchi, N. (2010). Suppression of cerebellar Purkinje cell dendrite arborization by alpha-hexabromocyclododecane. *J Physiol Sci.* 60: S78-S78.
- IBT Labs. (1990). Mutagenicity of two lots of FM-100 lot 53 and residue of lot 3322 in the absence and presence of metabolic activation with test data and cover letter [TSCA Submission]. (TSCATS/407259. OTS0523259. Doc I.D. 86900000267). West Lafayette, IN: Great Lakes Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0523259>.
- Ichihara, M; Yamamoto, A; Takakura, K; Kakutani, N; Sudo, M. (2014). Distribution and pollutant load of hexabromocyclododecane (HBCD) in sewage treatment plants and water from Japanese Rivers. *Chemosphere.* 110: 78-84. <http://dx.doi.org/10.1016/j.chemosphere.2014.03.074>.
- Ilyas, M; Sudaryanto, A; Setiawan, IE; Riyadi, AS; Isobe, T; Ogawa, S; Takahashi, S; Tanabe, S. (2011). Characterization of polychlorinated biphenyls and brominated flame retardants in surface soils from Surabaya, Indonesia. *Chemosphere.* 83: 783-791. <http://dx.doi.org/10.1016/j.chemosphere.2011.02.067>.
- Ilyas, M; Sudaryanto, A; Setiawan, IE; Riyadi, AS; Isobe, T; Takahashi, S; Tanabe, S. (2011). Characterization of polychlorinated biphenyls and brominated flame retardants in sediments from riverine and coastal waters of Surabaya, Indonesia. *Mar Pollut Bull.* 62: 89-98. <http://dx.doi.org/10.1016/j.marpolbul.2010.09.006>.
- Ilyas, M; Sudaryanto, A; Setiawan, IE; Riyadi, AS; Isobe, T; Tanabe, S. (2013). Characterization of polychlorinated biphenyls and brominated flame retardants in sludge, sediment and fish from municipal dumpsite at Surabaya, Indonesia. *Chemosphere.* 93: 1500-1510. <http://dx.doi.org/10.1016/j.chemosphere.2013.07.048>.
- Ilyina, T; Hunziker, RW. (2010). Scenarios of temporal and spatial evolution of hexabromocyclododecane in the North Sea. *Environ Sci Technol.* 44: 4622-4628. <http://dx.doi.org/10.1021/es9034599>.
- Ionas, AC; Covaci, A. (2013). Simplifying multi-residue analysis of flame retardants in indoor dust. *Int J Environ Anal Chem.* 93: 1074-1083. <http://dx.doi.org/10.1080/03067319.2013.763248>.
- Ismail, N; Gewurtz, SB; Pleskach, K; Whittle, DM; Helm, PA; Marvin, CH; Tomy, GT. (2009). Brominated and chlorinated flame retardants in Lake Ontario, Canada, lake trout (*Salvelinus namaycush*) between 1979 and 2004 and possible influences of food-web changes. *Environ Toxicol Chem.* 28: 910-920. <http://dx.doi.org/10.1897/08-162.1>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Isobe, T; Ochi, Y; Ramu, K; Yamamoto, T; Tajima, Y; Yamada, TK; Amano, M; Miyazaki, N; Takahashi, S; Tanabe, S. (2009). Organohalogen contaminants in striped dolphins (*Stenella coeruleoalba*) from Japan: present contamination status, body distribution and temporal trends (1978-2003). *Mar Pollut Bull.* 58: 396-401. <http://dx.doi.org/10.1016/j.marpolbul.2008.10.008>.
- Isobe, T; Oda, H; Takayanagi, N; Kunisue, T; Komori, H; Arita, N; Ueda, N; Nose, M; Yamada, T; Takahashi, S; Tanabe, S. (2009). Hexabromocyclododecanes in human adipose tissue from Japan. *Environ Chem.* 6: 328-333. <http://dx.doi.org/10.1071/EN09024>.
- Isobe, T; Ogawa, SP; Ramu, K; Sudaryanto, A; Tanabe, S. (2012). Geographical distribution of non-PBDE-brominated flame retardants in mussels from Asian coastal waters. *Environ Sci Pollut Res Int.* 19: 3107-3117. <http://dx.doi.org/10.1007/s11356-012-0945-6>.
- Isobe, T; Oshihoi, T; Hamada, H; Nakayama, K; Yamada, TK; Tajima, Y; Amano, M; Tanabe, S. (2011). Contamination status of POPs and BFRs and relationship with parasitic infection in finless porpoises (*Neophocaena phocaenoides*) from Seto Inland Sea and Omura Bay, Japan. *Mar Pollut Bull.* 63: 564-571. <http://dx.doi.org/10.1016/j.marpolbul.2011.01.014>.
- Isobe, T; Ramu, K; Kajiwara, N; Takahashi, S; Lam, PK; Jefferson, TA; Zhou, K; Tanabe, S. (2007). Isomer specific determination of hexabromocyclododecanes (HBCDs) in small cetaceans from the South China Sea--Levels and temporal variation. *Mar Pollut Bull.* 54: 1139-1145. <http://dx.doi.org/10.1016/j.marpolbul.2007.04.017>.
- Janák, K; Sellström, U; Johansson, AK; Becher, G; de Wit, CA; Lindberg, P; Helander, B. (2008). Enantiomer-specific accumulation of hexabromocyclododecanes in eggs of predatory birds. *Chemosphere.* 73: S193-S200. <http://dx.doi.org/10.1016/j.chemosphere.2007.03.077>.
- Jang, M; Shim, WJ; Han, GM; Rani, M; Song, YK; Hong, SH. (2016). Styrofoam Debris as a Source of Hazardous Additives for Marine Organisms. *Environ Sci Technol.* 50: 4951-4960. <http://dx.doi.org/10.1021/acs.est.5b05485>.
- Jaspers, V; Covaci, A; Maervoet, J; Dauwe, T; Voorspoels, S; Schepens, P; Eens, M. (2005). Brominated flame retardants and organochlorine pollutants in eggs of little owls (*Athene noctua*) from Belgium. *Environ Pollut.* 136: 81-88. <http://dx.doi.org/10.1016/j.envpol.2004.12.003>.
- Jeannerat, D; Pupier, M; Schweizer, S; Mitrev, YN; Favreau, P; Kohler, M. (2016). Discrimination of hexabromocyclododecane from new polymeric brominated flame retardant in polystyrene foam by nuclear magnetic resonance. *Chemosphere.* 144: 1391-1397. <http://dx.doi.org/10.1016/j.chemosphere.2015.10.021>.
- Jenssen, BM; Sørmo, EG; Baek, K; Bytingsvik, J; Gaustad, H; Ruus, A; Skaare, JU. (2007). Brominated flame retardants in North-East Atlantic marine ecosystems. *Environ Health Perspect.* 115 Suppl 1: 35-41. <http://dx.doi.org/10.1289/ehp.9355>.
- Jeong, GH; Hwang, NR; Hwang, EH; Lee, BC; Yoon, J. (2014). Hexabromocyclododecanes in crucian carp and sediment from the major rivers in Korea. *Sci Total Environ.* 470-471: 1471-1478. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.038>.
- Ji, XL; Liu, Y; Liu, F; Lu, Y; Zhong, GR. (2010). [Transthyretin-binding activity of hexabromocyclododecanes (HBCDs) and its thyroid hormone disrupting effects after developmental exposure]. *Huanjing Kexue.* 31: 2191-2195.
- Jiang, X; Chu, S; Chen, Y; Zhong, Y; Liu, Y, u; Shao, Z. (2017). LiNi_{0.29}Co_{0.33}Mn_{0.38}O₂ polyhedrons with reduced cation mixing as a high-performance cathode material for Li-ion batteries synthesized via a combined co-precipitation and molten salt heating technique. *J Alloy Comp.* 691: 206-214. <http://dx.doi.org/10.1016/j.jallcom.2016.08.139>.
- Jin, S; Cheng, Q; Wan, P; Liao, T, ao; Huang, Y, an; COMM, CO. (2010). Cytotoxic Effect Of Decabrominated Diphenyl Ether on RTG-2 cells. 346-350.
- Johansson, AK; Sellström, U; Lindberg, P; Bignert, A; de Wit, CA. (2011). Temporal trends of polybrominated diphenyl ethers and hexabromocyclododecane in Swedish Peregrine Falcon (*Falco peregrinus peregrinus*) eggs. *Environ Int.* 37: 678-686. <http://dx.doi.org/10.1016/j.envint.2011.01.010>.
- Johansson, AK; Sellström, U; Lindberg, P; Bignert, A; De Witt, CA. (2009). Polybrominated diphenyl ether congener patterns, hexabromocyclododecane, and brominated biphenyl 153 in eggs of peregrine falcons (*Falco peregrinus*) breeding in Sweden. *Environ Toxicol Chem.* 28: 9-17. <http://dx.doi.org/10.1897/08-142.1>.
- Johnson, PI; Stapleton, HM; Mukherjee, B; Hauser, R; Meeker, JD. (2013). Associations between brominated flame retardants in house dust and hormone levels in men. *Sci Total Environ.* 445-446: 177-184. <http://dx.doi.org/10.1016/j.scitotenv.2012.12.017>.
- Johnson, PI; Stapleton, HM; Sjodin, A; Meeker, JD. (2010). Relationships between polybrominated diphenyl ether concentrations in house dust and serum. *Environ Sci Technol.* 44: 5627-5632. <http://dx.doi.org/10.1021/es100697q>.
- Johnson-Restrepo, B; Adams, DH; Kannan, K. (2008). Tetrabromobisphenol A (TBBPA) and hexabromocyclododecanes (HBCDs) in tissues of humans, dolphins, and sharks from the United States. *Chemosphere.* 70: 1935-1944. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.002>.
- Jörundsdóttir, H; Löfstrand, K; Svavarsson, J; Bignert, A; Bergman, Å. (2013). Polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) in seven different marine bird species from Iceland. *Chemosphere.* 93: 1526-1532. <http://dx.doi.org/10.1016/j.chemosphere.2013.07.061>.
- Jung, J; Bale, S; Lee, L; Shin, JK; Choi, J; Lee, S. (2009). Rapid identification of brominated flame retardants by using direct exposure probe mass spectrometry. *Microchem J.* 91: 140-146. <http://dx.doi.org/10.1016/j.microc.2008.09.005>.
- Kadota, K; Nishimura, T; Hotta, D; Tozuka, Y. (2015). Preparation of composite particles of hydrophilic or hydrophobic drugs with highly branched cyclic dextrin via spray drying for dry powder inhalers. *Powder Technology.* 283: 16-23. <http://dx.doi.org/10.1016/j.powtec.2015.05.014>.
- Kadota, K; Senda, A; Ito, T; Tozuka, Y. (2015). Feasibility of highly branched cyclic dextrin as an excipient matrix in dry powder inhalers. *Eur J Pharm Sci.* 79: 79-86. <http://dx.doi.org/10.1016/j.ejps.2015.09.006>.
- Kajiwara, N; Desborough, J; Harrad, S; Takigami, H. (2013). Photolysis of brominated flame retardants in textiles exposed to natural sunlight. *Environ Sci Process Impacts.* 15: 653-660. <http://dx.doi.org/10.1039/c3em30887a>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Kajiwaru, N; Hirata, O; Takigami, H; Noma, Y; Tachifuji, A; Matsufuji, Y. (2014). Leaching of brominated flame retardants from mixed wastes in lysimeters under conditions simulating landfills in developing countries. *Chemosphere*. 116: 46-53. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.025>.
- Kajiwaru, N; Noma, Y; Takigami, H. (2011). Brominated and organophosphate flame retardants in selected consumer products on the Japanese market in 2008. *J Hazard Mater*. 192: 1250-1259. <http://dx.doi.org/10.1016/j.jhazmat.2011.06.043>.
- Kajiwaru, N; Sueoka, M; Ohiwa, T; Takigami, H. (2009). Determination of flame-retardant hexabromocyclododecane diastereomers in textiles. *Chemosphere*. 74: 1485-1489. <http://dx.doi.org/10.1016/j.chemosphere.2008.11.046>.
- Kajiwaru, N; Takigami, H. (2013). Emission behavior of hexabromocyclododecanes and polybrominated diphenyl ethers from flame-retardant-treated textiles. *Environ Sci Process Impacts*. 15: 1957-1963. <http://dx.doi.org/10.1039/c3em00359k>.
- Kakimoto, K; Akutsu, K; Konishi, Y; Tanaka, Y. (2008). Time trend of hexabromocyclododecane in the breast milk of Japanese women. *Chemosphere*. 71: 1110-1114. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.035>.
- Kakimoto, K; Nagayoshi, H; Yoshida, J; Akutsu, K; Konishi, Y; Toriba, A; Hayakawa, K. (2012). Detection of Dechlorane Plus and brominated flame retardants in marketed fish in Japan. *Chemosphere*. 89: 416-419. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.072>.
- Kalachova, K; Hradkova, P; Lankova, D; Hajslova, J; Pulkrabova, J. (2012). Occurrence of brominated flame retardants in household and car dust from the Czech Republic. *Sci Total Environ*. 441: 182-193. <http://dx.doi.org/10.1016/j.scitotenv.2012.09.061>.
- Kapura, AA. (1994). CHEMISTRY OF FLAME RETARDANTS .2. NMR AND HPLC ANALYSIS OF PYROVATEX CP. *J Fire Sci*. 12: 3-13.
- Kapura, AA. (1996). Chemistry of flame retardants .3. Aging of N-methylol-3-dimethoxyphosphorylpropionamide and commercial flame retardants for fabrics containing this substance. *J Fire Sci*. 14: 169-185.
- Kefeni, KK; Okonkwo, JO; Botha, B. (2014). Concentrations of polybromobiphenyls and polybromodiphenyl ethers in home dust: Relevance to socio-economic status and human exposure rate. *Sci Total Environ*. 470: 1250-1256. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.078>.
- Kefeni, KK; Okonkwo, JO; Olukunle, OI; Botha, B. (2011). Brominated flame retardants: sources, distribution, exposure pathways, and toxicity. *Environ Rev*. 19: 238-253. <http://dx.doi.org/10.1139/A11-010>.
- Kelly, GS. (2000). Peripheral metabolism of thyroid hormones: a review [Review]. *Altern Med Rev*. 5: 306-333.
- Kemmlin, S; Herzke, D; Law, RJ. (2003). BFR-governmental testing programme [Review]. *Environ Int*. 29: 781-792. [http://dx.doi.org/10.1016/S0160-4120\(03\)00112-0](http://dx.doi.org/10.1016/S0160-4120(03)00112-0).
- Keune, H; Gutleb, AC; Zimmer, KE; Ravnum, S; Yang, A; Bartonova, A; Kreyer von Krauss, M; Ropstad, E; Eriksen, GS; Saunders, M; Magnanti, B; Forsberg, B. (2012). We're only in it for the knowledge? A problem solving turn in environment and health expert elicitation. *Environ Health*. 11 Suppl 1: S3. <http://dx.doi.org/10.1186/1476-069X-11-S1-S3>.
- Kiciński, M; Viaene, MK; Den Hond, E; Schoeters, G; Covaci, A; Dirtu, AC; Nelen, V; Bruckers, L; Croes, K; Sioen, I; Baeyens, W; Van Larebeke, N; Nawrot, TS. (2012). Neurobehavioral function and low-level exposure to brominated flame retardants in adolescents: A cross-sectional study. *Environ Health*. 11: 86. <http://dx.doi.org/10.1186/1476-069X-11-86>.
- Kierkegaard, A; Björklund, J; Fridén, U. (2004). Identification of the flame retardant decabromodiphenyl ethane in the environment. *Environ Sci Technol*. 38: 3247-3253.
- Kim, GB; Stapleton, HM. (2010). PBDEs, methoxylated PBDEs and HBCDs in Japanese common squid (*Todarodes pacificus*) from Korean offshore waters. *Mar Pollut Bull*. 60: 935-940. <http://dx.doi.org/10.1016/j.marpolbul.2010.03.025>.
- Kim, JT; Son, MH; Kang, JH; Kim, JH; Jung, JW; Chang, YS. (2015). Occurrence of Legacy and New Persistent Organic Pollutants in Avian Tissues from King George Island, Antarctica. *Environ Sci Technol*. 49: 13628-13638. <http://dx.doi.org/10.1021/acs.est.5b03181>.
- Kim, UJ; Oh, JE. (2014). Tetrabromobisphenol A and hexabromocyclododecane flame retardants in infant-mother paired serum samples, and their relationships with thyroid hormones and environmental factors. *Environ Pollut*. 184: 193-200. <http://dx.doi.org/10.1016/j.envpol.2013.08.034>.
- Klamer, HJ; Leonards, PE; Lamoree, MH; Villerius, LA; Kerman, JE; Bakker, JF. (2005). A chemical and toxicological profile of Dutch North Sea surface sediments. *Chemosphere*. 58: 1579-1587. <http://dx.doi.org/10.1016/j.chemosphere.2004.11.027>.
- Klammer, H; Schlecht, C; Wuttke, W; Schmutzler, C; Gotthardt, I; Köhrle, J; Jarry, H. (2007). Effects of a 5-day treatment with the UV-filter octyl-methoxycinnamate (OMC) on the function of the hypothalamo-pituitary-thyroid function in rats. *Toxicology*. 238: 192-199. <http://dx.doi.org/10.1016/j.tox.2007.06.088>.
- Kling, P; Forlin, L. (2008). Proteomic studies in zebrafish River ceft suggest an interaction between the brominated flame retardants HBCD and TBBPA. *Mar Environ Res*. 66: 101-101.
- Kling, P; Förlin, L. (2009). Proteomic studies in zebrafish liver cells exposed to the brominated flame retardants HBCD and TBBPA. *Ecotoxicol Environ Saf*. 72: 1985-1993. <http://dx.doi.org/10.1016/j.ecoenv.2009.04.018>.
- Klosterhaus, SL; Stapleton, HM; La Guardia, MJ; Greig, DJ. (2012). Brominated and chlorinated flame retardants in San Francisco Bay sediments and wildlife. *Environ Int*. 47: 56-65. <http://dx.doi.org/10.1016/j.envint.2012.06.005>.
- Knutsen, HK; Kvale, HE; Thomsen, C; Frøshaug, M; Haugen, M; Becher, G; Alexander, J; Meltzer, HM. (2008). Dietary exposure to brominated flame retardants correlates with male blood levels in a selected group of Norwegians with a wide range of seafood consumption. *Mol Nutr Food Res*. 52: 217-227. <http://dx.doi.org/10.1002/mnfr.200700096>.
- Kobayashi, A; Kubo, T; Sato, T; Kitahara, Y; Amita, S; Mori, M; Suzuki, S; Otsuka, K; Hosoya, K, et al. (2013). Efficient total analyses for bromine type flame retardants by simple NICI-GC/MS. *Analytical Methods*. 5: 866-873. <http://dx.doi.org/10.1039/c2ay25983d>.
- Koch, C; Dundua, A; Aragon-Gomez, J; Nachev, M; Stephan, S; Willach, S; Ulbricht, M; Schmitz, OJ; Schmidt, TC; Sures, B. (2016). Degradation of Polymeric Brominated Flame Retardants: Development of an Analytical Approach Using PolyFR and UV Irradiation. *Environ Sci Technol*. 50: 12912-12920. <http://dx.doi.org/10.1021/acs.est.6b04083>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Koch, C; Schmidt-Kötters, T; Rupp, R; Sures, B. (2015). Review of hexabromocyclododecane (HBCD) with a focus on legislation and recent publications concerning toxicokinetics and -dynamics [Review]. *Environ Pollut.* 199C: 26-34. <http://dx.doi.org/10.1016/j.envpol.2015.01.011>.
- Koci, V. (2012). Hexabromocyclododecane and environment [Review]. *Chem Listy.* 106: 1116-1121.
- Koeppen, R; Becker, R; Emmerling, F; Jung, C; Nehls, I. (2007). Enantioselective preparative HPLC separation of the HBCD-Stereoisomers from the technical product and their absolute structure elucidation using X-ray crystallography. *Chirality.* 19: 214-222. <http://dx.doi.org/10.1002/chir.20366>.
- Kohler, HPE; Angst, W; Giger, W; Kanz, C; Muller, S; Suter, MJF. (1997). Environmental fate of chiral pollutants – the necessity of considering stereochemistry. *Chimia.* 51: 947-951.
- Kohler, M; Zennegg, M; Bogdal, C; Gerecke, AC; Schmid, P; Heeb, NV; Sturm, M; Vonmont, H; Kohler, HP; Giger, W. (2008). Temporal trends, congener patterns, and sources of octa-, nona-, and decabromodiphenyl ethers (PBDE) and hexabromocyclododecanes (HBCD) in Swiss lake sediments. *Environ Sci Technol.* 42: 6378-6384. <http://dx.doi.org/10.1021/es702586r>.
- Koibuchi, N; Chin, MW. (2000). Thyroid hormone action and brain development. *Trends Endocrinol Metab.* 11: 123-128. [http://dx.doi.org/10.1016/S1043-2760\(00\)00238-1](http://dx.doi.org/10.1016/S1043-2760(00)00238-1).
- Koike, E; Yanagisawa, R; Takigami, H; Takano, H. (2014). Penta- and octa-bromodiphenyl ethers promote proinflammatory protein expression in human bronchial epithelial cells in vitro. *Toxicol In Vitro.* 28: 327-333. <http://dx.doi.org/10.1016/j.tiv.2013.10.014>.
- Konstantinov, A; Chittim, B; Potter, D; Klein, J; Riddell, N; Mccrindle, R. (2011). Is BDE-175 an important enough component of commercial octabromodiphenyl ether mixtures to be listed in Annex A of the Stockholm Convention? *Chemosphere.* 82: 778-781. <http://dx.doi.org/10.1016/j.chemosphere.2010.11.016>.
- Kopp, EK; Fromme, H; Voelkel, W. (2012). Analysis of common and emerging brominated flame retardants in house dust using ultrasonic assisted solvent extraction and on-line sample preparation via column switching with liquid chromatography-mass spectrometry. *J Chromatogr A.* 1241: 28-36. <http://dx.doi.org/10.1016/j.chroma.2012.04.022>.
- Köppen, R; Becker, R; Esslinger, S; Nehls, I. (2010). Enantiomer-specific analysis of hexabromocyclododecane in fish from Etnefjorden (Norway). *Chemosphere.* 80: 1241-1245. <http://dx.doi.org/10.1016/j.chemosphere.2010.06.019>.
- Köppen, R; Becker, R; Jung, C; Nehls, I. (2008). On the thermally induced isomerisation of hexabromocyclododecane stereoisomers. *Chemosphere.* 71: 656-662. <http://dx.doi.org/10.1016/j.chemosphere.2007.11.009>.
- Korc, W; Góralczyk, K; Struciński, P; Hernik, A; Łyczewska, M; Matuszak, M; Czaja, K; Minorczyk, M; Ludwicki, JK. (2016). Levels of polybrominated diphenyl ethers in house dust in central Poland. *Indoor Air.* 27: 128-135. <http://dx.doi.org/10.1111/ina.12293>.
- Korobeinichev, OP; Gonchikzhapov, MB; Paletsky, AA; Tereshchenko, AG; Shundrina, IK; Kuibida, LV; Shmakov, AG; Hu, Y. (2016). Counterflow flames of ultrahigh-molecular-weight polyethylene with and without triphenylphosphate. *Combust Flame.* 169: 261-271. <http://dx.doi.org/10.1016/j.combustflame.2016.04.019>.
- Korobeinichev, OP; Paletsky, AA; Kuibida, LV; Gonchikzhapov, MB; Shundrina, IK. (2013). Reduction of flammability of ultrahigh-molecular-weight polyethylene by using triphenyl phosphate additives. *Proc Combust Inst.* 34: 2699-2706. <http://dx.doi.org/10.1016/j.proci.2012.06.045>.
- Korytár, P; Covaci, A; Leonards, PE; de Boer, J; Brinkman, UA. (2005). Comprehensive two-dimensional gas chromatography of polybrominated diphenyl ethers. *J Chromatogr A.* 1100: 200-207. <http://dx.doi.org/10.1016/j.chroma.2005.09.038>.
- Kowalski, B; Mazur, M. (2014). The Simultaneous Determination of Six Flame Retardants in Water Samples Using SPE Pre-concentration and UHPLC-UV Method. *Water Air Soil Pollut.* 225: 1866. <http://dx.doi.org/10.1007/s11270-014-1866-4>.
- Kretschmer, XC; Baldwin, WS. (2005). CAR and PXR: xenosensors of endocrine disrupters? [Review]. *Chem Biol Interact.* 155: 111-128. <http://dx.doi.org/10.1016/j.cbi.2005.06.003>.
- Krivoshiev, BV; Dardenne, F; Blust, R; Covaci, A; Husson, SJ. (2015). Elucidating toxicological mechanisms of current flame retardants using a bacterial gene profiling assay. *Toxicol In Vitro.* 29: 2124-2132. <http://dx.doi.org/10.1016/j.tiv.2015.09.001>.
- Krol, S; Namiesnik, J; Zabiegala, B. (2014). Occurrence and levels of polybrominated diphenyl ethers (PBDEs) in house dust and hair samples from Northern Poland; an assessment of human exposure. *Chemosphere.* 110: 91-96. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.014>.
- Kuang, J; Ma, Y; Harrad, S. (2016). Concentrations of "legacy" and novel brominated flame retardants in matched samples of UK kitchen and living room/bedroom dust. *Chemosphere.* 149: 224-230. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.092>.
- Kubokawa, H; Takahashi, K; Nagatani, S; Hatakeyama, T. (1999). Thermal decomposition behavior of cotton/polyester blended yarn fabrics treated with flame retardants. *Sen'i Gakkaishi.* 55: 298-305.
- Kuiper, RV; Cantón, RF; Leonards, PE; Jenssen, BM; Dubbeldam, M; Wester, PW; van den Berg, M; Vos, JG; Vethaak, AD. (2007). Long-term exposure of European flounder (*Platichthys flesus*) to the flame-retardants tetrabromobisphenol A (TBBPA) and hexabromocyclododecane (HBCD). *Ecotoxicol Environ Saf.* 67: 349-360. <http://dx.doi.org/10.1016/j.ecoenv.2006.12.001>.
- Kukučka, P; Audy, O; Kohoutek, J; Holt, E; Kalábová, T; Holoubek, I; Klánová, J. (2015). Source identification, spatio-temporal distribution and ecological risk of persistent organic pollutants in sediments from the upper Danube catchment. *Chemosphere.* 138: 777-783. <http://dx.doi.org/10.1016/j.chemosphere.2015.08.001>.
- Kunisue, T; Takayanagi, N; Isobe, T; Takahashi, S; Nakatsu, S; Tsubota, T; Okumoto, K; Bushisue, S; Shindo, K; Tanabe, S. (2008). Regional trend and tissue distribution of brominated flame retardants and persistent organochlorines in raccoon dogs (*Nyctereutes procyonoides*) from Japan. *Environ Sci Technol.* 42: 685-691. <http://dx.doi.org/10.1021/es071565z>.
- Kupper, T; de Alencastro, LF; Gatsigazi, R; Furrer, R; Grandjean, D; Tarradellas, J. (2008). Concentrations and specific loads of brominated flame retardants in sewage sludge. *Chemosphere.* 71: 1173-1180. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.019>.
- La Guardia, MJ; Hale, RC; Harvey, E. (2006). Detailed polybrominated diphenyl ether (PBDE) congener composition of the widely used penta-, octa-, and deca-PBDE technical flame-retardant mixtures. *Environ Sci Technol.* 40: 6247-6254. <http://dx.doi.org/10.1021/es060630m>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- La Guardia, MJ; Hale, RC; Harvey, E; Chen, D. (2010). Flame-retardants and other organohalogen detected in sewage sludge by electron capture negative ion mass spectrometry. *Environ Sci Technol.* 44: 4658-4664. <http://dx.doi.org/10.1021/es9039264>.
- La Guardia, MJ; Hale, RC; Newman, B. (2013). Brominated flame-retardants in sub-Saharan Africa: burdens in inland and coastal sediments of the eThekweni metropolitan municipality, South Africa. *Environ Sci Technol.* 47: 9643-9650. <http://dx.doi.org/10.1021/es4020212>.
- Labandeira, A; Eljarrat, E; Barceló, D. (2007). Congener distribution of polybrominated diphenyl ethers in feral carp (*Cyprinus carpio*) from the Llobregat River, Spain. *Environ Pollut.* 146: 188-195. <http://dx.doi.org/10.1016/j.envpol.2006.04.037>.
- Lam, JC; Lau, RK; Murphy, MB; Lam, PK. (2009). Temporal trends of hexabromocyclododecanes (HBCDs) and polybrominated diphenyl ethers (PBDEs) and detection of two novel flame retardants in marine mammals from Hong Kong, South China. *Environ Sci Technol.* 43: 6944-6949. <http://dx.doi.org/10.1021/es901408t>.
- Lam, YL; Kan, CW; Yuen, CWM. (2014). Objective Measurement of Hand Properties of Plasma Pre-treated Cotton Fabrics Subjected to Flame-Retardant Finishing Catalyzed by Zinc Oxide. *Fibers and Polymers.* 15: 1880-1886. <http://dx.doi.org/10.1007/s12221-014-1880-6>.
- Lanham, SA; Fowden, AL; Roberts, C; Cooper, C; Oreffo, ROC; Forhead, AJ. (2011). Effects of hypothyroidism on the structure and mechanical properties of bone in the ovine fetus. *J Endocrinol.* 210: 189-198. <http://dx.doi.org/10.1530/JOE-11-0138>.
- Lankova, D; Kockovska, M; Lacina, O; Kalachova, K; Pulkrabova, J; Hajslova, J. (2013). Rapid and simple method for determination of hexabromocyclododecanes and other LC-MS-MS-amenable brominated flame retardants in fish. *Anal Bioanal Chem.* 405: 7829-7839. <http://dx.doi.org/10.1007/s00216-013-7076-x>.
- Lankova, D; Lacina, O; Pulkrabova, J; Hajslova, J. (2013). The determination of perfluoroalkyl substances, brominated flame retardants and their metabolites in human breast milk and infant formula. *Talanta.* 117: 318-325. <http://dx.doi.org/10.1016/j.talanta.2013.08.040>.
- Lankova, D; Svarcova, A; Kalachova, K; Lacina, O; Pulkrabova, J; Hajslova, J. (2015). Multi-analyte method for the analysis of various organohalogen compounds in house dust. *Anal Chim Acta.* 854: 61-69. <http://dx.doi.org/10.1016/j.aca.2014.11.007>.
- Lara, AB; Caballo, C; Sicilia, MD; Rubio, S. (2012). Enantiomer-specific determination of hexabromocyclododecane in fish by supramolecular solvent-based single-step sample treatment and liquid chromatography-tandem mass spectrometry. *Anal Chim Acta.* 752: 62-68. <http://dx.doi.org/10.1016/j.aca.2012.09.039>.
- Larsen, ER; Ecker, EL. (1988). THERMAL-STABILITY OF FIRE RETARDANTS .3. DECOMPOSITION OF PENTABROMOCHLOROCYCLOHEXANE AND HEXABROMOCYCLODODECANE UNDER PROCESSING CONDITIONS. *J Fire Sci.* 6: 139-159.
- Laven, JS; Mulders, AG; Visser, JA; Themmen, AP; De Jong, FH; Fauser, BC. (2004). Anti-Müllerian hormone serum concentrations in normoovulatory and anovulatory women of reproductive age. *J Clin Endocrinol Metab.* 89: 318-323. <http://dx.doi.org/10.1210/jc.2003-030932>.
- Law, K; Halldorson, T; Danell, R; Stern, G; Gewurtz, S; Alaei, M; Marvin, C; Whittle, M; Tomy, G. (2006). Bioaccumulation and trophic transfer of some brominated flame retardants in a Lake Winnipeg (Canada) food web. *Environ Toxicol Chem.* 25: 2177-2186.
- Law, K; Palace, VP; Halldorson, T; Danell, R; Wautier, K; Evans, B; Alaei, M; Marvin, C; Tomy, GT. (2006). Dietary accumulation of hexabromocyclododecane diastereoisomers in juvenile rainbow trout (*Oncorhynchus mykiss*). I: Bioaccumulation parameters and evidence of bioisomerization. *Environ Toxicol Chem.* 25: 1757. <http://dx.doi.org/10.1897/05-445r.1>.
- Law, RJ. (2013). Woodhead Publishing Series in Food Science Technology and Nutrition Brominated flame retardants in foods. <http://dx.doi.org/10.1533/9780857098917.2.261>.
- Law, RJ. (2014). An overview of time trends in organic contaminant concentrations in marine mammals: Going up or down? [Review]. *Mar Pollut Bull.* 82: 7-10. <http://dx.doi.org/10.1016/j.marpolbul.2014.03.024>.
- Law, RJ; Barry, J; Barber, JL; Bersuder, P; Deaville, R; Reid, RJ; Brownlow, A; Penrose, R; Barnett, J; Loveridge, J; Smith, B; Jepson, PD. (2012). Contaminants in cetaceans from UK waters: status as assessed within the Cetacean Strandings Investigation Programme from 1990 to 2008. *Mar Pollut Bull.* 64: 1485-1494. <http://dx.doi.org/10.1016/j.marpolbul.2012.05.024>.
- Law, RJ, y; Barry, J, on; Bersuder, P; Barber, JL; Deaville, R, ob; Reid, RJ; Jepson, PD. (2010). Levels and Trends of Brominated Diphenyl Ethers in Blubber of Harbor Porpoises (*Phocoena phocoena*) from the UK, 1992-2008. *Environ Sci Technol.* 44: 4447-4451. <http://dx.doi.org/10.1021/es100140q>.
- Law, RJ; Bersuder, P; Allchin, CR; Barry, J. (2006). Levels of the flame retardants hexabromocyclododecane and tetrabromobisphenol A in the blubber of harbor porpoises (*Phocoena phocoena*) stranded or bycaught in the U.K., with evidence for an increase in HBCD concentrations in recent years. *Environ Sci Technol.* 40: 2177-2183. <http://dx.doi.org/10.1021/es052416o>.
- Law, RJ; Bersuder, P; Barry, J, on; Deaville, R, ob; Reid, RJ; Jepson, PD. (2010). Chlorobiphenyls in the blubber of harbour porpoises (*Phocoena phocoena*) from the UK: Levels and trends 1991-2005. *Mar Pollut Bull.* 60: 470-473. <http://dx.doi.org/10.1016/j.marpolbul.2009.12.003>.
- Law, RJ; Bersuder, P; Barry, J; Wilford, BH; Allchin, CR; Jepson, PD. (2008). A significant downturn in levels of hexabromocyclododecane in the blubber of harbor porpoises (*Phocoena phocoena*) stranded or bycaught in the UK: an update to 2006. *Environ Sci Technol.* 42: 9104-9109. <http://dx.doi.org/10.1021/es8014309>.
- Law, RJ; Covaci, A; Harrad, S; Herzke, D; Abdallah, MA; Fernie, K; Toms, LM; Takigami, H. (2014). Levels and trends of PBDEs and HBCDs in the global environment: status at the end of 2012 [Review]. *Environ Int.* 65: 147-158. <http://dx.doi.org/10.1016/j.envint.2014.01.006>.
- Law, RJ; Herzke, D; Harrad, S; Morris, S; Bersuder, P; Allchin, CR. (2008). Levels and trends of HBCD and BDEs in the European and Asian environments, with some information for other BFRs. *Chemosphere.* 73: 223-241. <http://dx.doi.org/10.1016/j.chemosphere.2008.02.066>.
- Law, RJ; Kohler, M; Heeb, NV; Gerecke, AC; Schmid, P; Voorspoels, S; Covaci, A; Becher, G; Janák, K; Thomsen, C. (2005). Hexabromocyclododecane challenges scientists and regulators [Review]. *Environ Sci Technol.* 39: 281A-287A. <http://dx.doi.org/10.1021/es053302f>.
- Le, TT; Son, MH; Nam, IH; Yoon, H; Kang, YG; Chang, YS. (2017). Transformation of hexabromocyclododecane in contaminated soil in association with microbial diversity. *J Hazard Mater.* 325: 82-89. <http://dx.doi.org/10.1016/j.jhazmat.2016.11.058>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Leblanc, RB. (1989). DEGRADATION OF PYROVATEX-TREATED FABRICS DURING STORAGE. *Text Res J.* 59: 307-308.
- Lee, I, nS; Kim, K; Kim, S; Yoon, J; Choi, K; Choi, SD; Oh, J. (2012). Evaluation of mono- to deca-brominated diphenyl ethers in riverine sediment of Korea with special reference to the debromination of DeBDE209. *Sci Total Environ.* 432: 128-134. <http://dx.doi.org/10.1016/j.scitotenv.2012.05.053>.
- Lee, IS; Kang, HH; Kim, UJ; Oh, JE. (2015). Brominated flame retardants in Korean river sediments, including changes in polybrominated diphenyl ether concentrations between 2006 and 2009. *Chemosphere.* 126: 18-24. <http://dx.doi.org/10.1016/j.chemosphere.2015.01.004>.
- Lee, SC; Sverko, E; Harner, T; Pozo, K; Barresi, E; Schachtschneider, J; Zaruk, D; Dejong, M; Narayan, J. (2016). Retrospective analysis of “new” flame retardants in the global atmosphere under the GAPS Network. *Environ Pollut.* 217: 62-69. <http://dx.doi.org/10.1016/j.envpol.2016.01.080>.
- Lefèvre, PL; Berger, RG; Ernest, SR; Gaertner, DW; Rawn, DF; Wade, MG; Robaire, B; Hales, BF. (2016). Exposure of Female Rats to an Environmentally Relevant Mixture of Brominated Flame Retardants Targets the Ovary, Affecting Folliculogenesis and Steroidogenesis. *Biol Reprod.* 94: 9. <http://dx.doi.org/10.1095/biolreprod.115.134452>.
- Legler, J. (2008). New insights into the endocrine disrupting effects of brominated flame retardants [Review]. *Chemosphere.* 73: 216-222. <http://dx.doi.org/10.1016/j.chemosphere.2008.04.081>.
- Leijds, MM; ten Tusscher, GW; Olie, K; van Teunenbroek, T; van Aalderen, WMC; de Voogt, P; Vulsma, T; Bartonova, A; Kraymer von Krauss, M; Mosoiu, C; Riojas-Rodriguez, H; Calamandrei, G; Koppe, JG. (2012). Thyroid hormone metabolism and environmental chemical exposure. *Environ Health.* 11: S10. <http://dx.doi.org/10.1186/1476-069X-11-S1-S10>.
- Leslie, HA; Leonards, PE; Shore, RF; Walker, LA; Bersuder, PR; Morris, S; Allchin, CR; Boer, J, d. (2011). Decabromodiphenylether and hexabromocyclododecane in wild birds from the United Kingdom, Sweden and The Netherlands: Screening and time trends. *Chemosphere.* 82: 88-95. <http://dx.doi.org/10.1016/j.chemosphere.2010.09.073>.
- Letcher, R. (2010). Hexabromocyclododecane (HBCD) flame retardant in the environment, biota and humans: Stereoisomeric paradox. *Toxicol Lett.* 196: S33-S33. <http://dx.doi.org/10.1016/j.toxlet.2010.03.150>.
- Letcher, RJ; Gebbink, WA; Sonne, C; Born, EW; McKinney, MA; Dietz, R. (2009). Bioaccumulation and biotransformation of brominated and chlorinated contaminants and their metabolites in ringed seals (*Pusa hispida*) and polar bears (*Ursus maritimus*) from East Greenland. *Environ Int.* 35: 1118-1124. <http://dx.doi.org/10.1016/j.envint.2009.07.006>.
- Letcher, RJ; Lu, Z; Chu, S; Haffner, GD; Drouillard, K; Marvin, CH; Ciborowski, JJ. (2015). Hexabromocyclododecane Flame Retardant Isomers in Sediments from Detroit River and Lake Erie of the Laurentian Great Lakes of North America. *Bull Environ Contam Toxicol.* 95: 31-36. <http://dx.doi.org/10.1007/s00128-015-1491-y>.
- Letcher, RJ; Mattioli, LC; Martenson, SC; Bird, D; Ritchie, IJ; Fernie, KJ. (2015). Uptake, distribution, depletion, and in ovo transfer of isomers of hexabromocyclododecane flame retardant in diet-exposed American kestrels (*Falco sparverius*). *Environ Toxicol Chem.* 34: 1103-1112. <http://dx.doi.org/10.1002/etc.2903>.
- Lewis, AC; Palanker, AL. (1978). A dermal LD50 study in albino rabbits and an inhalation LC50 study in albino rats. Test material GLS-S6-41A [unpublished]. (Experiment Reference No. 78385-2). Fairfield, NJ: Consumer Product Testing.
- Lewis, AC; Palanker, AL. (1978). A primary dermal irritation study, a dermal corrosion study, and an ocular irritation study in albino rabbits and an oral LD50 study in albino rats: Test material GLS-S6-41A. (78385-1). Consumer Product Testing.
- Li, B; Yao, T; Sun, H; Zhang, Y; Yang, J. (2016). Diastereomer- and enantiomer-specific accumulation, depuration, bioisomerization, and metabolism of hexabromocyclododecanes (HBCDs) in two ecologically different species of earthworms. *Sci Total Environ.* 542: 427-434. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.100>.
- Li, D; Mao, Z; Zhong, Y; Huang, W; Wu, Y; Peng, P. (2016). Reductive transformation of tetrabromobisphenol A by sulfidated nano zerovalent iron. *Water Res.* 103: 1-9. <http://dx.doi.org/10.1016/j.watres.2016.07.003>.
- Li, D; Peng, P; Yu, Z; Huang, W; Zhong, Y. (2016). Reductive transformation of hexabromocyclododecane (HBCD) by FeS. *Water Res.* 101: 195-202. <http://dx.doi.org/10.1016/j.watres.2016.05.066>.
- Li, F; Jin, J; Tan, D; Wang, L; Geng, N; Cao, R; Gao, Y; Chen, J. (2016). Hexabromocyclododecane and tetrabromobisphenol A in sediments and paddy soils from Liaohu River Basin, China: Levels, distribution and mass inventory. *J Environ Sci.* 48: 209-217. <http://dx.doi.org/10.1016/j.jes.2016.03.018>.
- Li, H; Mo, L; Yu, Z; Sheng, G; Fu, J. (2012). Levels, isomer profiles and chiral signatures of particle-bound hexabromocyclododecanes in ambient air around Shanghai, China. *Environ Pollut.* 165: 140-146. <http://dx.doi.org/10.1016/j.envpol.2012.02.015>.
- Li, H; Shang, H; Wang, P; Wang, Y; Zhang, H; Zhang, Q; Jiang, G. (2013). Occurrence and distribution of hexabromocyclododecane in sediments from seven major river drainage basins in China. *J Environ Sci.* 25: 69-76. [http://dx.doi.org/10.1016/S1001-0742\(12\)60010-2](http://dx.doi.org/10.1016/S1001-0742(12)60010-2).
- Li, P; Yang, CQ; Jin, J; Wang, Y; Liu, WZ; Ding, WW. (2014). [Correlations between HBCD and thyroid hormone concentrations in human serum from production source area]. *Huanjing Kexue.* 35: 3970-3976.
- Li, WL; Huo, CY; Liu, LY; Song, WW; Zhang, ZF; Ma, WL; Qiao, LN; Li, YF. (2016). Multi-year air monitoring of legacy and current-use brominated flame retardants in an urban center in northeastern China. *Sci Total Environ.* 571: 633-642. <http://dx.doi.org/10.1016/j.scitotenv.2016.07.031>.
- Li, X; Gao, Y; Wang, Y; Pan, Y. (2014). Emerging persistent organic pollutants in Chinese Bohai Sea and its coastal regions [Review]. *ScientificWorldJournal.* 2014: 608231. <http://dx.doi.org/10.1155/2014/608231>.
- Li, XW; Zeng, H; Ni, HG. (2015). [Indoor Exposure to Particle-Bound BFRs via Inhalation]. *Huanjing Kexue.* 36: 1989-1997.
- Li, Y; Duan, YP; Huang, F; Yang, J; Xiang, N; Meng, XZ; Chen, L. (2014). Polybrominated diphenyl ethers in e-waste: level and transfer in a typical e-waste recycling site in Shanghai, Eastern China. *Waste Manag.* 34: 1059-1065. <http://dx.doi.org/10.1016/j.wasman.2013.09.006>.
- Li, Y; Zhou, Q; Wang, Y; Xie, X. (2011). Fate of tetrabromobisphenol A and hexabromocyclododecane brominated flame retardants in soil and uptake by plants. *Chemosphere.* 82: 204-209. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.021>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Li, ZH; Zlabek, V; Turek, J; Velisek, J; Pulkrabova, J; Kolarova, J; Sudova, E; Berankova, P; Hradkova, P; Hajslova, J; Randak, T. (2011). Evaluating environmental impact of STPs situated on streams in the Czech Republic: an integrated approach to biomonitoring the aquatic environment. *Water Res.* 45: 1403-1413. <http://dx.doi.org/10.1016/j.watres.2010.10.032>.
- Liang, D; Wang, C; Sun, J; Li, SP. (2016). Photolytic degradation of tris-(2,3-dibromopropyl) isocyanurate (TBC) in aqueous systems. *Environ Technol.* 37: 2292-2297. <http://dx.doi.org/10.1080/09593330.2016.1148782>.
- Lignell, S; Aune, M; Darnerud, PO; Cnattingius, S; Glynn, A. (2009). Persistent organochlorine and organobromine compounds in mother's milk from Sweden 1996-2006: Compound-specific temporal trends. *Environ Res.* 109: 760-767. <http://dx.doi.org/10.1016/j.envres.2009.04.011>.
- Lilienthal; G., HH. (2010). Effect profiles of different brominated flame retardants in neurobehavioral and endocrine studies. In PB Merlani (Ed.), *Chemical Engineering Methods and Technology* (pp. 157-162). New York, NY: Nova Science Publishers. https://www.novapublishers.com/catalog/product_info.php?products_id=9937.
- Lilienthal, H; van Der Ven, L, eo; Hack, A; Roth-Harer, A; Piersma, A; Vos, J. (2009). Neurobehavioral Effects in Relation to Endocrine Alterations Caused by Exposure to Brominated Flame Retardants in Rats-Comparison to Polychlorinated Biphenyls. *Hum Ecol Risk Assess.* 15: 76-86. <http://dx.doi.org/10.1080/10807030802615253>.
- Lilienthal, H; van der Ven, L; Piersma, A; Vos, J. (2007). Auditory and neurobehavioral effects of exposure to brominated flame retardants in rats—Evaluation of benchmark doses [Abstract]. *Reprod Toxicol.* 24: 61. <http://dx.doi.org/10.1016/j.reprotox.2007.04.019>.
- Lin, L; Zhou, X; Xing, Z; Wu, Y. (2016). Synthesis of 2, 3-dibromo-succinic anhydride and application on cotton, polyester and polyester/cotton blended fabric. *Text Res J.* 86: 1585-1596. <http://dx.doi.org/10.1177/0040517515592807>.
- Lindberg, P; Sellström, U; Häggberg, L; de Wit, CA. (2004). Higher brominated diphenyl ethers and hexabromocyclododecane found in eggs of peregrine falcons (*Falco peregrinus*) breeding in Sweden. *Environ Sci Technol.* 38: 93-96. <http://dx.doi.org/10.1021/es034614q>.
- Liu, MJ; Li, SC; Wu, ZJ; Wang, Z; Li, JL. (2013). Modification of Liquid Oxygen Compatibility of Bisphenol F Epoxy Resin. *International Polymer Processing.* 28: 506-515. <http://dx.doi.org/10.3139/217.2764>.
- Lo, KW; Saha-Roy, SC; Jans, U. (2012). Investigation of the reaction of hexabromocyclododecane with polysulfide and bisulfide in methanol/water solutions. *Chemosphere.* 87: 158-162. <http://dx.doi.org/10.1016/j.chemosphere.2011.12.008>.
- López, P; Brandsma, SA; Leonards, PE; De Boer, J. (2009). Methods for the determination of phenolic brominated flame retardants, and by-products, formulation intermediates and decomposition products of brominated flame retardants in water. *J Chromatogr A.* 1216: 334-345. <http://dx.doi.org/10.1016/j.chroma.2008.08.043>.
- Losada, S; Roach, A; Roosens, L; Santos, FJ; Galceran, MT; Vetter, W; Neels, H; Covaci, A. (2009). Biomagnification of anthropogenic and naturally-produced organobrominated compounds in a marine food web from Sydney Harbour, Australia. *Environ Int.* 35: 1142-1149. <http://dx.doi.org/10.1016/j.envint.2009.07.008>.
- Lower, N; Moore, A. (2007). The impact of a brominated flame retardant on smoltification and olfactory function in Atlantic salmon (*Salmo salar* L.) smolts. *Mar Behav Physiol.* 40: 267-284. <http://dx.doi.org/10.1080/10236240701592104>.
- Luigi, V; Giuseppe, M; Claudio, R. (2015). Emerging and priority contaminants with endocrine active potentials in sediments and fish from the River Po (Italy). *Environ Sci Pollut Res Int.* 22: 14050-14066. <http://dx.doi.org/10.1007/s11356-015-4388-8>.
- Lundstedt-Enkel, K; Asplund, L; Nylund, K; Bignert, A; Tysklind, M; Olsson, M; Orberg, J. (2006). Multivariate data analysis of organochlorines and brominated flame retardants in Baltic Sea guillemot (*Uria aalge*) egg and muscle. *Chemosphere.* 65: 1591-1599. <http://dx.doi.org/10.1016/j.chemosphere.2006.03.051>.
- Lundstedt-Enkel, K; Johansson, AK; Tysklind, M; Asplund, L; Nylund, K; Olsson, M; Orberg, J. (2005). Multivariate data analyses of chlorinated and brominated contaminants and biological characteristics in adult guillemot (*Uria aalge*) from the Baltic Sea. *Environ Sci Technol.* 39: 8630-8637. <http://dx.doi.org/10.1021/es051118o>.
- Luo, XJ; Ruan, W; Zeng, YH; Liu, HY; Chen, SJ; Wu, JP; Mai, BX. (2013). Trophic dynamics of hexabromocyclododecane diastereomers and enantiomers in fish in a laboratory feeding study. *Environ Toxicol Chem.* 32: 2565-2570. <http://dx.doi.org/10.1002/etc.2337>.
- Luo, Y; Luo, XJ; Lin, Z; Chen, SJ; Liu, J; Mai, BX; Yang, ZY. (2009). Polybrominated diphenyl ethers in road and farmland soils from an e-waste recycling region in Southern China: Concentrations, source profiles, and potential dispersion and deposition. *Sci Total Environ.* 407: 1105-1113. <http://dx.doi.org/10.1016/j.scitotenv.2008.10.044>.
- Luster, MI; Johnson, VJ; Yucesoy, B; Simeonova, PP. (2005). Biomarkers to assess potential developmental immunotoxicity in children. *Toxicol Appl Pharmacol.* 206: 229-236. <http://dx.doi.org/10.1016/j.taap.2005.02.010>.
- Lyons, BP; Barber, JL; Rumney, HS; Bolam, TP; Bersuder, P; Law, RJ; Mason, C; Smith, AJ; Morris, S; Devlin, MJ; Al-Enezi, M; Massoud, MS; Al-Zaidan, AS; Al-Sarawi, HA. (2015). Baseline survey of marine sediments collected from the State of Kuwait: PAHs, PCBs, brominated flame retardants and metal contamination. *Mar Pollut Bull.* 100: 629-636. <http://dx.doi.org/10.1016/j.marpolbul.2015.08.014>.
- Ma, X; Zhang, H; Yao, Z; Zhao, X; Wang, L; Wang, Z; Chen, J; Chen, J. (2013). Bioaccumulation and trophic transfer of polybrominated diphenyl ethers (PBDEs) in a marine food web from Liaodong Bay, North China. *Mar Pollut Bull.* 74: 110-115. <http://dx.doi.org/10.1016/j.marpolbul.2013.07.020>.
- MacGregor, JA; Nixon, WB. (1997). Hexabromocyclododecane (HBCD): Determination of n-octanol/water partition coefficient with cover letter dated 06/27/1997. (TSCATS/453552. OTS0573665. 86970000802). Washington, DC: Wildlife International Limited. U.S. Environmental Protection Agency.
- MacGregor, JA; Nixon, WB. (2004). Determination of water solubility of hexabromocyclododecane (HBCD) using a generator column method. Easton, MD: Wildlife International Ltd.
- Mackenzie, PI; Gregory, PA; Gardner-Stephen, DA; Lewinsky, RH; Jorgensen, BR; Nishiyama, T; Xie, W; Radomska-Pandya, A. (2003). Regulation of UDP glucuronosyltransferase genes [Review]. *Curr Drug Metab.* 4: 249-257. <http://dx.doi.org/10.2174/1389200033489442#sthash.z8bvGH58.dpuf>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Maes, M; Mommen, K; Hendrickx, D; Peeters, D; D'hondt, P; Ranjan, R; De Meyer, F; Scharpe, S. (1997). Components of biological variation, including seasonality, in blood concentrations of TSH, TT3, FT4, PRL, cortisol and testosterone in healthy volunteers. *Clin Endocrinol.* 46: 587-598. <http://dx.doi.org/10.1046/j.1365-2265.1997.1881002.x>.
- Malarvannan, G; Belpaire, C; Geeraerts, C; Eulaers, I; Neels, H; Covaci, A. (2014). Assessment of persistent brominated and chlorinated organic contaminants in the European eel (*Anguilla anguilla*) in Flanders, Belgium: Levels, profiles and health risk. *Sci Total Environ.* 482-483: 222-233. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.127>.
- Malarvannan, G; Belpaire, C; Geeraerts, C; Eulaers, I; Neels, H; Covaci, A. (2015). Organophosphorus flame retardants in the European eel in Flanders, Belgium: Occurrence, fate and human health risk. *Environ Res.* 140: 604-610. <http://dx.doi.org/10.1016/j.envres.2015.05.021>.
- Malarvannan, G; Dirinck, E; Dirtu, AC; Pereira-Fernandes, A; Neels, H; Jorens, PG; Gaal, LV; Blust, R; Covaci, A. (2013). Distribution of persistent organic pollutants in two different fat compartments from obese individuals. *Environ Int.* 55: 33-42. <http://dx.doi.org/10.1016/j.envint.2013.02.012>.
- Malarvannan, G; Isobe, T; Covaci, A; Prudente, M; Tanabe, S. (2013). Accumulation of brominated flame retardants and polychlorinated biphenyls in human breast milk and scalp hair from the Philippines: levels, distribution and profiles. *Sci Total Environ.* 442: 366-379. <http://dx.doi.org/10.1016/j.scitotenv.2012.10.005>.
- Managaki, S; Enomoto, I; Masunaga, S. (2012). Sources and distribution of hexabromocyclododecanes (HBCDs) in Japanese river sediment. *J Environ Monit.* 14: 901-907. <http://dx.doi.org/10.1039/c2em10621c>.
- Mankidy, R; Ranjan, B; Honaramooz, A; Ii, Giesy, JP. (2014). Effects of novel brominated flame retardants on steroidogenesis in primary porcine testicular cells. *Toxicol Lett.* 224: 141-146. <http://dx.doi.org/10.1016/j.toxlet.2013.10.018>.
- Mankidy, R; Ranjan, B; Honaramooz, A; Giesy, JP. (2014). Effects of novel brominated flame retardants on steroidogenesis in primary porcine testicular cells. *Toxicol Lett.* 224: 141-146. <http://dx.doi.org/10.1016/j.toxlet.2013.10.018>.
- Manna, RN; Dybala-Defratyka, A. (2014). A computational study of the dechlorination of β -hexachlorocyclohexane (β -HCH) catalyzed by the haloalkane dehalogenase LinB. *Arch Biochem Biophys.* 562: 43-50. <http://dx.doi.org/10.1016/j.abb.2014.07.028>.
- Mariussen, E; Fjeld, E; Breivik, K; Steinnes, E; Borgen, A; Kjellberg, G; Schlabach, M. (2008). Elevated levels of polybrominated diphenyl ethers (PBDEs) in fish from Lake Mjosa, Norway. *Sci Total Environ.* 390: 132-141. <http://dx.doi.org/10.1016/j.scitotenv.2007.09.032>.
- Mariussen, E; Haukås, M; Arp, HP; Goss, KU; Borgen, A; Sandanger, TM. (2010). Relevance of 1,2,5,6,9,10-hexabromocyclododecane diastereomer structure on partitioning properties, column-retention and clean-up procedures. *J Chromatogr A.* 1217: 1441-1446. <http://dx.doi.org/10.1016/j.chroma.2009.12.076>.
- Mariussen, E; Steinnes, E; Breivik, K; Nygård, T; Schlabach, M; Kålås, JA. (2008). Spatial patterns of polybrominated diphenyl ethers (PBDEs) in mosses, herbivores and a carnivore from the Norwegian terrestrial biota. *Sci Total Environ.* 404: 162-170. <http://dx.doi.org/10.1016/j.scitotenv.2008.06.005>.
- Mark, FE; Vehlow, J; Dresch, H; Dima, B; Grüttner, W; Horn, J. (2015). Destruction of the flame retardant hexabromocyclododecane in a full-scale municipal solid waste incinerator. *Waste Manag Res.* 33: 165-174. <http://dx.doi.org/10.1177/0734242X14565226>.
- Maron, DM; Ames, BN. (1983). Revised methods for salmonella mutagenicity test. *Mutat Res Environ Mutagen Relat Subj.* 113: 173-215. [http://dx.doi.org/10.1016/0165-1161\(83\)90010-9](http://dx.doi.org/10.1016/0165-1161(83)90010-9).
- Marsh, G; Athanasiadou, M; Athanassiadis, I; Bergman, A; Endo, T; Haraguchi, K. (2005). Identification, quantification, and synthesis of a novel dimethoxylated polybrominated biphenyl in marine mammals caught off the coast of Japan. *Environ Sci Technol.* 39: 8684-8690. <http://dx.doi.org/10.1021/es051153v>.
- Marsili, A; Zavacki, AM; Harney, JW; Larsen, PR. (2011). Physiological role and regulation of iodothyronine deiodinases: a 2011 update [Review]. *J Endocrinol Invest.* 34: 395-407. <http://dx.doi.org/10.1007/BF03347465>.
- Martinson, SC; Bird, DM; Letcher, RJ; Sullivan, KM; Ritchie, IJ; Fernie, KJ. (2012). Dietary exposure to technical hexabromocyclododecane (HBCD) alters courtship, incubation and parental behaviors in American kestrels (*Falco sparverius*). *Chemosphere.* 89: 1077-1083. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.073>.
- Martinson, SC; Bird, DM; Shutt, JL; Letcher, RJ; Ritchie, IJ; Fernie, KJ. (2010). Multi-generational effects of polybrominated diphenylethers exposure: embryonic exposure of male American kestrels (*Falco sparverius*) to DE-71 alters reproductive success and behaviors. *Environ Toxicol Chem.* 29: 1740-1747. <http://dx.doi.org/10.1002/etc.200>.
- Martinson, SC; Eulaers, I; Jaspers, VL; Covaci, A; Eens, M; Letcher, RJ; Fernie, KJ. (2017). Transfer of hexabromocyclododecane flame retardant isomers from captive American kestrel eggs to feathers and their association with thyroid hormones and growth. *Environ Pollut.* 220: 441-451. <http://dx.doi.org/10.1016/j.envpol.2016.09.086>.
- Martinson, SC; Kimmins, S; Letcher, RJ; Palace, VP; Bird, DM; Ritchie, IJ; Fernie, KJ. (2011). Diet exposure to technical hexabromocyclododecane (HBCD) affects testes and circulating testosterone and thyroxine levels in American kestrels (*Falco sparverius*). *Environ Res.* 111: 1116-1123. <http://dx.doi.org/10.1016/j.envres.2011.08.006>.
- Martín, J; Camacho-Muñoz, D; Santos, JL; Aparicio, I; Alonso, E. (2014). Determination of emerging and priority industrial pollutants in surface water and wastewater by liquid chromatography-negative electrospray ionization tandem mass spectrometry. *Anal Bioanal Chem.* 406: 3709-3716. <http://dx.doi.org/10.1007/s00216-014-7689-8>.
- Martín, J; Santos, JL; Aparicio, I; Alonso, E. (2015). Determination of hormones, a plasticizer, preservatives, perfluoroalkylated compounds, and a flame retardant in water samples by ultrasound-assisted dispersive liquid-liquid microextraction based on the solidification of a floating organic drop. *Talanta.* 143: 335-343. <http://dx.doi.org/10.1016/j.talanta.2015.04.089>.
- Marvin, CH; Macinnis, G; Alae, M; Arsenault, G; Tomy, GT. (2007). Factors influencing enantiomeric fractions of hexabromocyclododecane measured using liquid chromatography/tandem mass spectrometry. *Rapid Commun Mass Spectrom.* 21: 1925-1930. <http://dx.doi.org/10.1002/rcm.3040>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Marvin, CH; Tomy, GT; Alaei, M; Macinnis, G. (2006). Distribution of hexabromocyclododecane in Detroit River suspended sediments. *Chemosphere*. 64: 268-275. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.011>.
- Marvin, CH; Tomy, GT; Armitage, JM; Arnot, JA; Mccarty, L; Covaci, A; Palace, V. (2011). Hexabromocyclododecane: current understanding of chemistry, environmental fate and toxicology and implications for global management. *Environ Sci Technol*. 45: 8613-8623. <http://dx.doi.org/10.1021/es201548c>.
- Mascolo, G; Locaputo, V; Mininni, G. (2010). New perspective on the determination of flame retardants in sewage sludge by using ultrahigh pressure liquid chromatography-tandem mass spectrometry with different ion sources. *J Chromatogr A*. 1217: 4601-4611. <http://dx.doi.org/10.1016/j.chroma.2010.05.003>.
- Maurice, N; Olry, JC; Cariou, R; Dervilly-Pinel, G; Le Bizec, B; Travel, A; Jondreville, C; Schroeder, H. (2015). Short-term effects of a perinatal exposure to the HBCDD alpha-isomer in rats: Assessment of early motor and sensory development, spontaneous locomotor activity and anxiety in pups. *Neurotoxicol Teratol*. 52: 170-180. <http://dx.doi.org/10.1016/j.ntt.2015.08.005>.
- Maurice, N; Olry, JC; Cariou, R; Marchand, P; Dervilly-Pinel, G; Le Bizec, B; Travel, A; Jondreville, C; Schroeder, H. (2015). Assessment of the short-term neurobehavioral toxicity of a perinatal exposure to the hexabromocyclododecane (HBCDD) alpha-isomer in rats. *Neurotoxicol Teratol*. 49: 123-123. <http://dx.doi.org/10.1016/j.ntt.2015.04.078>.
- MCC. (1990). INTERNAL MEMO FROM MICHIGAN CHEMICAL CORPORATION REGARDING HBCD BIODEGRADATION STUDY WITH TEST DATA AND COVER SHEET. (TSCATS/407265). MICHIGAN CHEMICAL CORPORATION,.
- McDonnell, ME. (1972). Human patch test - 20 subjects. (Haskell Laboratory Report 185-72). Haskell Laboratory for Toxicology and Industrial Medicine, E.I. du Pont de Nemours and Company.
- Mchugh, B; Poole, R; Corcoran, J; Anninou, P; Boyle, B; Joyce, E; Barry Foley, M; MCGovern, E. (2010). The occurrence of persistent chlorinated and brominated organic contaminants in the European eel (*Anguilla anguilla*) in Irish waters. *Chemosphere*. 79: 305-313. <http://dx.doi.org/10.1016/j.chemosphere.2010.01.029>.
- Mckinney, MA; Cesh, LS; Elliott, JE; Williams, TD; Garcelon, DK; Letcher, RJ. (2006). Brominated flame retardants and halogenated phenolic compounds in North American west coast bald eagle (*Haliaeetus leucocephalus*) plasma. *Environ Sci Technol*. 40: 6275-6281. <http://dx.doi.org/10.1021/es061061l>.
- Mckinney, MA; Letcher, RJ; Aars, J; Born, EW; Branigan, M; Dietz, R; Evans, TJ; Gabrielsen, GW; Peacock, E; Sonne, C. (2011). Flame retardants and legacy contaminants in polar bears from Alaska, Canada, East Greenland and Svalbard, 2005-2008. *Environ Int*. 37: 365-374. <http://dx.doi.org/10.1016/j.envint.2010.10.008>.
- Mckinney, MA; Stirling, I; Lunn, NJ; Peacock, E; Letcher, RJ. (2010). The role of diet on long-term concentration and pattern trends of brominated and chlorinated contaminants in western Hudson Bay polar bears, 1991-2007. *Sci Total Environ*. 408: 6210-6222. <http://dx.doi.org/10.1016/j.scitotenv.2010.08.033>.
- Meeker, JD; Singh, NP; Hauser, R. (2008). Serum concentrations of estradiol and free T4 are inversely correlated with sperm DNA damage in men from an infertility clinic. *J Androl*. 29: 379-388. <http://dx.doi.org/10.2164/jandrol.107.004416>.
- Mehta, RD. (1976). PYROVATEX CP FLAME-RETARDANT ON CHEMICALLY MODIFIED COTTON. 65: 39-&.
- Meijer, L; Weiss, J; Van Velzen, M; Brouwer, A; Bergman, A; Sauer, PJ. (2008). Serum concentrations of neutral and phenolic organohalogens in pregnant women and some of their infants in The Netherlands. *Environ Sci Technol*. 42: 3428-3433. <http://dx.doi.org/10.1021/es702446p>.
- Melymuk, L; Goosey, E; Riddell, N; Diamond, ML. (2015). Interlaboratory study of novel halogenated flame retardants: INTERFLAB. *Anal Bioanal Chem*. 407: 6759-6769. <http://dx.doi.org/10.1007/s00216-015-8843-7>.
- Meng, XZ; Duan, YP; Yang, C; Pan, ZY; Wen, ZH; Chen, L. (2011). Occurrence, sources, and inventory of hexabromocyclododecanes (HBCDs) in soils from Chongming Island, the Yangtze River Delta (YRD). *Chemosphere*. 82: 725-731. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.091>.
- Meng, XZ; Xiang, N; Duan, YP; Chen, L; Zeng, EY. (2012). Hexabromocyclododecane in consumer fish from South China: implications for human exposure via dietary intake. *Environ Toxicol Chem*. 31: 1424-1430. <http://dx.doi.org/10.1002/etc.1826>.
- Mercier, F; Gilles, E; Saramito, G; Glorennec, P; Le Bot, B. (2014). A multi-residue method for the simultaneous analysis in indoor dust of several classes of semi-volatile organic compounds by pressurized liquid extraction and gas chromatography/tandem mass spectrometry. *J Chromatogr A*. 1336: 101-111. <http://dx.doi.org/10.1016/j.chroma.2014.02.004>.
- Meyer, T; Muir, DC; Teixeira, C; Wang, X; Young, T; Wania, F. (2012). Deposition of brominated flame retardants to the Devon Ice Cap, Nunavut, Canada. *Environ Sci Technol*. 46: 826-833. <http://dx.doi.org/10.1021/es202900u>.
- Miège, C; Peretti, A; Labadie, P; Budzinski, H; Le Bizec, B; Vorkamp, K; Tronczyński, J; Persat, H; Coquery, M; Babut, M. (2012). Occurrence of priority and emerging organic compounds in fishes from the Rhone River (France). *Anal Bioanal Chem*. 404: 2721-2735. <http://dx.doi.org/10.1007/s00216-012-6187-0>.
- Miller, A; Elliott, JE; Elliott, KH; Guigueno, MF; Wilson, LK; Lee, S; Idrissi, A. (2014). Brominated flame retardant trends in aquatic birds from the Salish Sea region of the west coast of North America, including a mini-review of recent trends in marine and estuarine birds. *Sci Total Environ*. 502C: 60-69. <http://dx.doi.org/10.1016/j.scitotenv.2014.09.006>.
- Miller, A; Elliott, JE; Elliott, KH; Guigueno, MF; Wilson, LK; Lee, S; Idrissi, A. (2014). Spatial and temporal trends in brominated flame retardants in seabirds from the Pacific coast of Canada. *Environ Pollut*. 195C: 48-55. <http://dx.doi.org/10.1016/j.envpol.2014.08.009>.
- Miller, LJ; Puma, BJ. (1979). Analytical characteristics of late-eluting halogenated flame retardants (pp. 1319-1326). (HEEP/80/08576). Miller, LJ; Puma, BJ.
- Miller, MD; Crofton, KM; Rice, DC; Zoeller, RT. (2009). Thyroid-disrupting chemicals: interpreting upstream biomarkers of adverse outcomes [Review]. *Environ Health Perspect*. 117: 1033-1041. <http://dx.doi.org/10.1289/ehp.0800247>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Minh, NH; Isobe, T; Ueno, D; Matsumoto, K; Mine, M; Kajiwara, N; Takahashi, S; Tanabe, S. (2007). Spatial distribution and vertical profile of polybrominated diphenyl ethers and hexabromocyclododecanes in sediment core from Tokyo Bay, Japan. *Environ Pollut.* 148: 409-417. <http://dx.doi.org/10.1016/j.envpol.2006.12.011>.
- Mohsin, M; Ahmad, SW; Khatri, A; Zahid, B. (2013). Performance enhancement of fire retardant finish with environment friendly bio cross-linker for cotton. *J Clean Prod.* 51: 191-195. <http://dx.doi.org/10.1016/j.jclepro.2013.01.031>.
- Momma, J; Kaniwa, M; Sekiguchi, H; Ohno, K; Kawasaki, Y; Tsuda, M; Nakamura, A; Kurokawa, Y. (1993). [Dermatological evaluation of a flame retardant, hexabromocyclododecane (HBCD) on guinea pig by using the primary irritation, sensitization, phototoxicity and photosensitization of skin]. *Eisei Shikenjo Hokoku*18-24.
- Montie, EW; Letcher, RJ; Reddy, CM; Moore, MJ; Rubinstein, B; Hahn, ME. (2010). Brominated flame retardants and organochlorine contaminants in winter flounder, harp and hooded seals, and North Atlantic right whales from the Northwest Atlantic Ocean. *Mar Pollut Bull.* 60: 1160-1169. <http://dx.doi.org/10.1016/j.marpolbul.2010.04.002>.
- Morf, L, eoS; Buser, AM; Taverna, R; Bader, HP; Scheidegger, R. (2008). Dynamic substance flow analysis as a valuable risk evaluation tool - A case study for brominated flame retardants as an example of potential endocrine disrupters. *Chimia.* 62: 424-431. <http://dx.doi.org/10.2533/chimia.2008.424>.
- Morreale de Escobar, G; Obregon, MJ; Escobar del Ray, F. (2000). Is neuropsychological development related to maternal hypothyroidism or to maternal hypothyroxinemia? [Review]. *J Clin Endocrinol Metab.* 85: 3975-3987. <http://dx.doi.org/10.1210/jc.85.11.3975>.
- Morris, CE; Segal, L. (1990). DEGRADATION OF PYROVATEX - TREATED FABRICS DURING STORAGE - COMMENT. *Text Res J.* 60: 431-431.
- Morris, S; Allchin, CR; Zegers, BN; Haftka, JJ; Boon, JP; Belpaire, C; Leonards, PE; Van Leeuwen, SP; De Boer, J. (2004). Distribution and fate of HBCD and TBBPA brominated flame retardants in North Sea estuaries and aquatic food webs. *Environ Sci Technol.* 38: 5497-5504. <http://dx.doi.org/10.1021/es049640i>.
- Morse, DC; Groen, D; Veerman, M; van Amerongen, CJ; Koëter, HB; Smits van Prooije, AE; Visser, TJ; Koeman, JH; Brouwer, A. (1993). Interference of polychlorinated biphenyls in hepatic and brain thyroid hormone metabolism in fetal and neonatal rats. *Toxicol Appl Pharmacol.* 122: 27-33. <http://dx.doi.org/10.1006/taap.1993.1168>.
- Muir, DC; Backus, S; Derocher, AE; Dietz, R; Evans, TJ; Gabrielsen, GW; Nagy, J; Norstrom, RJ; Sonne, C; Stirling, I; Taylor, MK; Letcher, RJ. (2006). Brominated flame retardants in polar bears (*Ursus maritimus*) from Alaska, the Canadian Arctic, East Greenland, and Svalbard. *Environ Sci Technol.* 40: 449-455. <http://dx.doi.org/10.1021/es051707u>.
- Müller, MH; Polder, A; Brynildsrud, OB; Lie, E; Løken, KB; Manyilizu, WB; Mdegela, RH; Mokiti, F; Murtadha, M; Nonga, HE; Skaare, JU; Lyche, JL. (2016). Brominated flame retardants (BFRs) in breast milk and associated health risks to nursing infants in Northern Tanzania. *Environ Int.* 89-90: 38-47. <http://dx.doi.org/10.1016/j.envint.2015.12.032>.
- Munsch, C; Marchand, P; Venisseau, A; Veyrand, B; Zendong, Z. (2013). Levels and trends of the emerging contaminants HBCDs (hexabromocyclododecanes) and PFCs (perfluorinated compounds) in marine shellfish along French coasts. *Chemosphere.* 91: 233-240. <http://dx.doi.org/10.1016/j.chemosphere.2012.12.063>.
- Munsch, C; Olivier, N; Veyrand, B; Marchand, P. (2015). Occurrence of legacy and emerging halogenated organic contaminants in marine shellfish along French coasts. *Chemosphere.* 118: 329-335. <http://dx.doi.org/10.1016/j.chemosphere.2014.09.106>.
- Murai, T; Kawasaki, H; Kanoh, S. (1985). [Studies on the toxicity of insecticides and food additives in pregnant rats. 7. Fetal toxicity of hexabromocyclododecane]. *Oyo Yakuri.* 29: 981-986.
- Murvoll, KM; Skaare, JU; Anderssen, E; Jenssen, BM. (2006). Exposure and effects of persistent organic pollutants in European shag (*Phalacrocorax aristotelis*) hatchlings from the coast of Norway. *Environ Toxicol Chem.* 25: 190-198.
- Murvoll, KM; Skaare, JU; Jensen, H; Jenssen, BM. (2007). Associations between persistent organic pollutants and vitamin status in Brünnich's guillemot and common eider hatchlings. *Sci Total Environ.* 381: 134-145. <http://dx.doi.org/10.1016/j.scitotenv.2007.03.037>.
- Murvoll, KM; Skaare, JU; Moe, B; Anderssen, E; Jenssen, BM. (2006). Spatial trends and associated biological responses of organochlorines and brominated flame retardants in hatchlings of north Atlantic kittiwakes (*Rissa tridactyla*). *Environ Toxicol Chem.* 25: 1648-1656.
- Nakagawa, R; Murata, S; Ashizuka, Y; Shintani, Y; Hori, T; Tsutsumi, T. (2010). Hexabromocyclododecane determination in seafood samples collected from Japanese coastal areas. *Chemosphere.* 81: 445-452. <http://dx.doi.org/10.1016/j.chemosphere.2010.08.015>.
- Nakamura, A; Momma, J; Sekiguchi, H; Noda, T; Yamano, T; Kaniwa, M; Kojima, S; Tsuda, M; Kurokawa, Y. (1994). A new protocol and criteria for quantitative determination of sensitization potencies of chemicals by guinea pig maximization test. *Contact Derm.* 31: 72-85. <http://dx.doi.org/10.1111/j.1600-0536.1994.tb01921.x>.
- Nakao, T; Akiyama, E, ma; Kakutani, H; Mizuno, A; Aozasa, O; Akai, Y; Ohta, S. (2015). Levels of Tetrabromobisphenol A, Tribromobisphenol A, Dibromobisphenol A, Monobromobisphenol A, and Bisphenol A in Japanese Breast Milk. *Chem Res Toxicol.* 28: 722-728. <http://dx.doi.org/10.1021/tx500495j>.
- Nayak, NC; Sathar, SA; Mughal, S; Duttagupta, S; Mathur, M; Chopra, P. (1996). The nature and significance of liver cell vacuolation following hepatocellular injury--an analysis based on observations on rats rendered tolerant to hepatotoxic damage. *Virchows Arch.* 428: 353-365. <http://dx.doi.org/10.1007/BF00202202>.
- Neher, E; Sakaba, T. (2008). Multiple roles of calcium ions in the regulation of neurotransmitter release. *Neuron.* 59: 861-872. <http://dx.doi.org/10.1016/j.neuron.2008.08.019>.
- Newsome, SD; Park, J; Henry, BW; Holden, A; Fogel, ML; Linthicum, J; Chu, V; Hooper, K, im. (2010). Polybrominated Diphenyl Ether (PBDE) Levels in Peregrine Falcon (*Falco peregrinus*) Eggs from California Correlate with Diet and Human Population Density. *Environ Sci Technol.* 44: 5248-5255. <http://dx.doi.org/10.1021/es100658e>.
- Newton, S; Sellstrom, U; de Wit, CA. (2015). Emerging Flame Retardants, PBDEs, and HBCDDs in Indoor and Outdoor Media in Stockholm, Sweden. *Environ Sci Technol.* 49: 2912-2920. <http://dx.doi.org/10.1021/es505946e>.
- NICNAS. (2005). Current Australian use and regulatory activities on polybrominated flame retardants. Sydney, Australia.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Nicolau, GY; Haus, E; Pflingă, L; Dumitriu, L; Lakatua, D; Popescu, M; Ungureanu, E; Sackett-Lundeen, L; Petrescu, E. (1992). Chronobiology of pituitary-thyroid functions. *Rom J Endocrinol.* 30: 125-148.
- Ning, JG; Qiu, R. (1986). THERMOGRAVIMETRIC ANALYSIS AND PYROLYSIS KINETICS OF COTTON FABRICS FINISHED WITH PYROVATEX CP. *J Fire Sci.* 4: 355-362.
- Nordlöf, U; Helander, B; Bignert, A; Asplund, L. (2010). Levels of brominated flame retardants and methoxylated polybrominated diphenyl ethers in eggs of white-tailed sea eagles breeding in different regions of Sweden. *Sci Total Environ.* 409: 238-246. <http://dx.doi.org/10.1016/j.scitotenv.2010.09.042>.
- NRC. (2009). *Science and decisions: Advancing risk assessment.* Washington, DC: The National Academies Press. <http://dx.doi.org/10.17226/12209>.
- NRC. (2011). National Academies Press
- Review of the Environmental Protection Agency's draft IRIS assessment of formaldehyde. Washington, DC: The National Academies Press. <http://dx.doi.org/10.17226/13142>.
- NTP. (1983). Salmonella mutagenesis test results (pp. 5-6). (EMICBACK/51199). Research Triangle Park, NC.
- Nyholm, JR; Norman, A; Norrgren, L; Haglund, P; Andersson, PL. (2008). Maternal transfer of brominated flame retardants in zebrafish (*Danio rerio*). *Chemosphere.* 73: 203-208. <http://dx.doi.org/10.1016/j.chemosphere.2008.04.033>.
- Nyholm, JR; Norman, A; Norrgren, L; Haglund, P; Andersson, PL. (2009). UPTAKE AND BIOTRANSFORMATION OF STRUCTURALLY DIVERSE BROMINATED FLAME RETARDANTS IN ZEBRAFISH (*DANIO RERIO*) AFTER DIETARY EXPOSURE. *Environ Toxicol Chem.* 28: 1035-1042. <http://dx.doi.org/10.1897/08-302.1>.
- Oberg, M; Westerholm, E; Fattore, E; Stern, N; Hanberg, A; Haglund, P; Wiberg, K; Bergendorff, A; Hakansson, H. (2010). Toxicity of Bromkal 70-5DE, a technical mixture of polybrominated diphenyl ethers, following 28 d of oral exposure in rats and impact of analysed impurities. *Chemosphere.* 80: 137-143. <http://dx.doi.org/10.1016/j.chemosphere.2010.04.006>.
- Oh, JK; Kotani, K; Managaki, S; Masunaga, S. (2014). Levels and distribution of hexabromocyclododecane and its lower brominated derivative in Japanese riverine environment. *Chemosphere.* 109: 157-163. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.074>.
- Okonski, K; Degrendele, C; Melymuk, L; Landlová, L; Kukučka, P; Vojta, S; Kohoutek, J; Cupr, P; Klánová, J. (2014). Particle size distribution of halogenated flame retardants and implications for atmospheric deposition and transport. *Environ Sci Technol.* 48: 14426-14434. <http://dx.doi.org/10.1021/es5044547>.
- Olukunle, OI; Okonkwo, OJ. (2015). Concentration of novel brominated flame retardants and HBCD in leachates and sediments from selected municipal solid waste landfill sites in Gauteng Province, South Africa. *Waste Manag.* 43: 300-306. <http://dx.doi.org/10.1016/j.wasman.2015.07.009>.
- Omicinski, CJ; Vanden Heuvel, JP; Perdeu, GH; Peters, JM. (2011). Xenobiotic metabolism, disposition, and regulation by receptors: from biochemical phenomenon to predictors of major toxicities [Review]. *Toxicol Sci.* 120: S49-S75. <http://dx.doi.org/10.1093/toxsci/kfq338>.
- Onogbosele, CO; Scrimshaw, MD. (2014). Hexabromocyclododecane and Hexachlorocyclohexane: How Lessons Learnt Have Led to Improved Regulation. *Crit Rev Environ Sci Tech.* 44: 1423-1442. <http://dx.doi.org/10.1080/10643389.2013.782172>.
- Oros, DR; Hoover, D; Rodigari, F; Crane, D; Sericano, J. (2005). Levels and distribution of polybrominated diphenyl ethers in water, surface sediments, and bivalves from the San Francisco Estuary. *Environ Sci Technol.* 39: 33-41. <http://dx.doi.org/10.1021/es048905q>.
- Ortiz, X; Guerra, P; Díaz-Ferrero, J; Eljarrat, E; Barceló, D. (2011). Diastereoisomer- and enantiomer-specific determination of hexabromocyclododecane in fish oil for food and feed. *Chemosphere.* 82: 739-744. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.088>.
- Paama, LA; Kokk, KY. (1985). DETERMINATION OF HEXABROMOCYCLODODECANE IN WASTE-WATERS WITH A BROMIDE-SELECTIVE ELECTRODE. *Industrial Laboratory.* 51: 404-406.
- Paama, LA; Kokk, KY; Kheinaste, TA; Soloveva, EV; Vostrikov, VI. (1985). DETERMINATION OF MICROQUANTITIES OF HEXABROMOCYCLODODECANE IN AIR. *Industrial Laboratory.* 51: 105-107.
- Paine, MRL; Rae, I; Blanksby, SJ. (2014). Direct detection of brominated flame retardants from plastic e-waste using liquid extraction surface analysis mass spectrometry. *Rapid Commun Mass Spectrom.* 28: 1203-1208. <http://dx.doi.org/10.1002/rcm.6889>.
- Palace, V; Park, B; Pleskach, K; Gemmill, B; Tomy, G. (2010). Altered thyroxine metabolism in rainbow trout (*Oncorhynchus mykiss*) exposed to hexabromocyclododecane (HBCD). *Chemosphere.* 80: 165-169. <http://dx.doi.org/10.1016/j.chemosphere.2010.03.016>.
- Palace, VP; Pleskach, K; Halldorson, T; Danell, R; Wautier, K; Evans, B; Alae, M; Marvin, C; Tomy, GT. (2008). Biotransformation enzymes and thyroid axis disruption in juvenile rainbow trout (*Oncorhynchus mykiss*) exposed to hexabromocyclododecane diastereoisomers. *Environ Sci Technol.* 42: 1967-1972. <http://dx.doi.org/10.1021/es702565h>.
- Palm Cousins, A; Brorström-Lundén, E; Hedlund, B. (2012). Prioritizing organic chemicals for long-term air monitoring by using empirical monitoring data--application to data from the Swedish screening program. *Environ Monit Assess.* 184: 4647-4654. <http://dx.doi.org/10.1007/s10661-011-2292-3>.
- Papachlimitzou, A; Barber, JL; Losada, S; Bersuder, P; Law, RJ. (2012). A review of the analysis of novel brominated flame retardants [Review]. *J Chromatogr A.* 1219: 15-28. <http://dx.doi.org/10.1016/j.chroma.2011.11.029>.
- Partyka, A; Bonarska-Kujawa, D; Sporniak, M; Strojceki, M; Nizański, W. (2016). Modification of membrane cholesterol and its impact on frozen-thawed chicken sperm characteristics. *Zygote.* 24: 1-10. <http://dx.doi.org/10.1017/S0967199416000022>.
- Patel, J; Landers, K; Li, H; Mortimer, RH; Richard, K. (2011). Thyroid hormones and fetal neurological development. *J Endocrinol.* 209: 1-8. <http://dx.doi.org/10.1530/JOE-10-0444>.
- Paul, KB; Hedge, JM; Devito, MJ; Crofton, KM. (2010). Short-term exposure to triclosan decreases thyroxine in vivo via upregulation of hepatic catabolism in Young Long-Evans rats. *Toxicol Sci.* 113: 367-379. <http://dx.doi.org/10.1093/toxsci/kfp271>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Pawar, G; Abdallah, MA; de Sáa, EV; Harrad, S. (2016). Dermal bioaccessibility of flame retardants from indoor dust and the influence of topically applied cosmetics. *J Expo Sci Environ Epidemiol*. 27: 100-105. <http://dx.doi.org/10.1038/jes.2015.84>.
- Peck, AM; Pugh, RS; Moors, A; Ellisor, MB; Porter, BJ; Becker, PR; Kucklick, JR. (2008). Hexabromocyclododecane in white-sided dolphins: temporal trend and stereoisomer distribution in tissues. *Environ Sci Technol*. 42: 2650-2655. <http://dx.doi.org/10.1021/es072052v>.
- Peled, M; Scharia, R; Sondack, D. (1995). Thermal rearrangement of hexabromo-cyclododecane (HBCD). In JR Desmurs; B Gérard; MJ Godlstein (Eds.), (pp. 92-99). New York, NY: Elsevier. [http://dx.doi.org/10.1016/S0926-9614\(05\)80012-7](http://dx.doi.org/10.1016/S0926-9614(05)80012-7).
- Peng, X; Huang, X; Jing, F; Zhang, Z; Wei, D; Jia, X. (2015). Study of novel pure culture HBCD-1, effectively degrading Hexabromocyclododecane, isolated from an anaerobic reactor. *Bioresour Technol*. 185: 218-224. <http://dx.doi.org/10.1016/j.biortech.2015.02.093>.
- Peptu, C; Harabagiu, V. (2013). TANDEM MASS SPECTROMETRY CHARACTERIZATION OF ESTERIFIED CYCLODEXTRINS. *Digest Journal of Nanomaterials and Biostructures*. 8: 1551-1561.
- Pererira, DN; Procianoy, RS. (2003). Effect of perinatal asphyxia on thyroid-stimulating hormone and thyroid hormone levels. *Acta Paediatr*. 92: 339-345. <http://dx.doi.org/10.1111/j.1651-2227.2003.tb00556.x>.
- Peters, RJB; Beeltje, H; van Delft, RJ. (2008). Xeno-estrogenic compounds in precipitation. *J Environ Monit*. 10: 760-769. <http://dx.doi.org/10.1039/b805983g>.
- Pharmakon Research International. (1990). Acute exposure dermal toxicity test in rabbits (82 EPA/OECD) with attachments and cover letter dated 030890 [TSCA Submission]. (86-900000167). <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522238>.
- Pharmakon Research International. (1990). Primary dermal irritation study in rabbits with attachments and cover letter dated 030890 [TSCA Submission]. (86-900000168). <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522239>.
- Pierce, GJ; Santos, MB; Murphy, S; Learmonth, JA; Zuur, AF; Rogan, E; Bustamante, P; Caurant, F; Lahaye, V; Ridoux, V; Zegers, BN; Mets, A; Addink, M; Smeenk, C; Jauniaux, T; Law, RJ; Dabin, W; López, A; Alonso Farré, JM; González, AF; Guerra, A; García-Hartmann, M; Reid, RJ; Moffat, CF; Lockyer, C; Boon, JP. (2008). Bioaccumulation of persistent organic pollutants in female common dolphins (*Delphinus delphis*) and harbour porpoises (*Phocoena phocoena*) from western European seas: geographical trends, causal factors and effects on reproduction and mortality. *Environ Pollut*. 153: 401-415. <http://dx.doi.org/10.1016/j.envpol.2007.08.019>.
- Plasqui, G; Kester, AD; Westerterp, KR. (2003). Seasonal variation in sleeping metabolic rate, thyroid activity, and leptin. *Am J Physiol Endocrinol Metab*. 285: E338-E343. <http://dx.doi.org/10.1152/ajpendo.00488.2002>.
- Polder, A; Gabrielsen, GW; Odland, JØ; Savinova, TN; Tkachev, A; Løken, KB; Skaare, JU. (2008). Spatial and temporal changes of chlorinated pesticides, PCBs, dioxins (PCDDs/PCDFs) and brominated flame retardants in human breast milk from Northern Russia. *Sci Total Environ*. 391: 41-54. <http://dx.doi.org/10.1016/j.scitotenv.2007.10.045>.
- Polder, A; Muller, MB; Brynildsrud, OB; de Boer, J; Hamers, T; Kamstra, JH; Lie, E; Mdegela, RH; Moberg, H; Nonga, HE; Sandvik, M; Skaare, JU; Lyche, JL. (2016). Dioxins, PCBs, chlorinated pesticides and brominated flame retardants in free-range chicken eggs from peri-urban areas in Arusha, Tanzania: Levels and implications for human health. *Sci Total Environ*. 551: 656-667. <http://dx.doi.org/10.1016/j.scitotenv.2016.02.021>.
- Polder, A; Müller, MB; Lyche, JL; Mdegela, RH; Nonga, HE; Mabiki, FP; Mbise, TJ; Skaare, JU; Sandvik, M; Skjerve, E; Lie, E. (2014). Levels and patterns of persistent organic pollutants (POPs) in tilapia (*Oreochromis* sp.) from four different lakes in Tanzania: Geographical differences and implications for human health. *Sci Total Environ*. 488-489: 252-260. <http://dx.doi.org/10.1016/j.scitotenv.2014.04.085>.
- Polder, A; Thomsen, C; Lindström, G; Løken, KB; Skaare, JU. (2008). Levels and temporal trends of chlorinated pesticides, polychlorinated biphenyls and brominated flame retardants in individual human breast milk samples from Northern and Southern Norway. *Chemosphere*. 73: 14-23. <http://dx.doi.org/10.1016/j.chemosphere.2008.06.002>.
- Polder, A; Venter, B; Skaare, JU; Bouwman, H. (2008). Polybrominated diphenyl ethers and HBCD in bird eggs of South Africa. *Chemosphere*. 73: 148-154. <http://dx.doi.org/10.1016/j.chemosphere.2008.03.021>.
- Poma, G; Binelli, A; Volta, P; Roscioli, C; Guzzella, L. (2014). Evaluation of spatial distribution and accumulation of novel brominated flame retardants, HBCD and PBDEs in an Italian subalpine lake using zebra mussel (*Dreissena polymorpha*). *Environ Sci Pollut Res Int*. 21: 9655-9664. <http://dx.doi.org/10.1007/s11356-014-2826-7>.
- Poma, G; Roscioli, C; Guzzella, L. (2014). PBDE, HBCD, and novel brominated flame retardant contamination in sediments from Lake Maggiore (Northern Italy). *Environ Monit Assess*. 186: 7683-7692. <http://dx.doi.org/10.1007/s10661-014-3959-3>.
- Poma, G; Volta, P; Roscioli, C; Bettinetti, R; Guzzella, L. (2014). Concentrations and trophic interactions of novel brominated flame retardants, HBCD, and PBDEs in zooplankton and fish from Lake Maggiore (Northern Italy). *Sci Total Environ*. 481: 401-408. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.063>.
- Postmes, TJ; Van Hout, JC; Saat, G; Willems, P; Coenegracht, J. (1974). A radioimmunoassay study and comparison of seasonal variation in plasma triiodothyronine and thyroxine concentrations in normal healthy persons. *Clin Chim Acta*. 50: 189-195. [http://dx.doi.org/10.1016/0009-8981\(74\)90366-0](http://dx.doi.org/10.1016/0009-8981(74)90366-0).
- Prudente, MS; Malarvannan, G; Tanabe, S. (2007). Developments in Environmental Science Persistent Toxic Substances in the Philippine Environment. [http://dx.doi.org/10.1016/S1474-8177\(07\)07012-X](http://dx.doi.org/10.1016/S1474-8177(07)07012-X).
- Pucci, E; Chiovato, L; Pinchera, A. (2000). Thyroid and lipid metabolism. *Int J Obes (Lond)*. 24: S109-S112.
- Pulkřabova, J; Hajslova, J; Poustka, J; Kazda, R. (2007). Fish as biomonitors of polybrominated diphenyl ethers and hexabromocyclododecane in Czech aquatic ecosystems: pollution of the Elbe River basin. *Environ Health Perspect*. 115 Suppl 1: 28-34. <http://dx.doi.org/10.1289/ehp.9354>.
- Pulkřabova, J; Hřadkova, P; Hajslova, J; Poustka, J; Napravnikova, M; Polacek, V. (2009). Brominated flame retardants and other organochlorine pollutants in human adipose tissue samples from the Czech Republic. *Environ Int*. 35: 63-68. <http://dx.doi.org/10.1016/j.envint.2008.08.001>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Pursch, M; Buckenmaier, S. (2015). Loop-based multiple heart-cutting two-dimensional liquid chromatography for target analysis in complex matrices. *Anal Chem.* 87: 5310-5317. <http://dx.doi.org/10.1021/acs.analchem.5b00492>.
- Qi, H; Li, WL; Liu, LY; Song, WW; Ma, WL; Li, YF. (2014). Brominated flame retardants in the urban atmosphere of Northeast China: Concentrations, temperature dependence and gas-particle partitioning. *Sci Total Environ.* 491-492: 60-66. <http://dx.doi.org/10.1016/j.scitotenv.2014.03.002>.
- Qi, H; Li, WL; Liu, LY; Zhang, ZF; Zhu, NZ; Song, WW; Ma, WL; Li, YF. (2014). Levels, distribution and human exposure of new non-BDE brominated flame retardants in the indoor dust of China. *Environ Pollut.* 195C: 1-8. <http://dx.doi.org/10.1016/j.envpol.2014.08.008>.
- Qiao, L; Zhang, Y; Chai, F; Tan, Y; Huo, C; Pan, Z. (2016). Chimeric virus-like particles containing a conserved region of the G protein in combination with a single peptide of the M2 protein confer protection against respiratory syncytial virus infection. *Antiviral Res.* 131: 131-140. <http://dx.doi.org/10.1016/j.antiviral.2016.05.001>.
- Ramu, K; Isobe, T; Takahashi, S; Kim, EY; Min, BY; We, SU; Tanabe, S. (2010). Spatial distribution of polybrominated diphenyl ethers and hexabromocyclododecanes in sediments from coastal waters of Korea. *Chemosphere.* 79: 713-719. <http://dx.doi.org/10.1016/j.chemosphere.2010.02.048>.
- Ramu, K; Kajiwara, N; Isobe, T; Takahashi, S; Kim, EY; Min, BY; We, SU; Tanabe, S. (2007). Spatial distribution and accumulation of brominated flame retardants, polychlorinated biphenyls and organochlorine pesticides in blue mussels (*Mytilus edulis*) from coastal waters of Korea. *Environ Pollut.* 148: 562-569. <http://dx.doi.org/10.1016/j.envpol.2006.11.034>.
- Rauert, C; Harrad, S; Stranger, M; Lazarov, B. (2014). Test chamber investigation of the volatilization from source materials of brominated flame retardants and their subsequent deposition to indoor dust. *Indoor Air.* 25: 393-404. <http://dx.doi.org/10.1111/ina.12151>.
- Rauert, C; Harrad, S; Suzuki, G; Takigami, H; Uchida, N; Takata, K. (2014). Test chamber and forensic microscopy investigation of the transfer of brominated flame retardants into indoor dust via abrasion of source materials. *Sci Total Environ.* 493: 639-648. <http://dx.doi.org/10.1016/j.scitotenv.2014.06.029>.
- Rauert, C; Kuribara, I; Kataoka, T; Wada, T; Kajiwara, N; Suzuki, G, o; Takigami, H; Harrad, S. (2016). Direct contact between dust and HBCD-treated fabrics is an important pathway of source-to-dust transfer. *Sci Total Environ.* 545: 77-83. <http://dx.doi.org/10.1016/j.scitotenv.2015.12.054>.
- Ravnum, S; Zimmer, KE; Keune, H; Gutleb, AC; Murk, AJ; Koppe, JG; Magnanti, B; Lyche, JL; Eriksen, GS; Ropstad, E; Skaare, JU; Kobornus, M; Yang, A; Bartonova, A; Kreyer von Krauss, M. (2012). Policy relevant results from an expert elicitation on the human health risks of decabromodiphenyl ether (decaBDE) and hexabromocyclododecane (HBCD). *Environ Health.* 11 Suppl 1: S7. <http://dx.doi.org/10.1186/1476-069X-11-S1-S7>.
- Rawn, DF; Corrigan, C; Ménard, C; Breton, F; Sun, WF. (2016). A method for the analysis of multiple novel halogenated flame retardants in cow's milk. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 33: 1207-1218. <http://dx.doi.org/10.1080/19440049.2016.1198049>.
- Rawn, DF; Gaertner, DW; Weber, D; Curran, IH; Cooke, GM; Goodyer, CG. (2014). Hexabromocyclododecane concentrations in Canadian human fetal liver and placental tissues. *Sci Total Environ.* 468-469: 622-629. <http://dx.doi.org/10.1016/j.scitotenv.2013.08.014>.
- Rawn, DF; Ryan, JJ; Sadler, AR; Sun, WF; Weber, D; Laffey, P; Haines, D; Macey, K; Van Oostdam, J. (2014). Brominated flame retardant concentrations in sera from the Canadian Health Measures Survey (CHMS) from 2007 to 2009. *Environ Int.* 63: 26-34. <http://dx.doi.org/10.1016/j.envint.2013.10.012>.
- Rawn, DF; Sadler, A; Quade, SC; Sun, WF; Lau, BP; Kosarac, I; Hayward, S; Ryan, JJ. (2011). Brominated flame retardants in Canadian chicken egg yolks. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 28: 807-815. <http://dx.doi.org/10.1080/19440049.2010.545443>.
- Rayne, S; Ikononou, MG. (2002). Reconstructing source polybrominated diphenyl ether congener patterns from semipermeable membrane devices in the Fraser River, British Columbia, Canada: Comparison to commercial mixtures. *Environ Toxicol Chem.* 21: 2292-2300. [http://dx.doi.org/10.1897/1551-5028\(2002\)021<2292:RSPDEC>2.0.CO;2](http://dx.doi.org/10.1897/1551-5028(2002)021<2292:RSPDEC>2.0.CO;2).
- Reindl, AR; Falkowska, L. (2014). Flame retardants at the top of a simulated baltic marine food web-A case study concerning african penguins from the Gdansk zoo. *Arch Environ Contam Toxicol.* 68: 259-264. <http://dx.doi.org/10.1007/s00244-014-0081-z>.
- Reiner, JL; Becker, PR; Gribble, MO; Lynch, JM; Moors, AJ; Ness, J; Peterson, D; Pugh, RS; Ragland, T; Rimmer, C; Rhoderick, J; Schantz, MM; Trevillian, J; Kucklick, JR. (2015). Organohalogen Contaminants and Vitamins in Northern Fur Seals (*Callorhinus ursinus*) Collected During Subsistence Hunts in Alaska. *Arch Environ Contam Toxicol.* 70: 96-105. <http://dx.doi.org/10.1007/s00244-015-0179-y>.
- Reyes, L; Mañalich, R. (2005). Long-term consequences of low birth weight [Review]. *Kidney Int Suppl.* 68: S107-S111. <http://dx.doi.org/10.1111/j.1523-1755.2005.09718.x>.
- Ribeiro, AR; Nunes, OC; Pereira, MF; Silva, AM. (2015). An overview on the advanced oxidation processes applied for the treatment of water pollutants defined in the recently launched Directive 2013/39/EU [Review]. *Environ Int.* 75: 33-51. <http://dx.doi.org/10.1016/j.envint.2014.10.027>.
- Riddell, N; Arsenaault, G; Klein, J; Lough, A; Marvin, CH; Mcalees, A; Mccrindle, R; Macinnis, G; Sverko, E; Tittlemier, S; Tomy, GT. (2009). Structural characterization and thermal stabilities of the isomers of the brominated flame retardant 1,2,5,6-tetrabromocyclooctane (TBCO). *Chemosphere.* 74: 1538-1543. <http://dx.doi.org/10.1016/j.chemosphere.2008.11.026>.
- Riddell, N; Becker, R; Chittim, B; Emmerling, F; Köppen, R; Lough, A; Mcalees, A; Mccrindle, R. (2011). Preparation and X-ray structural characterization of further stereoisomers of 1,2,5,6,9,10-hexabromocyclododecane. *Chemosphere.* 84: 900-907. <http://dx.doi.org/10.1016/j.chemosphere.2011.06.014>.
- Rivière, G; Sirot, V; Tard, A; Jean, J; Marchand, P; Veyrand, B; Le Bizec, B; Leblanc, JC. (2014). Food risk assessment for perfluoroalkyl acids and brominated flame retardants in the French population: Results from the second French total diet study. *Sci Total Environ.* 491-492: 176-183. <http://dx.doi.org/10.1016/j.scitotenv.2014.01.104>.
- Robson, M; Melymuk, L; Bradley, L; Treen, B; Backus, S. (2013). Wet deposition of brominated flame retardants to the Great Lakes basin - Status and trends. *Environ Pollut.* 182: 299-306. <http://dx.doi.org/10.1016/j.envpol.2013.07.018>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Rodriguez, MJ; Adroer, R; de Yebra, L, luísa; Ramonet, D; Mahy, N. (2001). Calcium homeostasis in the central nervous system: Adaptation to neurodegeneration. *Contributions to Science*. 2: 43-61.
- Román, GC; Ghassabian, A; Bongers-Schokking, JJ; Jaddoe, VW; Hofman, A; de Rijke, YB; Verhulst, FC; Tiemeier, H. (2013). Association of gestational maternal hypothyroxinemia and increased autism risk. *Ann Neurol*. 74: 733-742. <http://dx.doi.org/10.1002/ana.23976>.
- Ronisz, D; Finne, EF; Karlsson, H; Förlin, L. (2004). Effects of the brominated flame retardants hexabromocyclododecane (HBCDD), and tetrabromobisphenol A (TBBPA), on hepatic enzymes and other biomarkers in juvenile rainbow trout and feral eelpout. *Aquat Toxicol*. 69: 229-245. <http://dx.doi.org/10.1016/j.aquatox.2004.05.007>.
- Roosens, L; Abdallah, MA; Harrad, S; Neels, H; Covaci, A. (2009). Exposure to hexabromocyclododecanes (HBCDs) via dust ingestion, but not diet, correlates with concentrations in human serum: preliminary results. *Environ Health Perspect*. 117: 1707-1712. <http://dx.doi.org/10.1289/ehp.0900869>.
- Roosens, L; Cornelis, C; D'Hollander, W; Bervoets, L; Reynders, H; Van Campenhout, K; Van Den Heuvel, R; Neels, H; Covaci, A. (2010). Exposure of the Flemish population to brominated flame retardants: model and risk assessment. *Environ Int*. 36: 368-376. <http://dx.doi.org/10.1016/j.envint.2010.02.005>.
- Roosens, L; D'Hollander, W; Bervoets, L; Reynders, H; Van Campenhout, K; Cornelis, C; Van Den Heuvel, R; Koppen, G; Covaci, A. (2010). Brominated flame retardants and perfluorinated chemicals, two groups of persistent contaminants in Belgian human blood and milk. *Environ Pollut*. 158: 2546-2552. <http://dx.doi.org/10.1016/j.envpol.2010.05.022>.
- Roosens, L; Dirtu, AC; Goemans, G; Belpaire, C; Gheorghe, A; Neels, H; Blust, R; Covaci, A. (2008). Brominated flame retardants and polychlorinated biphenyls in fish from the river Scheldt, Belgium. *Environ Int*. 34: 976-983. <http://dx.doi.org/10.1016/j.envint.2008.02.009>.
- Roosens, L; Geeraerts, C; Belpaire, C; Van Pelt, I; Neels, H; Covaci, A. (2010). Spatial variations in the levels and isomeric patterns of PBDEs and HBCDs in the European eel in Flanders. *Environ Int*. 36: 415-423. <http://dx.doi.org/10.1016/j.envint.2010.03.001>.
- Rosenfeld, JM; Vargas, R; Xie, W; Evans, RM. (2003). Genetic profiling defines the xenobiotic gene network controlled by the nuclear receptor pregnane X receptor. *Mol Endocrinol*. 17: 1268-1282. <http://dx.doi.org/10.1210/me.2002-0421>.
- Rosol, TJ; DeLellis, RA; Harvey, PW; Sutcliffe, C. (2013). Endocrine system. In W Haschek; C Rousseaux; M Wallig (Eds.), (3rd ed., pp. 2391-2492). Waltham, MA: Academic Press. <http://dx.doi.org/10.1016/B978-0-12-415759-0.00058-3>.
- Ross, MS; Wong, CS. (2010). Comparison of electrospray ionization, atmospheric pressure photoionization, and anion attachment atmospheric pressure photoionization for the analysis of hexabromocyclododecane enantiomers in environmental samples. *J Chromatogr A*. 1217: 7855-7863. <http://dx.doi.org/10.1016/j.chroma.2010.09.083>.
- Routti, H; Lille-Langøy, R; Berg, MK; Fink, T; Harju, M; Kristiansen, K; Rostkowski, P; Rusten, M; Sylte, I; Øygarden, L; Goksøyr, A. (2016). Environmental Chemicals Modulate Polar Bear (*Ursus maritimus*) Peroxisome Proliferator-Activated Receptor Gamma (PPARG) and Adipogenesis in Vitro. *Environ Sci Technol*. 50: 10708-10720. <http://dx.doi.org/10.1021/acs.est.6b03020>.
- Ruan, T; Wang, Y; Wang, C; Wang, P, u; Fu, J; Yin, Y; Qu, G; Wang, T; Jiang, G. (2009). Identification and Evaluation of a Novel Heterocyclic Brominated Flame Retardant Tris(2,3-dibromopropyl) Isocyanurate in Environmental Matrices near a Manufacturing Plant in Southern China. *Environ Sci Technol*. 43: 3080-3086. <http://dx.doi.org/10.1021/es803397x>.
- Rüdel, H; Müller, J; Quack, M; Klein, R. (2012). Monitoring of hexabromocyclododecane diastereomers in fish from European freshwaters and estuaries. *Environ Sci Pollut Res Int*. 19: 772-783. <http://dx.doi.org/10.1007/s11356-011-0604-3>.
- Ryan, JJ; Rawn, DF. (2014). The brominated flame retardants, PBDEs and HBCD, in Canadian human milk samples collected from 1992 to 2005; concentrations and trends. *Environ Int*. 70: 1-8. <http://dx.doi.org/10.1016/j.envint.2014.04.020>.
- Ryoyama, K; Kidachi, Y; Yamaguchi, H; Kajiura, H; Takata, H. (2004). Anti-tumor activity of an enzymatically synthesized alpha-1,6 branched alpha-1,4-glucan, glycogen. *Biosci Biotechnol Biochem*. 68: 2332-2340.
- Sagerup, K; Helgason, LB; Polder, A; Strøm, H; Josefsen, TD; Skåre, JU; Gabrielsen, GW. (2009). Persistent organic pollutants and mercury in dead and dying glaucous gulls (*Larus hyperboreus*) at Bjørnøya (Svalbard). *Sci Total Environ*. 407: 6009-6016. <http://dx.doi.org/10.1016/j.scitotenv.2009.08.020>.
- Sahlström, L; Sellström, U; de Wit, CA. (2012). Clean-up method for determination of established and emerging brominated flame retardants in dust. *Anal Bioanal Chem*. 404: 459-466. <http://dx.doi.org/10.1007/s00216-012-6160-y>.
- Sahlström, LM; Sellström, U; de Wit, CA; Lignell, S; Darnerud, PO. (2014). Brominated flame retardants in matched serum samples from Swedish first-time mothers and their toddlers. *Environ Sci Technol*. 48: 7584-7592. <http://dx.doi.org/10.1021/es501139d>.
- Sahlström, LM; Sellström, U; de Wit, CA; Lignell, S; Darnerud, PO. (2015). Estimated intakes of brominated flame retardants via diet and dust compared to internal concentrations in a Swedish mother-toddler cohort. *Int J Hyg Environ Health*. 218: 422-432. <http://dx.doi.org/10.1016/j.ijheh.2015.03.011>.
- Sahlstrom, LMO; Sellstrom, U; de Wit, CA; Lignell, S; Darnerud, P. (2015). Feasibility Study of Feces for Noninvasive Biomonitoring of Brominated Flame Retardants in Toddlers. *Environ Sci Technol*. 49: 606-615. <http://dx.doi.org/10.1021/es504708c>.
- Saito, S; Tanoue, A; Matsuo, M. (1992). Applicability of the i/o-characters to a quantitative description of bioconcentration of organic chemicals in fish. *Chemosphere*. 24: 81-88.
- Salamova, A; Hites, RA. (2013). Brominated and chlorinated flame retardants in tree bark from around the globe. *Environ Sci Technol*. 47: 349-354. <http://dx.doi.org/10.1021/es303393z>.
- Sales, C; Portolés, T; Sancho, JV; Abad, E; Ábalos, M; Sauló, J; Fiedler, H; Gómara, B; Beltrán, J. (2016). Potential of gas chromatography-atmospheric pressure chemical ionization-tandem mass spectrometry for screening and quantification of hexabromocyclododecane. *Anal Bioanal Chem*. 408: 449-459. <http://dx.doi.org/10.1007/s00216-015-9146-8>.
- Samsonek, J; Puype, F. (2013). Occurrence of brominated flame retardants in black thermo cups and selected kitchen utensils purchased on the European market. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess*. 30: 1976-1986. <http://dx.doi.org/10.1080/19440049.2013.829246>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Saunders, DM; Podaima, M; Wiseman, S; Giesy, JP. (2015). Effects of the brominated flame retardant TBCO on fecundity and profiles of transcripts of the HPGL-axis in Japanese medaka. *Aquat Toxicol.* 160: 180-187. <http://dx.doi.org/10.1016/j.aquatox.2015.01.018>.
- Schantz, MM; Cleveland, D; Heckert, NA; Kucklick, JR; Leigh, SD; Long, SE; Lynch, JM; Murphy, KE; Olfaz, R; Pintar, AL; Porter, BJ; Rabb, SA; Pol, SSV; Wise, SA; Zeisler, R. (2016). Development of two fine particulate matter standard reference materials (< 4 mu m and < 10 mu m) for the determination of organic and inorganic constituents. *Anal Bioanal Chem.* 408: 4257-4266. <http://dx.doi.org/10.1007/s00216-016-9519-7>.
- Schechter, A; Colacino, J; Haffner, D; Patel, K; Opel, M; Pöpke, O; Birnbaum, L. (2010). Perfluorinated compounds, polychlorinated biphenyls, and organochlorine pesticide contamination in composite food samples from Dallas, Texas, USA. *Environ Health Perspect.* 118: 796-802. <http://dx.doi.org/10.1289/ehp.0901347>.
- Schechter, A; Haffner, D; Colacino, J; Patel, K; Pöpke, O; Opel, M; Birnbaum, L. (2010). Polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) in composite U.S. food samples. *Environ Health Perspect.* 118: 357-362. <http://dx.doi.org/10.1289/ehp.0901345>.
- Schechter, A; Harris, TR; Brummitt, S; Shah, N; Paepke, O. (2008). PBDE and HBCD Brominated Flame Retardants in the USA, Update 2008: Levels in Human Milk and Blood, Food, and Environmental Samples. *Epidemiology.* 19: S76-S76.
- Schechter, A; Szabo, DT; Miller, J; Gent, TL; Malik-Bass, N; Petersen, M; Paepke, O; Colacino, JA; Hynan, LS; Harris, TR; Malla, S; Birnbaum, LS. (2012). Hexabromocyclododecane (HBCD) Stereoisomers in U.S. Food from Dallas, Texas. *Environ Health Perspect.* 120: 1260-1264. <http://dx.doi.org/10.1289/ehp.1204993>.
- Schisterman, EF; Whitcomb, BW; Louis, GM; Louis, TA. (2005). Lipid adjustment in the analysis of environmental contaminants and human health risks. *Environ Health Perspect.* 113: 853-857. <http://dx.doi.org/10.1289/ehp.7640>.
- Schlummer, M; Vogelsang, J; Fiedler, D; Gruber, L; Wolz, G. (2015). Rapid identification of polystyrene foam wastes containing hexabromocyclododecane or its alternative polymeric brominated flame retardant by X-ray fluorescence spectroscopy. *Waste Manag Res.* 33: 662-670. <http://dx.doi.org/10.1177/0734242X15589783>.
- Schreder, ED; La Guardia, MJ. (2014). Flame retardant transfers from u.s. Households (dust and laundry wastewater) to the aquatic environment. *Environ Sci Technol.* 48: 11575-11583. <http://dx.doi.org/10.1021/es502227h>.
- Schriks, M; Roessig, JM; Murk, AJ; Furlow, JD. (2007). Thyroid hormone receptor isoform selectivity of thyroid hormone disrupting compounds quantified with an in vitro reporter gene assay. *Environ Toxicol Pharmacol.* 23: 302-307. <http://dx.doi.org/10.1016/j.etap.2006.11.007>.
- Schriks, M; Vrabie, CM; Gutleb, AC; Faassen, EJ; Rietjens, IM; Murk, AJ. (2006). T-screen to quantify functional potentiating, antagonistic and thyroid hormone-like activities of poly halogenated aromatic hydrocarbons (PHAHs). *Toxicol In Vitro.* 20: 490-498. <http://dx.doi.org/10.1016/j.tiv.2005.09.001>.
- Schriks, M; Zvinavashe, E; Furlow, JD; Murk, AJ. (2006). Disruption of thyroid hormone-mediated *Xenopus laevis* tadpole tail tip regression by hexabromocyclododecane (HBCD) and 2,2',3,3',4,4',5,5',6-nona brominated diphenyl ether (BDE206). *Chemosphere.* 65: 1904-1908. <http://dx.doi.org/10.1016/j.chemosphere.2006.07.077>.
- Schulze, T; Seiler, T, b; Streck, G; Braunbeck, T; Hollert, H. (2012). Comparison of different exhaustive and biomimetic extraction techniques for chemical and biological analysis of polycyclic aromatic compounds in river sediments. *Journal of Soils and Sediments.* 12: 1419. <http://dx.doi.org/10.1007/s11368-012-0574-1>.
- Schussler, GC. (2000). The thyroxine-binding proteins [Review]. *Thyroid.* 10: 141-149. <http://dx.doi.org/10.1089/thy.2000.10.141>.
- Schwarz, S; Rackstraw, A; Behnisch, PA; Brouwer, A; Koehler, HR; Kotz, A; Kuballa, T; Malisch, R; Neugebauer, F; Schilling, F; Schmidt, D; von Der Trenck, KT. (2016). Peregrine falcon egg pollutants Mirror Stockholm POPs list including methylmercury. *Toxicol Environ Chem.* 98: 886-923. <http://dx.doi.org/10.1080/02772248.2015.1126717>.
- Scott, HM; Mason, JI; Sharpe, RM. (2009). Steroidogenesis in the fetal testis and its susceptibility to disruption by exogenous compounds [Review]. *Endocr Rev.* 30: 883-925. <http://dx.doi.org/10.1210/er.2009-0016>.
- Sedlak, D; Dumler-Gradl, R; Thoma, H; Vierle, O. (1998). Polyhalogenated dibenzo-p-dioxins and dibenzofurans in the exhaust air during textile processings. *Chemosphere.* 37: 9-12.
- Seguí, X; Pujolasus, E; Betrò, S; Agueda, A; Casal, J; Ocampo-Duque, W; Rudolph, I; Barra, R; Pérez, M; Barón, E; Eljarrat, E; Barceló, D; Darbra, RM. (2013). Fuzzy model for risk assessment of persistent organic pollutants in aquatic ecosystems. *Environ Pollut.* 178: 23-32. <http://dx.doi.org/10.1016/j.envpol.2013.02.014>.
- Sellström, U; Bignert, A; Kierkegaard, A; Häggberg, L; de Wit, CA; Olsson, M; Jansson, B. (2003). Temporal trend studies on tetra- and pentabrominated diphenyl ethers and hexabromocyclododecane in guillemot egg from the Baltic Sea. *Environ Sci Technol.* 37: 5496-5501. <http://dx.doi.org/10.1021/es0300766>.
- Sellstrom, U; Kierkegaard, A; De Wit, C; Jansson, B. (1998). Polybrominated diphenyl ethers and hexabromocyclododecane in sediment and fish from a Swedish River. *Environ Toxicol Chem.* 17: 1065-1072.
- Serrallach Mila, N; Franco Miranda, E; Riera Canals, L; Aguiló Lucía, F; López-Costea, MA; Martínez Castela, A; Griñó Boira, JM; Gil-Vernet Cebrián, S; González Segura, YC. (1996). [Kidney transplantation with donors in heart block. Long-term results]. *Arch Esp Urol.* 49: 1021-1027.
- Shaffer, BM. (1963). The isolated *Xenopus laevis* tail: a preparation for studying the central nervous system and metamorphosis in culture. *J Embryol Exp Morphol.* 11: 77-90.
- Shaw, SD; Berger, ML; Brenner, D; Kannan, K; Lohmann, N; Pöpke, O. (2009). Bioaccumulation of polybrominated diphenyl ethers and hexabromocyclododecane in the northwest Atlantic marine food web. *Sci Total Environ.* 407: 3323-3329. <http://dx.doi.org/10.1016/j.scitotenv.2009.02.018>.
- Shaw, SD; Berger, ML; Brenner, D; Kannan, K; Pöpke, NL. (2010). Response to Letter to the Editor re "Bioaccumulation of polybrominated diphenyl ethers and hexabromocyclododecane in the northwest Atlantic marine food web" [Letter]. *Sci Total Environ.* 408: 3717-3718. <http://dx.doi.org/10.1016/j.scitotenv.2010.04.044>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Shaw, SD; Berger, ML; Weijs, L; Covaci, A. (2012). Tissue-specific accumulation of polybrominated diphenyl ethers (PBDEs) including Deca-BDE and hexabromocyclododecanes (HBCDs) in harbor seals from the northwest Atlantic. *Environ Int.* 44: 1-6. <http://dx.doi.org/10.1016/j.envint.2012.01.001>.
- Shelby, MK; Cherrington, NJ; Vansell, NR; Klaassen, CD. (2003). Tissue mRNA expression of the rat UDP-glucuronosyltransferase gene family. *Drug Metab Dispos.* 31: 326-333. <http://dx.doi.org/10.1124/dmd.31.3.326>.
- SHELL OIL CO. (1982). FLAME RETARDANT POLYPROPYLENE - EVALUATION OF NEW ADDITIVES - TOXICITY AND ENVIRONMENTAL ASPECTS - WITH COVER LETTER. (TSCATS/017888).
- Shi, D; Lv, D; Liu, W; Shen, R; Li, D; Hong, H. (2017). Accumulation and developmental toxicity of hexabromocyclododecanes (HBCDs) on the marine copepod *Tigriopus japonicus*. *Chemosphere.* 167: 155-162. <http://dx.doi.org/10.1016/j.chemosphere.2016.09.160>.
- Shi, L, ei; Feng, H; Zhang, P; Zhou, L; Xie, D; An, D; Cai, Q. (2014). Synthesis of haptens and development of an indirect enzyme-linked immunosorbent assay for tris(2,3-dibromopropyl) isocyanurate. *Anal Biochem.* 447: 15-22. <http://dx.doi.org/10.1016/j.ab.2013.11.004>.
- Shi, YJ; Xu, XB; Zheng, XQ; Lu, YL. (2015). Responses of growth inhibition and antioxidant gene expression in earthworms (*Eisenia fetida*) exposed to tetrabromobisphenol A, hexabromocyclododecane and decabromodiphenyl ether. *Comp Biochem Physiol C Toxicol Pharmacol.* 174-175: 32-38. <http://dx.doi.org/10.1016/j.cbpc.2015.06.005>.
- Shi, Z; Feng, J; Li, J; Zhao, Y; Wu, Y. (2008). [Analysis of hexabromocyclododecane diastereoisomers in foods of animal origin using ultra performance liquid chromatography-mass spectrometry and isotope dilution]. *Sepu.* 26: 1-5.
- Shi, Z; Jiao, Y; Hu, Y; Sun, Z; Zhou, X; Feng, J; Li, J; Wu, Y. (2013). Levels of tetrabromobisphenol A, hexabromocyclododecanes and polybrominated diphenyl ethers in human milk from the general population in Beijing, China. *Sci Total Environ.* 452-453: 10-18. <http://dx.doi.org/10.1016/j.scitotenv.2013.02.038>.
- Shi, Z; Wang, Y; Niu, P; Wang, J; Sun, Z; Zhang, S; Wu, Y. (2013). Concurrent extraction, clean-up, and analysis of polybrominated diphenyl ethers, hexabromocyclododecane isomers, and tetrabromobisphenol A in human milk and serum. *J Sep Sci.* 36: 3402-3410. <http://dx.doi.org/10.1002/jssc.201300579>.
- Shi, Z; Zhang, L; Li, J; Zhao, Y; Sun, Z; Zhou, X; Wu, Y. (2016). Novel brominated flame retardants in food composites and human milk from the Chinese Total Diet Study in 2011: Concentrations and a dietary exposure assessment. *Environ Int.* 96: 82-90. <http://dx.doi.org/10.1016/j.envint.2016.09.005>.
- Shi, ZX; Wu, YN; Li, JG; Zhao, YF; Feng, JF. (2009). Dietary exposure assessment of Chinese adults and nursing infants to tetrabromobisphenol-A and hexabromocyclododecanes: occurrence measurements in foods and human milk. *Environ Sci Technol.* 43: 4314-4319. <http://dx.doi.org/10.1021/es8035626>.
- Shields, BM; Knight, BA; Hill, A; Hattersley, AT; Vaidya, B. (2011). Fetal thyroid hormone level at birth is associated with fetal growth. *J Clin Endocrinol Metab.* 96: E934-E938. <http://dx.doi.org/10.1210/jc.2010-2814>.
- Shields, BM; Knight, BA; Hill, A; Hattersley, AT; Vaidya, B. (2011). Fetal thyroid hormone level at birth is associated with fetal growth : Supplemental materials [Supplemental Data]. *J Clin Endocrinol Metab.* 96: E934-E938.
- Shiota, G; Kanki, K. (2013). Retinoids and their target genes in liver functions and diseases [Review]. *J Gastroenterol Hepatol.* 28: 33-37. <http://dx.doi.org/10.1111/jgh.12031>.
- Shmakov, AG; Shvartsberg, VM; Korobeinichev, OP; Beach, MW; Hu, TI; Morgan, TA. (2007). Effect of the addition of triphenylphosphine oxide, hexabromocyclododecane, and ethyl bromide on a CH₄/O₂/N₂ flame at atmospheric pressure. *Combustion, Explosion, and Shock Waves.* 43: 501-508.
- Shmakov, AG; Shvartsberg, VM; Korobeinichev, OP; Beach, MW; Hu, TI; Morgan, TA. (2007). Structure of a freely propagation rich CH₄/air flame containing triphenylphosphine oxide and hexabromocyclododecane. *Combust Flame.* 149: 384-391. <http://dx.doi.org/10.1016/j.combustflame.2007.03.002>.
- Shoeib, M; Harner, T; Webster, GM; Sverko, E; Cheng, Y. (2012). Legacy and current-use flame retardants in house dust from Vancouver, Canada. *Environ Pollut.* 169: 175-182. <http://dx.doi.org/10.1016/j.envpol.2012.01.043>.
- Simoni, M; Velardo, A; Montanini, V; Faustini Fustini, M; Seghedoni, S; Marrama, P. (1990). Circannual rhythm of plasma thyrotropin in middle-aged and old euthyroid subjects. *Hormone research.* 33: 184-189.
- Sitarek, K; Berlińska, B; Barański, B. (1994). Assessment of the effect of n-butanol given to female rats in drinking water on fertility and prenatal development of their offspring. *Int J Occup Med Environ Health.* 7: 365-370.
- Skarman, E; Darnerud, PO; Ohrvik, H; Oskarsson, A. (2005). Reduced thyroxine levels in mice perinatally exposed to polybrominated diphenyl ethers. *Environ Toxicol Pharmacol.* 19: 273-281. <http://dx.doi.org/10.1016/j.etap.2004.08.001>.
- Skotak, K; Szczotko, M. (2016). Dicofof, endosulfan, trifluralin, hexabromocyclododecane and pentachlorophenol. A review of environmental and human health impact. *Przemysł Chemiczny.* 95: 554-560.
- Skrastina, D; Petrovskis, I; Petraityte, R; Sominskaya, I; Ose, V; Lieknina, I; Bogans, J; Sasnauskas, K; Pumpens, P. (2013). Chimeric derivatives of hepatitis B virus core particles carrying major epitopes of the rubella virus E1 glycoprotein. *Clinical and Vaccine Immunology (Online).* 20: 1719-1728. <http://dx.doi.org/10.1128/CVI.00533-13>.
- Smith, K; Liu, CH; El-Hiti, GA; Kang, GS; Jones, E; Clement, SG; Checquer, AD; Howarth, OW; Hursthouse, MB; Coles, SJ. (2005). An extensive study of bromination of cis,trans,trans-1,5,9-cyclododecatriene: product structures and conformations. *Org Biomol Chem.* 3: 1880-1892. <http://dx.doi.org/10.1039/b417156j>.
- Smith, K; Liu, CH; El-Hiti, GA; Kang, GS; Jones, E; Clement, SG; Checquer, AD; Howarth, OW; Hursthouse, MB; Coles, SJ. (2005). An extensive study of bromination of cis,trans,trans-1,5,9-cyclododecatriene: product structures and conformations : Erratum. *Org Biomol Chem.* 3: 1880-1892.
- Smolarz, K; Berger, A. (2009). Long-term toxicity of hexabromocyclododecane (HBCDD) to the benthic clam *Macoma balthica* (L.) from the Baltic Sea. *Aquat Toxicol.* 95: 239-247. <http://dx.doi.org/10.1016/j.aquatox.2009.09.010>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Smoluch, M; Silberring, J; Reszke, E; Kuc, J; Grochowalski, A. (2014). Determination of hexabromocyclododecane by flowing atmospheric pressure afterglow mass spectrometry. *Talanta*. 128: 58-62. <http://dx.doi.org/10.1016/j.talanta.2014.04.042>.
- Somoano-Blanco, L; Rodriguez-Gonzalez, P; Centineo, G; Fonseca, SG; Garcia Alonso, JI. (2016). Simultaneous determination of α -, β - and γ -hexabromocyclododecane diastereoisomers in water samples by isotope dilution mass spectrometry using (81)Br-labeled analogs. *J Chromatogr A*. 1429: 230-237. <http://dx.doi.org/10.1016/j.chroma.2015.12.041>.
- Son, MH; Kim, J; Shin, ES; Seo, SH; Chang, YS. (2015). Diastereoisomer- and species-specific distribution of hexabromocyclododecane (HBCD) in fish and marine invertebrates. *J Hazard Mater*. 300: 114-120. <http://dx.doi.org/10.1016/j.jhazmat.2015.06.023>.
- Sørmo, EG; Jenssen, BM; Lie, E; Skaare, JU. (2009). Brominated flame retardants in aquatic organisms from the North Sea in comparison with biota from the high Arctic marine environment. *Environ Toxicol Chem*. 28: 2082-2090. <http://dx.doi.org/10.1897/08-452.1>.
- Sørmo, EG; Lie, E; Ruus, A; Gaustad, H; Skaare, JU; Jenssen, BM. (2011). Trophic level determines levels of brominated flame-retardants in coastal herring gulls. *Ecotoxicol Environ Saf*. 74: 2091-2098. <http://dx.doi.org/10.1016/j.ecoenv.2011.06.012>.
- Sørmo, EG; Salmer, MP; Jenssen, BM; Hop, H; Baek, K; Kovacs, KM; Lydersen, C; Falk-Petersen, S; Gabrielsen, GW; Lie, E; Skaare, JU. (2006). Biomagnification of polybrominated diphenyl ether and hexabromocyclododecane flame retardants in the polar bear food chain in Svalbard, Norway. *Environ Toxicol Chem*. 25: 2502-2511.
- Stapleton, H; Allen, J; Kelly, S; Konstantinov, A; Klosterhaus, S; Watkins, D; McClean, M; Webster, T. (2008). Alternate and new brominated flame retardants detected in U.S. house dust. *Environ Sci Technol*. 42: 6910-6916. <http://dx.doi.org/10.1021/es801070p>.
- Stapleton, HM; Dodder, NG; Kucklick, JR; Reddy, CM; Schantz, MM; Becker, PR; Gulland, F; Porter, BJ; Wise, SA. (2006). Determination of HBCD, PBDEs and MeO-BDEs in California sea lions (*Zalophus californianus*) stranded between 1993 and 2003. *Mar Pollut Bull*. 52: 522-531. <http://dx.doi.org/10.1016/j.marpolbul.2005.09.045>.
- Stapleton, HM; Eagle, S; Sjödin, A; Webster, TF. (2012). Serum PBDEs in a North Carolina toddler cohort: Associations with hand wipes, house dust and socioeconomic variables. *Environ Health Perspect*. 120: 1049-1054. <http://dx.doi.org/10.1289/ehp.1104802>.
- Stapleton, HM; Kelly, SM; Allen, JG; Watkins, DJ; Heiger-Bernays, WJ; McClean, MD; Webster, TF; Konstantinov, A; Klosterhaus, S. (2008). Response to Comment on "Alternate and New Brominated Flame Retardants Detected in US House Dust". *Environ Sci Technol*. 42: 9455-9456. <http://dx.doi.org/10.1021/es8026192>.
- Stapleton, HM; Misenheimer, J; Hoffman, K; Webster, TF. (2014). Flame retardant associations between children's handwipes and house dust. *Chemosphere*. 116: 54-60. <http://dx.doi.org/10.1016/j.chemosphere.2013.12.100>.
- Steinmaus, C; Miller, MD; Cushing, L; Blount, BC; Smith, AH. (2013). Combined effects of perchlorate, thiocyanate, and iodine on thyroid function in the National Health and Nutrition Examination Survey 2007-08. *Environ Res*. 123: 17-24. <http://dx.doi.org/10.1016/j.envres.2013.01.005>.
- Stenzel, A; Goss, KU; Endo, S. (2013). Determination of polyparameter linear free energy relationship (pp-LFER) substance descriptors for established and alternative flame retardants. *Environ Sci Technol*. 47: 1399-1406. <http://dx.doi.org/10.1021/es304780a>.
- Stenzel, JI; Nixon, WB. (1997). Hexabromocyclododecane (HBCD): Determination of the vapor pressure using a spinning rotor gauge with cover letter dated 08/15/1997 [TSCA Submission]. (TSCATS/453589. OTS0573702. Doc I.D. 86970000839). Arlington, VA: Wildlife International Ltd. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0573702>.
- Stiborova, H; Kolar, M; Vrkoslavova, J; Pulkrabova, J; Hajslova, J; Demnerova, K; Uhlik, O. (2017). Linking toxicity profiles to pollutants in sludge and sediments. *J Hazard Mater*. 321: 672-680. <http://dx.doi.org/10.1016/j.jhazmat.2016.09.051>.
- Stiborova, H; Vrkoslavova, J; Pulkrabova, J; Poustka, J; Hajslova, J; Demnerova, K. (2015). Dynamics of brominated flame retardants removal in contaminated wastewater sewage sludge under anaerobic conditions. *Sci Total Environ*. 533: 439-445. <http://dx.doi.org/10.1016/j.scitotenv.2015.06.131>.
- Stieger, G; Scheringer, M; Ng, CA; Hungerbühler, K. (2014). Assessing the persistence, bioaccumulation potential and toxicity of brominated flame retardants: Data availability and quality for 36 alternative brominated flame retardants. *Chemosphere*. 116: 118-123. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.083>.
- Stump, DG. (1999). Prenatal developmental toxicity study of hexabromocyclododecane (HBCD) in rats. (WIL-186009). Ashland, OH: WIL Research Laboratories, Inc.
- Su, G; Letcher, RJ; Moore, JN; Williams, LL; Martin, PA; de Solla, SR; Bowerman, WW. (2015). Spatial and temporal comparisons of legacy and emerging flame retardants in herring gull eggs from colonies spanning the Laurentian Great Lakes of Canada and United States. *Environ Res*. 142: 720-730. <http://dx.doi.org/10.1016/j.envres.2015.08.018>.
- Su, G; Saunders, D; Yu, Y; Yu, H; Zhang, X; Liu, H; Giesy, JP. (2014). Occurrence of additive brominated flame retardants in aquatic organisms from Tai Lake and Yangtze River in Eastern China, 2009-2012. *Chemosphere*. 114: 340-346. <http://dx.doi.org/10.1016/j.chemosphere.2014.05.046>.
- Su, J; Lu, Y; Liu, Z; Gao, S; Zeng, X; Yu, Z; Sheng, G; Fu, JM. (2015). Distribution of polybrominated diphenyl ethers and HBCD in sediments of the Hunhe River in Northeast China. *Environ Sci Pollut Res Int*. 22: 16781-16790. <http://dx.doi.org/10.1007/s11356-015-4779-x>.
- Sudaryanto, A; Takahashi, S; Tanabe, S. (2007). Developments in Environmental Science Persistent Toxic Substances in the Environment of Indonesia. [http://dx.doi.org/10.1016/S1474-8177\(07\)07013-1](http://dx.doi.org/10.1016/S1474-8177(07)07013-1).
- Sühling, R; Barber, JL; Wolschke, H; Kötker, D; Ebinghaus, R. (2015). Fingerprint analysis of brominated flame retardants and Dechloranes in North Sea sediments. *Environ Res*. 140: 569-578. <http://dx.doi.org/10.1016/j.envres.2015.05.018>.
- Sühling, R; Busch, F; Fricke, N; Kötker, D; Wolschke, H; Ebinghaus, R. (2016). Distribution of brominated flame retardants and dechloranes between sediments and benthic fish--A comparison of a freshwater and marine habitat. *Sci Total Environ*. 542: 578-585. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.085>.
- Sullivan, KM; Bird, DM; Ritchie, JI; Shutt, JL; Letcher, RJ; Fernie, KJ. (2010). Changes in plasma retinol of American kestrels (*Falco sparverius*) in response to dietary or in ovo exposure to environmentally relevant concentrations of a penta-brominated diphenyl ether mixture, DE-71. *J Toxicol Environ Health A*. 73: 1645-1654. <http://dx.doi.org/10.1080/15287394.2010.501720>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Sullivan, KM; Marteinson, SC; Letcher, RJ; Bird, DM; Ritchie, IJ; Shutt, JL; Fernie, KJ. (2013). Changes in the incubation by American kestrels (*Falco sparverius*) during exposure to the polybrominated diphenyl ether (PBDE) mixture DE-71. *J Toxicol Environ Health A*. 76: 978-989. <http://dx.doi.org/10.1080/15287394.2013.829759>.
- Sun, J; Tang, S; Peng, H; Saunders, DM; Doering, JA; Hecker, M; Jones, PD; Giesy, JP; Wiseman, S. (2016). Combined Transcriptomic and Proteomic Approach to Identify Toxicity Pathways in Early Life Stages of Japanese Medaka (*Oryzias latipes*) Exposed to 1,2,5,6-Tetrabromocyclooctane (TBCO). *Environ Sci Technol*. 50: 7781-7790. <http://dx.doi.org/10.1021/acs.est.6b01249>.
- Sun, YX; Luo, XJ; Mo, L; He, MJ; Zhang, Q; Chen, SJ; Zou, FS; Mai, BX. (2012). Hexabromocyclododecane in terrestrial passerine birds from e-waste, urban and rural locations in the Pearl River Delta, South China: levels, biomagnification, diastereoisomer- and enantiomer-specific accumulation. *Environ Pollut*. 171: 191-198. <http://dx.doi.org/10.1016/j.envpol.2012.07.026>.
- Suominen, K; Verta, M; Marttinen, S. (2014). Hazardous organic compounds in biogas plant end products-Soil burden and risk to food safety. *Sci Total Environ*. 491: 192-199. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.036>.
- Suzuki, K; Shiraishi, K; Yoshitani, K; Sugama, K; Kometani, T. (2014). Effect of a sports drink based on highly-branched cyclic dextrin on cytokine responses to exhaustive endurance exercise. *J Sports Med Phys Fitness*. 54: 622-630.
- Suzuki, S; Hasegawa, A. (2006). Determination of hexabromocyclododecane diastereoisomers and tetrabromobisphenol A in water and sediment by liquid chromatography/mass spectrometry. *Anal Sci*. 22: 469-474.
- Svendsen, TC; Camus, L; Hargrave, B; Fisk, A; Muir, DCG; Borga, K. (2007). Polyaromatic hydrocarbons, chlorinated and brominated organic contaminants as tracers of feeding ecology in polar benthic amphipods. *Mar Ecol Prog Ser*. 337: 155-164.
- Svihlikova, V; Lankova, D; Poustka, J; Tomaniova, M; Hajslova, J; Pulkrabova, J. (2015). Perfluoroalkyl substances (PFASs) and other halogenated compounds in fish from the upper Labe River basin. *Chemosphere*. 129: 170-178. <http://dx.doi.org/10.1016/j.chemosphere.2014.09.096>.
- Swaim, SF; Gillette, RL; Sartin, EA; Hinkle, SH; Coolman, SL. (2000). Effects of a hydrolyzed collagen dressing on the healing of open wounds in dogs. *Am J Vet Res*. 61: 1574-1578.
- Takahashi, S; Oshihoi, T; Ramu, K; Isobe, T; Ohmori, K; Kubodera, T; Tanabe, S. (2010). Organohalogen compounds in deep-sea fishes from the western North Pacific, off-Tohoku, Japan: Contamination status and bioaccumulation profiles. *Mar Pollut Bull*. 60: 187-196. <http://dx.doi.org/10.1016/j.marpolbul.2009.09.027>.
- Takata, H; Akiyama, T; Kajiura, H; Kakutani, R, yo; Furuyashiki, T; Tomioka, E; Kojima, I; Kuriki, T. (2010). Application of branching enzyme in starch processing. *Biocatalysis and Biotransformation*. 28: 60-63. <http://dx.doi.org/10.3109/10242420903408393>.
- Takigami, H; Suzuki, G; Hirai, Y; Ishikawa, Y; Sunami, M; Sakai, S. (2009). Flame retardants in indoor dust and air of a hotel in Japan. *Environ Int*. 35: 688-693. <http://dx.doi.org/10.1016/j.envint.2008.12.007>.
- Takigami, H; Suzuki, G; Hirai, Y; Sakai, S. (2008). Transfer of brominated flame retardants from components into dust inside television cabinets. *Chemosphere*. 73: 161-169. <http://dx.doi.org/10.1016/j.chemosphere.2008.06.032>.
- Takigami, H; Suzuki, G; Hirai, Y; Sakai, S. (2009). Brominated flame retardants and other polyhalogenated compounds in indoor air and dust from two houses in Japan. *Chemosphere*. 76: 270-277. <http://dx.doi.org/10.1016/j.chemosphere.2009.03.006>.
- Takii, H; Ishihara, K; Kometani, T; Okada, S; Fushiki, T. (1999). Enhancement of swimming endurance in mice by highly branched cyclic dextrin. *Biosci Biotechnol Biochem*. 63: 2045-2052.
- Takii, H; Takii Nagao, Y; Kometani, T; Nishimura, T; Nakae, T; Kuriki, T; Fushiki, T. (2005). Fluids containing a highly branched cyclic dextrin influence the gastric emptying rate. *Int J Sports Med*. 26: 314-319.
- Tan, Z; Lu, S; Zhang, J; Jiang, Y; Zhou, J; Zhu, Z; Liu, H; Li, S; Lin, X. (2014). [Determination of hexabromocyclododecanes diastereoisomers in human breast milk by HPLC-MS/MS]. *Wei Sheng Yan Jiu*. 43: 809-813.
- Tanabe, S. (2008). Temporal trends of brominated flame retardants in coastal waters of Japan and South China: retrospective monitoring study using archived samples from es-Bank, Ehime University, Japan. *Mar Pollut Bull*. 57: 267-274. <http://dx.doi.org/10.1016/j.marpolbul.2007.12.017>.
- Tang, B; Zeng, YH; Luo, XJ; Zheng, XB; Mai, BX. (2015). Bioaccumulative characteristics of tetrabromobisphenol A and hexabromocyclododecanes in multi-tissues of prey and predator fish from an e-waste site, South China. *Environ Sci Pollut Res Int*. 22: 12011-12017. <http://dx.doi.org/10.1007/s11356-015-4463-1>.
- Tang, C. (2010). Quantitative determination of the diastereoisomers of hexabromocyclododecane in human plasma using liquid chromatography coupled with electrospray ionization tandem mass spectrometry. *J Chromatogr B Analyt Technol Biomed Life Sci*. 878: 3317-3322. <http://dx.doi.org/10.1016/j.jchromb.2010.10.015>.
- Tang, J; Feng, J; Li, X; Li, G. (2014). Levels of flame retardants HBCD, TBBPA and TBC in surface soils from an industrialized region of East China. *Environ Sci Process Impacts*. 16: 1015-1021. <http://dx.doi.org/10.1039/c3em00656e>.
- Tang, L; Shao, HY; Zhu, JY; Xu, G; Han, T; Peng, BQ; Wu, MH. (2015). Hexabromocyclododecane diastereoisomers in surface sediments from river drainage basins of Shanghai, China: occurrence, distribution, and mass inventory. *Environ Sci Pollut Res Int*. 22: 11993-12000. <http://dx.doi.org/10.1007/s11356-015-4336-7>.
- Tappin, AD; Millward, GE. (2015). The English Channel: Contamination status of its transitional and coastal waters. *Mar Pollut Bull*. 95: 529-550. <http://dx.doi.org/10.1016/j.marpolbul.2014.12.012>.
- Taylor, KW; Novak, RF; Anderson, HA; Birnbaum, LS; Blystone, C; Devito, M; Jacobs, D; Köhrle, J; Lee, DH; Rylander, L; Rignell-Hydbom, A; Tornero-Velez, R; Turyk, ME; Boyles, AL; Thayer, KA; Lind, L. (2013). Evaluation of the association between persistent organic pollutants (POPs) and diabetes in epidemiological studies: a national toxicology program workshop review [Review]. *Environ Health Perspect*. 121: 774-783. <http://dx.doi.org/10.1289/ehp.1205502>.
- ten Dam, G; Pardo, O; Traag, W; van der Lee, M; Peters, R. (2012). Simultaneous extraction and determination of HBCD isomers and TBBPA by ASE and LC-MSMS in fish. *J Chromatogr B Analyt Technol Biomed Life Sci*. 898: 101-110. <http://dx.doi.org/10.1016/j.jchromb.2012.04.025>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Thomas, GO; Moss, SE; Asplund, L; Hall, AJ. (2005). Absorption of decabromodiphenyl ether and other organohalogen chemicals by grey seals (*Halichoerus grypus*). *Environ Pollut.* 133: 581-586. <http://dx.doi.org/10.1016/j.envpol.2004.06.011>.
- Thomsen, C; Haug, LS; Stigum, H; Frøshaug, M; Broadwell, SL; Becher, G. (2010). Changes in concentrations of perfluorinated compounds, polybrominated diphenyl ethers, and polychlorinated biphenyls in Norwegian breast-milk during twelve months of lactation. *Environ Sci Technol.* 44: 9550-9556. <http://dx.doi.org/10.1021/es1021922>.
- Thomsen, C; Stigum, H; Frøshaug, M; Broadwell, SL; Becher, G; Eggesbø, M. (2010). Determinants of brominated flame retardants in breast milk from a large scale Norwegian study. *Environ Int.* 36: 68-74. <http://dx.doi.org/10.1016/j.envint.2009.10.002>.
- Thuresson, K; Björklund, JA; de Wit, CA. (2012). Tri-decabrominated diphenyl ethers and hexabromocyclododecane in indoor air and dust from Stockholm microenvironments 1: levels and profiles. *Sci Total Environ.* 414: 713-721. <http://dx.doi.org/10.1016/j.scitotenv.2011.11.016>.
- Tian, Y; Liu, A, iF; Qu, G, bo; Liu, CX; Chen, J; Handberg, E; Shi, J, bo; Chen, H, wen; Jiang, G, uibin. (2015). Silver ion post-column derivatization electrospray ionization mass spectrometry for determination of tetrabromobisphenol A derivatives in water samples. *RSC Advances.* 5: 17474-17481. <http://dx.doi.org/10.1039/c4ra16166a>.
- Tobitsuka, K; Miura, M; Kobayashi, S. (2006). Retention of a European pear aroma model mixture using different types of saccharides. *J Agric Food Chem.* 54: 5069-5076. <http://dx.doi.org/10.1021/jf060309n>.
- Toms, LM; Guerra, P; Eljarrat, E; Barceló, D; Harden, FA; Hobson, P; Sjodin, A; Ryan, E; Mueller, JF. (2012). Brominated flame retardants in the Australian population: 1993-2009. *Chemosphere.* 89: 398-403. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.053>.
- Tomy, GT; Budakowski, W; Halldorson, T; Whittle, DM; Keir, MJ; Marvin, C; Macinnis, G; Alae, M. (2004). Biomagnification of alpha- and gamma-hexabromocyclododecane isomers in a Lake Ontario food web. *Environ Sci Technol.* 38: 2298-2303. <http://dx.doi.org/10.1021/es034968h>.
- Tomy, GT; Halldorson, T; Danell, R; Law, K; Arsenault, G; Alae, M; Macinnis, G; Marvin, CH. (2005). Refinements to the diastereoisomer-specific method for the analysis of hexabromocyclododecane. *Rapid Commun Mass Spectrom.* 19: 2819-2826. <http://dx.doi.org/10.1002/rcm.2129>.
- Tomy, GT; Palace, V; Marvin, C; Stapleton, HM; Covaci, A; Harrad, S. (2011). Biotransformation of HBCD in biological systems can confound temporal-trend studies. *Environ Sci Technol.* 45: 364-365. <http://dx.doi.org/10.1021/es1039369>.
- Tomy, GT; Pleskach, K; Ferguson, SH; Hare, J; Stern, G; Macinnis, G; Marvin, CH; Loseto, L. (2009). Trophodynamics of Some PFCs and BFRs in a Western Canadian Arctic Marine Food Web. *Environ Sci Technol.* 43: 4076-4081. <http://dx.doi.org/10.1021/es900162n>.
- Tomy, GT; Pleskach, K; Ismail, N; Whittle, DM; Helm, PA; Sverko, E, d; Zaruk, D; Marvin, CH. (2007). Isomers of dechlorane plus in Lake Winnipeg and Lake Ontario food webs. *Environ Sci Technol.* 41: 2249-2254. <http://dx.doi.org/10.1021/es062781v>.
- Tomy, GT; Pleskach, K; Oswald, T; Halldorson, T; Helm, PA; Macinnis, G; Marvin, CH. (2008). Enantioselective bioaccumulation of hexabromocyclododecane and congener-specific accumulation of brominated diphenyl ethers in an eastern Canadian Arctic marine food web. *Environ Sci Technol.* 42: 3634-3639. <http://dx.doi.org/10.1021/es703083z>.
- Tomy, GT; Thomas, CR; Zidane, TM; Murison, KE; Pleskach, K; Hare, J; Arsenault, G; Marvin, CH; Sverko, E, d. (2008). Examination of isomer specific bioaccumulation parameters and potential in vivo hepatic metabolites of syn- and anti-Dechlorane Plus isomers in juvenile rainbow trout (*Oncorhynchus mykiss*). *Environ Sci Technol.* 42: 5562-5567. <http://dx.doi.org/10.1021/es800220y>.
- Tonacchera, M; Pinchera, A; Dimida, A; Ferrarini, E; Agretti, P; Vitti, P; Santini, F; Crump, G; Gibbs, J. (2004). Relative potencies and additivity of perchlorate, thiocyanate, nitrate, and iodide on the inhibition of radioactive iodide uptake by the human sodium iodide symporter. *Thyroid.* 14: 1012-1019. <http://dx.doi.org/10.1089/thy.2004.14.1012>.
- Törnkvist, A; Glynn, A; Aune, M; Darnerud, PO; Ankarberg, EH. (2011). PCDD/F, PCB, PBDE, HBCD and chlorinated pesticides in a Swedish market basket from 2005--levels and dietary intake estimations. *Chemosphere.* 83: 193-199. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.042>.
- TRL. (1987). Rat oral subchronic toxicity study: Compound: Normal butanol (Final). (TRL study #032-006). Research Triangle Park, NC: Research Triangle Institute.
- Tso, CP; Shih, YH. (2014). The transformation of hexabromocyclododecane using zerovalent iron nanoparticle aggregates. *J Hazard Mater.* 277: 76-83. <http://dx.doi.org/10.1016/j.jhazmat.2014.04.044>.
- Tue, NM; Sudaryanto, A; Minh, TB; Isobe, T; Takahashi, S; Viet, PH; Tanabe, S. (2010). Accumulation of polychlorinated biphenyls and brominated flame retardants in breast milk from women living in Vietnamese e-waste recycling sites. *Sci Total Environ.* 408: 2155-2162. <http://dx.doi.org/10.1016/j.scitotenv.2010.01.012>.
- Tue, NM; Takahashi, S; Suzuki, G; Isobe, T; Viet, PH; Kobara, Y; Seike, N; Zhang, G; Sudaryanto, A; Tanabe, S. (2013). Contamination of indoor dust and air by polychlorinated biphenyls and brominated flame retardants and relevance of non-dietary exposure in Vietnamese informal e-waste recycling sites. *Environ Int.* 51: 160-167. <http://dx.doi.org/10.1016/j.envint.2012.11.006>.
- Tung, EW; Yan, H; Lefèvre, PL; Berger, RG; Rawn, DF; Gaertner, DW; Kawata, A; Rigden, M; Robaire, B; Hales, BF; Wade, MG. (2016). Gestational and Early Postnatal Exposure to an Environmentally Relevant Mixture of Brominated Flame Retardants: General Toxicity and Skeletal Variations. *Birth Defects Res B Dev Reprod Toxicol.* 107: 157-168. <http://dx.doi.org/10.1002/bdrb.21180>.
- U.S EPA. (2000). ECONOMIC ANALYSIS OF PROPOSED TEST RULE FOR FIVE BROMINATED FLAME RETARDANTS WITH COVER LETTER DATED 101690. (TSCATS/417953).
- U.S EPA. (2000). RESPONSES OF UNICELLULAR MARINE ALGAE TO BROMINATED ORGANIC COMPOUND IN SIX GROWTH MEDIA WITH COVER LETTER DATED 121886. (TSCATS/412362).
- U.S EPA; OTS. (1990). CATARACTOGENIC STUDY IN CHICKS WITH TEST DATA AND COVER LETTER. (TSCATS/407256). INTL RES and DEV CORP.
- U.S EPA; OTS. (1990). PILOT CATARACTOGENIC STUDY IN CHICKS WITH TEST DATA AND COVER LETTER. (TSCATS/407255). INTL RES and DEV CORP.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- U.S. EPA; OTS. (1992). INITIAL SUBMISSION: ACUTE INHALATION TOXICITY STUDY WITH PYROLYTIC PRODUCTS OF HEXABROMOCYCLODODECANE IN RATS WITH COVER LETTER DATED 080592. (TSCATS/432775). INDUS BIO-TEST LABS.
- U.S. EPA. (1988). Recommendations for and documentation of biological values for use in risk assessment (pp. 1-395). (EPA/600/6-87/008). Cincinnati, OH: U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=34855>.
- U.S. EPA. (1990). Acute toxicity studies in rabbits and rats with test data and cover letter dated 03-08-90. (86900000266).
- U.S. EPA. (1991). Guidelines for developmental toxicity risk assessment (pp. 1-71). (EPA/600/FR-91/001). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=23162>.
- U.S. EPA. (1994). Methods for derivation of inhalation reference concentrations and application of inhalation dosimetry [EPA Report] (pp. 1-409). (EPA/600/8-90/066F). Research Triangle Park, NC: U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office. <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=71993&CFID=51174829&CFTOKEN=25006317>.
- U.S. EPA. (1996). Guidelines for reproductive toxicity risk assessment (pp. 1-143). (EPA/630/R-96/009). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum.
- Ueda, A; Hamadeh, HK; Webb, HK; Yamamoto, Y; Sueyoshi, T; Afshari, CA; Lehmann, JM; Negishi, M. (2002). Diverse roles of the nuclear orphan receptor CAR in regulating hepatic genes in response to phenobarbital. *Mol Pharmacol*. 61: 1-6. <http://dx.doi.org/10.1124/mol.61.1.1>.
- Ueno, D; Alae, M; Marvin, C; Muir, DC; Macinnis, G; Reiner, E; Crozier, P; Furdui, VI; Subramanian, A; Fillmann, G; Lam, PK; Zheng, GJ; Mughtar, M; Razak, H; Prudente, M; Chung, KH; Tanabe, S. (2006). Distribution and transportability of hexabromocyclododecane (HBCD) in the Asia-Pacific region using skipjack tuna as a bioindicator. *Environ Pollut*. 144: 238-247. <http://dx.doi.org/10.1016/j.envpol.2005.12.024>.
- Ueno, D; Isobe, T; Ramu, K; Tanabe, S; Alae, M; Marvin, C; Inoue, K; Someya, T; Miyajima, T; Kodama, H; Nakata, H. (2010). Spatial distribution of hexabromocyclododecanes (HBCDs), polybrominated diphenyl ethers (PBDEs) and organochlorines in bivalves from Japanese coastal waters. *Chemosphere*. 78: 1213-1219. <http://dx.doi.org/10.1016/j.chemosphere.2009.12.058>.
- Ungherese, G; Cincinelli, A; Martellini, T; Ugolini, A. (2012). PBDEs in the supralittoral environment: the sandhopper *Talitrus saltator* (Montagu) as biomonitor? *Chemosphere*. 86: 223-227. <http://dx.doi.org/10.1016/j.chemosphere.2011.09.029>.
- Vagula, MC; Kubeldis, N; Nelatury, CF. (2011). Environmental Monitoring of Brominated Flame Retardants. *Proc SPIE*. 8029. <http://dx.doi.org/10.1117/12.887127>.
- van Beusekom, OC; Eljarrat, E; Barceló, D; Koelmans, AA. (2006). Dynamic modeling of food-chain accumulation of brominated flame retardants in fish from the Ebro River Basin, Spain. *Environ Toxicol Chem*. 25: 2553-2560.
- Van den Eede, N; Dirtu, AC; Ali, N; Neels, H; Covaci, A. (2012). Multi-residue method for the determination of brominated and organophosphate flame retardants in indoor dust. *Talanta*. 89: 292-300. <http://dx.doi.org/10.1016/j.talanta.2011.12.031>.
- Van den Eede, N; Dirtu, AC; Neels, H; Covaci, A. (2011). Analytical developments and preliminary assessment of human exposure to organophosphate flame retardants from indoor dust. *Environ Int*. 37: 454-461. <http://dx.doi.org/10.1016/j.envint.2010.11.010>.
- Van der Ven, LT; van de Kuil, T; Leonards, PE; Slob, W; Cantón, RF; Germer, S; Visser, TJ; Litens, S; Håkansson, H; Schrenk, M; van den Berg, M; Piersma, AH; Vos, JG; Opperhuizen, A. (2008). A 28-day oral dose toxicity study in Wistar rats enhanced to detect endocrine effects of decabromodiphenyl ether (decaBDE). *Toxicol Lett*. 179: 6-14. <http://dx.doi.org/10.1016/j.toxlet.2008.03.003>.
- Van der Ven, LT; Van de Kuil, T; Verhoef, A; Verwer, CM; Lilienthal, H; Leonards, PE; Schauer, UM; Cantón, RF; Litens, S; De Jong, FH; Visser, TJ; Dekant, W; Stern, N; Håkansson, H; Slob, W; Van den Berg, M; Vos, JG; Piersma, AH. (2008). Endocrine effects of tetrabromobisphenol-A (TBBPA) in Wistar rats as tested in a one-generation reproduction study and a subacute toxicity study. *Toxicology*. 245: 76-89. <http://dx.doi.org/10.1016/j.tox.2007.12.009>.
- van der Ven, LTM; Lilienthal, H; van de Kuil, A; Piersma, AH. (2007). Endocrine effects of hexabromocyclododecane (HBCD) in a one-generation reproduction study in Wistar rats [Abstract]. *Birth Defects Res A Clin Mol Teratol*. 79: 412.
- van Leeuwen, SP; de Boer, J. (2008). Brominated flame retardants in fish and shellfish - levels and contribution of fish consumption to dietary exposure of Dutch citizens to HBCD. *Mol Nutr Food Res*. 52: 194-203. <http://dx.doi.org/10.1002/mnfr.200700207>.
- van Leeuwen, SP; van Velzen, MJ; Swart, CP; van der Veen, I; Traag, WA; de Boer, J. (2009). Halogenated contaminants in farmed salmon, trout, tilapia, pangasius, and shrimp. *Environ Sci Technol*. 43: 4009-4015. <http://dx.doi.org/10.1021/es803558r>.
- Vansell, NR; Klaassen, CD. (2002). Effect of microsomal enzyme inducers on the biliary excretion of triiodothyronine (T₃) and its metabolites. *Toxicol Sci*. 65: 184-191. <http://dx.doi.org/10.1093/toxsci/65.2.184>.
- Velsicol Chem Corp. (1990). INTERNAL MEMO FROM VELSICOL CHEMICAL CORPORATION REGARDING HYDROLYSIS OF FIREMASTER 100 WITH TEST DATA AND COVER LETTER. (TSCATS/407263).
- Velsicol Chem Corp. (1990). PARTITION COEFFICIENT OF DICAMBA, ENDRIN VEL 3510 AND SEVERAL INDUSTRIAL CHEMICALS AND FLAME RETARDANTS LABORATORY REPORT WITH TEST DATA AND COVER LETTER. (TSCATS/407261).
- Velsicol Chem Corp. (1990). Water solubility of several industrial chemicals flame retardants and a herbicide vel-3510 laboratory report with test data and cover letter. (TSCATS/407262. OTS0523262. Doc I.D. 86900000270). Washington, DC: U.S. Environmental Protection Agency.
- Venier, M; Hites, RA. (2011). Flame retardants in the serum of pet dogs and in their food. *Environ Sci Technol*. 45: 4602-4608. <http://dx.doi.org/10.1021/es1043529>.
- Venier, M; Wierda, M; Bowerman, WW; Hites, RA. (2010). Flame retardants and organochlorine pollutants in bald eagle plasma from the Great Lakes region. *Chemosphere*. 80: 1234-1240. <http://dx.doi.org/10.1016/j.chemosphere.2010.05.043>.
- Verboven, N; Verreault, J; Letcher, RJ; Gabrielsen, GW; Evans, NP. (2009). DIFFERENTIAL INVESTMENT IN EGGS BY ARCTIC-BREEDING GLAUCOUS GULLS (LARUS HYPERBOREUS) EXPOSED TO PERSISTENT ORGANIC POLLUTANTS. *Auk*. 126: 123-133. <http://dx.doi.org/10.1525/auk.2009.08039>.
- Verreault, J; Gabrielsen, GW; Bustnes, JO. (2010). The Svalbard glaucous gull as bioindicator species in the European arctic: insight from 35 years of contaminants research [Review]. *Rev Environ Contam Toxicol*. 205: 77-116. http://dx.doi.org/10.1007/978-1-4419-5623-1_2.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Verreault, J; Gabrielsen, GW; Chu, S; Muir, DC; Andersen, M; Hamaed, A; Letcher, RJ. (2005). Flame retardants and methoxylated and hydroxylated polybrominated diphenyl ethers in two Norwegian Arctic top predators: glaucous gulls and polar bears. *Environ Sci Technol.* 39: 6021-6028. <http://dx.doi.org/10.1021/es050738m>.
- Verreault, J; Gebbink, WA; Gauthier, LT; Gabrielsen, GW; Letcher, RJ. (2007). Brominated flame retardants in glaucous gulls from the Norwegian Arctic: more than just an issue of polybrominated diphenyl ethers. *Environ Sci Technol.* 41: 4925-4931. <http://dx.doi.org/10.1021/es070522f>.
- Verreault, J; Shahmiri, S; Gabrielsen, GW; Letcher, RJ. (2007). Organohalogen and metabolically-derived contaminants and associations with whole body constituents in Norwegian Arctic glaucous gulls. *Environ Int.* 33: 823-830. <http://dx.doi.org/10.1016/j.envint.2007.03.013>.
- Verslycke, TA; Vethaak, AD; Arijs, K; Janssen, CR. (2005). Flame retardants, surfactants and organotins in sediment and mysid shrimp of the Scheldt estuary (The Netherlands). *Environ Pollut.* 136: 19-31. <http://dx.doi.org/10.1016/j.envpol.2004.12.008>.
- Vetter, W; Rosenfelder, N. (2008). Gas chromatography retention data of environmentally relevant polybrominated compounds. *Anal Bioanal Chem.* 392: 489-504. <http://dx.doi.org/10.1007/s00216-008-2277-4>.
- Viberg, H; Fredriksson, A; Eriksson, P. (2002). Neonatal exposure to the brominated flame retardant 2,2',4,4',5-pentabromodiphenyl ether causes altered susceptibility in the cholinergic transmitter system in the adult mouse. *Toxicol Sci.* 67: 104-107.
- Viberg, H; Fredriksson, A; Eriksson, P. (2003). Neonatal exposure to polybrominated diphenyl ether (PBDE 153) disrupts spontaneous behaviour, impairs learning and memory, and decreases hippocampal cholinergic receptors in adult mice. *Toxicol Appl Pharmacol.* 192: 95-106. [http://dx.doi.org/10.1016/S0041-008X\(03\)00217-5](http://dx.doi.org/10.1016/S0041-008X(03)00217-5).
- Viberg, H; Fredriksson, A; Eriksson, P. (2004). Investigations of strain and/or gender differences in developmental neurotoxic effects of polybrominated diphenyl ethers in mice. *Toxicol Sci.* 81: 344-353. <http://dx.doi.org/10.1093/toxsci/kfh215>.
- Vilaplana, F; Karlsson, P; Ribes-Greus, A; Ivarsson, P; Karlsson, S. (2008). Analysis of brominated flame retardants in styrenic polymers. Comparison of the extraction efficiency of ultrasonication, microwave-assisted extraction and pressurised liquid extraction. *J Chromatogr A.* 1196-1197: 139-146. <http://dx.doi.org/10.1016/j.chroma.2008.05.001>.
- Villanger, GD; Lydersen, C; Kovacs, KM; Lie, E; Skaare, JU; Jenssen, BM. (2011). Disruptive effects of persistent organohalogen contaminants on thyroid function in white whales (*Delphinapterus leucas*) from Svalbard. *Sci Total Environ.* 409: 2511-2524. <http://dx.doi.org/10.1016/j.scitotenv.2011.03.014>.
- Vojta, Š; Bečanová, J; Melymuk, L; Komprdová, K; Kohoutek, J; Kukučka, P; Klánová, J. (2017). Screening for halogenated flame retardants in European consumer products, building materials and wastes. *Chemosphere.* 168: 457-466. <http://dx.doi.org/10.1016/j.chemosphere.2016.11.032>.
- Von der Recke, R; Vetter, W. (2007). Synthesis and characterization of 2,3-dibromopropyl-2,4,6-tribromophenyl ether (DPTE) and structurally related compounds evidenced in seal blubber and brain. *Environ Sci Technol.* 41: 1590-1595. <http://dx.doi.org/10.1021/es062383s>.
- Vorkamp, K; Bester, K; Rigét, FF. (2012). Species-specific time trends and enantiomer fractions of hexabromocyclododecane (HBCD) in biota from East Greenland. *Environ Sci Technol.* 46: 10549-10555. <http://dx.doi.org/10.1021/es301564z>.
- Vorkamp, K; Bossi, R; Bester, K; Bollmann, UE; Boutrup, S. (2014). New priority substances of the European Water Framework Directive: biocides, pesticides and brominated flame retardants in the aquatic environment of Denmark. *Sci Total Environ.* 470-471: 459-468. <http://dx.doi.org/10.1016/j.scitotenv.2013.09.096>.
- Vorkamp, K; Bossi, R; Rigét, FF; Skov, H; Sonne, C; Dietz, R. (2015). Novel brominated flame retardants and dechlorane plus in Greenland air and biota. *Environ Pollut.* 196: 284-291. <http://dx.doi.org/10.1016/j.envpol.2014.10.007>.
- Vorkamp, K; Rigét, FF; Bossi, R; Dietz, R. (2011). Temporal trends of hexabromocyclododecane, polybrominated diphenyl ethers and polychlorinated biphenyls in ringed seals from East Greenland. *Environ Sci Technol.* 45: 1243-1249. <http://dx.doi.org/10.1021/es102755x>.
- Vorkamp, K; Thomsen, M; Falk, K; Leslie, H; Møller, S; Sørensen, PB. (2005). Temporal development of brominated flame retardants in peregrine Falcon (*Falco peregrinus*) eggs from South Greenland (1986-2003). *Environ Sci Technol.* 39: 8199-8206. <http://dx.doi.org/10.1021/es0508830>.
- Vorkamp, K; Thomsen, M; Frederiksen, M; Pedersen, M; Knudsen, LE. (2011). Polybrominated diphenyl ethers (PBDEs) in the indoor environment and associations with prenatal exposure. *Environ Int.* 37: 1-10. <http://dx.doi.org/10.1016/j.envint.2010.06.001>.
- Vos, JG; Becher, G; van den Berg, M; de Boer, J; Leonards, PEG. (2003). Brominated flame retardants and endocrine disruption. *Pure Appl Chem.* 75: 2039-2046.
- Waaijers, SL; Hartmann, J; Soeter, AM; Helmus, R; Kools, SA; de Voogt, P; Admiraal, W; Parsons, JR; Kraak, MH. (2013). Toxicity of new generation flame retardants to *Daphnia magna*. *Sci Total Environ.* 463-464: 1042-1048. <http://dx.doi.org/10.1016/j.scitotenv.2013.06.110>.
- Wäger, PA; Schlupe, M; Müller, E; Gloor, R. (2012). RoHS regulated substances in mixed plastics from waste electrical and electronic equipment. *Environ Sci Technol.* 46: 628-635. <http://dx.doi.org/10.1021/es202518n>.
- Walsh, GE; Yoder, MJ; McLaughlin, LL; Lores, EM. (1987). Responses of marine unicellular algae to brominated organic compounds in six growth media. *Ecotoxicol Environ Saf.* 14: 215-222.
- Waner, T; Nyska, A. (1991). The toxicological significance of decreased activities of blood alanine and aspartate aminotransferase [Review]. *Vet Res Commun.* 15: 73-78. <http://dx.doi.org/10.1007/BF00497793>.
- Wang, D; Zhang, P; Wang, X; Wang, Y; Zhou, Z; Zhu, W. (2016). NMR- and LC-MS/MS-based urine metabolomic investigation of the subacute effects of hexabromocyclododecane in mice. *Environ Sci Pollut Res Int.* 23: 8500-8507. <http://dx.doi.org/10.1007/s11356-015-5940-2>.
- Wang, F; Zhang, H; Geng, N; Zhang, B; Ren, X; Chen, J. (2016). New Insights into the Cytotoxic Mechanism of Hexabromocyclododecane from a Metabolomic Approach. *Environ Sci Technol.* 50: 3145-3153. <http://dx.doi.org/10.1021/acs.est.5b03678>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Wang, G; Wu, H; Zhang, X; Zhang, H; Yang, X; Tian, X; Li, J; Xiang, W; Li, X. (2013). *Aliidiomarina sanyensis* sp. nov., a hexabromocyclododecane assimilating bacterium from the pool of *Spirulina platensis* cultivation, Sanya, China. *Antonie Van Leeuwenhoek*. 104: 309-314. <http://dx.doi.org/10.1007/s10482-013-9949-6>.
- Wang, H; Xue, Q; Tao, L; Ye, X; Liang, S; Li, Y; Niu, Z. (2013). [Determination of hexabromocyclododecane in coatings by gas chromatography-mass spectrometry]. *Sepeu*. 31: 791-794.
- Wang, J, ia; Bever, CRS; Majkova, Z; Dechant, JE; Yang, J, un; Gee, SJ; Xu, T; Hammock, BD. (2014). Heterologous Antigen Selection of Camelid Heavy Chain Single Domain Antibodies against Tetrabromobisphenol A. *Anal Chem*. 86: 8296-8302. <http://dx.doi.org/10.1021/ac5017437>.
- Wang, J; Jia, X; Gao, S; Zeng, X; Li, H; Zhou, Z; Sheng, G; Yu, Z. (2016). Levels and distributions of polybrominated diphenyl ethers, hexabromocyclododecane, and tetrabromobisphenol A in sediments from Taihu Lake, China. *Environ Sci Pollut Res Int*. 23: 10361-10370. <http://dx.doi.org/10.1007/s11356-015-5511-6>.
- Wang, L; Lee, W; Lee, W; Chang-Chien, G. (2010). Emission estimation and congener-specific characterization of polybrominated diphenyl ethers from various stationary and mobile sources. *Environ Pollut*. 158: 3108-3115. <http://dx.doi.org/10.1016/j.envpol.2010.06.041>.
- Wang, L; Zhang, M; Lou, Y; Ke, R; Zheng, M. (2017). Levels and distribution of tris-(2,3-dibromopropyl) isocyanurate and hexabromocyclododecanes in surface sediments from the Yellow River Delta wetland of China. *Mar Pollut Bull*. 114: 577-582. <http://dx.doi.org/10.1016/j.marpolbul.2016.09.019>.
- Wang, L; Zhao, Q; Zhao, Y; Lou, Y; Zheng, M; Yu, Y; Zhang, M. (2016). Determination of heterocyclic brominated flame retardants tris-(2, 3-dibromopropyl) isocyanurate and hexabromocyclododecane in sediment from Jiaozhou Bay wetland. *Mar Pollut Bull*. 113: 509-512. <http://dx.doi.org/10.1016/j.marpolbul.2016.08.013>.
- Wang, T; Han, S; Ruan, T; Wang, Y; Feng, J; Jiang, G. (2013). Spatial distribution and inter-year variation of hexabromocyclododecane (HBCD) and tris-(2,3-dibromopropyl) isocyanurate (TBC) in farm soils at a peri-urban region. *Chemosphere*. 90: 182-187. <http://dx.doi.org/10.1016/j.chemosphere.2012.06.027>.
- Wang, X; Lu, M; Pei, Y; Lu, X; Du, X. (2015). Two mesoporous cellular foams materials and their adsorption properties to brominated flame retardants. *Journal of Porous Materials*. 22: 83-90. <http://dx.doi.org/10.1007/s10934-014-9875-7>.
- Wang, X; Ren, N; Qi, H; Ma, W; Li, Y. (2009). Levels and distribution of brominated flame retardants in the soil of Harbin in China. *J Environ Sci*. 21: 1541-1546.
- Wang, XM; Ding, X; Mai, BX; Xie, ZQ; Xiang, CH; Sun, LG; Sheng, GY; Fu, JM; Zeng, EY. (2005). Polybrominated diphenyl ethers in airborne particulates collected during a research expedition from the Bohai Sea to the Arctic. *Environ Sci Technol*. 39: 7803-7809. <http://dx.doi.org/10.1021/es051088p>.
- Wang, YW; Liu, HX; Zhao, CY; Liu, HX; Cai, ZW; Jiang, GB. (2005). Quantitative structure-activity relationship models for prediction of the toxicity of polybrominated diphenyl ether congeners. *Environ Sci Technol*. 39: 4961-4966. <http://dx.doi.org/10.1021/es050017n>.
- Weathers, W; Colon, M; Hines, A; Ulrich, EM. (2014). Use of fluorinated polybrominated diphenyl ethers and simplified cleanup for the analysis of polybrominated diphenyl ethers in house dust. *J Chromatogr A*. 1356: 266-271. <http://dx.doi.org/10.1016/j.chroma.2014.06.054>.
- Webster, L; Walsham, P; Russell, M; Neat, F; Phillips, L; Dalgarno, E; Packer, G; Scurfield, JA; Moffat, CF. (2009). Halogenated persistent organic pollutants in Scottish deep water fish. *J Environ Monit*. 11: 406-417. <http://dx.doi.org/10.1039/b815313b>.
- Weeke, J; Gundersen, HJ. (1978). Circadian and 30 minutes variations in serum TSH and thyroid hormones in normal subjects. *Acta Endocrinol*. 89: 659-672.
- Weil, ED; Levchik, SV. (2007). Flame retardants for polystyrenes in commercial use or development. *J Fire Sci*. 25: 241-265. <http://dx.doi.org/10.1177/0734904107071607>.
- Weil, ED; Levchik, SV. (2008). Flame retardants in commercial use or development for textiles. *J Fire Sci*. 26: 243-281. <http://dx.doi.org/10.1177/0734904108089485>.
- Westerink, R; Heusinkveld, H; Bergman, A; Van Den Berg, M; Dingemans, M. (2010). The brominated flame retardants hexabromocyclododecane (HBCD) and BDE-47 affect calcium homeostasis in rat PC12 cells. *Toxicol Lett*. 196: S222-S223. <http://dx.doi.org/10.1016/j.toxlet.2010.03.747>.
- Wheater, PR; Burkitt, HG. (1996). *Wheater's basic histopathology: a colour atlas and text*. New York: Churchill Livingstone.
- Wichmann, H; Dettmer, FT; Bahadir, M. (2002). Thermal formation of PBDD/F from tetrabromobisphenol A--a comparison of polymer linked TBBP A with its additive incorporation in thermoplastics. *Chemosphere*. 47: 349-355.
- Wikoff, D; Thompson, C; Perry, C; White, M; Borghoff, S; Fitzgerald, L; Haws, LC. (2015). Development of toxicity values and exposure estimates for tetrabromobisphenol A: application in a margin of exposure assessment. *J Appl Toxicol*. 35: 1292-1308. <http://dx.doi.org/10.1002/jat.3132>.
- Wikoff, DS; Birnbaum, L. (2011). *Handbook of Environmental Chemistry Series Human Health Effects of Brominated Flame Retardants*. http://dx.doi.org/10.1007/698_2010_97.
- WILDLIFE INTERNATIONAL LTD. (1997). FINAL REPORT, HEXABROMOCYCLODODECANE (HBCD): A 96-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE RAINBOW TROUT (*ONCORHYNCHUS MYKISS*), WITH COVER LETTER DATED 6/27/1997. (TSCATS/445565). WILDLIFE INTERNATIONAL LTD.
- WILDLIFE INTERNATIONAL LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 48-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE CLADOCERAN (*DAPHNIA MAGNA*), WITH COVER LETTER DATED 6/20/97. (TSCATS/445050). WILDLIFE INTERNATIONAL LTD.
- Wildlife Intl LTD. (1996). HEXABROMOCYCLODODECANE (HBCD): CLOSED BOTTLE TEST WITH COVER LETTER DATED 12/12/1996. (TSCATS/453438).
- Wildlife Intl LTD. (1997). ANALYTICAL METHOD VERIFICATION FOR THE DETERMINATION OF HEXABROMOCYCLODODECANE (HBCD) IN WELL WATER WITH COVER LETTER DATED 06/27/1997. (TSCATS/453551).

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Wildlife Intl LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 48-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE CLADOCERAN (DAPHNIA MAGNA) WITH COVER LETTER DATED 06/20/1997. (TSCATS/452984).
- Wildlife Intl LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 96-HOUR TOXICITY TEST WITH THE FRESHWATER ALGA (SELANASTRUM CAPRICORNUTUM) WITH COVER LETTER DATED 06/26/1997. (TSCATS/453549).
- Wildlife Intl LTD. (1997). Hexabromocyclododecane (hbcdd): Determination of water solubility with cover letter dated 06/27/1997. (86970000798). Washington, DC: U.S. Environmental Protection Agency.
- Wildlife Intl LTD. (1997). LETTER FROM CHEM MFGS ASSOC TO USEPA REGARDING: TOXICOLOGICAL INVESTIGATION OF HEXABROMOCYCLODODECANE (HBCD) WITH ATTACHMENTS, DATED 06/27/1997. (TSCATS/452990).
- Wildlife Intl LTD. (1998). INITIAL SUBMISSION: HEXABROMOCYCLODODECANE (HBCD) - A FLOW-THROUGH LIFE-CYCLE TOXICITY TEST WITH THE CLADOCERAN (DAPHNIA MAGNA), FINAL REPORT, WITH COVER LETTER DATED 5/18/1998. (TSCATS/445953).
- Wildlife Intl LTD. (1998). INITIAL SUBMISSION: LETTER FROM CHEM MFGS ASSN TO USEPA REPORTING RESULTS IN 21-DAY LIFE-CYCLE TOXICITY TEST IN CLADOCERAN (DAPHNIA MAGNA) W/HEXABROMOCYCLODODECANE, DATED 4/23/98. (TSCATS/445416).
- Wilford, BH; Thomas, GO; Jones, KC; Davison, B; Hurst, DK. (2008). Decabromodiphenyl ether (deca-BDE) commercial mixture components, and other PBDEs, in airborne particles at a UK site. *Environ Int.* 34: 412-419. <http://dx.doi.org/10.1016/j.envint.2007.09.007>.
- Williams, AL; Desesso, JM. (2010). The potential of selected brominated flame retardants to affect neurological development [Review]. *J Toxicol Environ Health B Crit Rev.* 13: 411-448. <http://dx.doi.org/10.1080/10937401003751630>.
- Wong, F; Kurt-Karakus, P; Bidleman, TF. (2012). Fate of brominated flame retardants and organochlorine pesticides in urban soil: volatility and degradation. *Environ Sci Technol.* 46: 2668-2674. <http://dx.doi.org/10.1021/es203287x>.
- Wu, HH; Chen, HC; Ding, WH. (2009). Combining microwave-assisted extraction and liquid chromatography-ion-trap mass spectrometry for the analysis of hexabromocyclododecane diastereoisomers in marine sediments. *J Chromatogr A.* 1216: 7755-7760. <http://dx.doi.org/10.1016/j.chroma.2009.09.001>.
- Wu, JP; Guan, YT; Zhang, Y; Luo, XJ; Zhi, H; Chen, SJ; Mai, BX. (2010). Trophodynamics of hexabromocyclododecanes and several other non-PBDE brominated flame retardants in a freshwater food web. *Environ Sci Technol.* 44: 5490-5495. <http://dx.doi.org/10.1021/es101300t>.
- Wu, JP; Guan, YT; Zhang, Y; Luo, XJ; Zhi, H; Chen, SJ; Mai, BX. (2011). Several current-use, non-PBDE brominated flame retardants are highly bioaccumulative: evidence from field determined bioaccumulation factors. *Environ Int.* 37: 210-215. <http://dx.doi.org/10.1016/j.envint.2010.09.006>.
- Wu, M; Wu, D; Wang, C; Guo, Z; Li, B; Zuo, Z. (2016). Hexabromocyclododecane exposure induces cardiac hypertrophy and arrhythmia by inhibiting miR-1 expression via up-regulation of the homeobox gene Nkx2.5. *J Hazard Mater.* 302: 304-313. <http://dx.doi.org/10.1016/j.jhazmat.2015.10.004>.
- Wu, M; Zuo, Z; Li, B; Huang, L; Chen, M; Wang, C. (2013). Effects of low-level hexabromocyclododecane (HBCD) exposure on cardiac development in zebrafish embryos. *Ecotoxicology.* 22: 1200-1207. <http://dx.doi.org/10.1007/s10646-013-1107-4>.
- Wu, MH; Han, T; Xu, G; Zang, C; Li, YJ; Sun, R; Xu, BT; Sun, Y; Chen, FF; Tang, L. (2016). Occurrence of Hexabromocyclododecane in soil and road dust from mixed-land-use areas of Shanghai, China, and its implications for human exposure. *Sci Total Environ.* 559: 282-290. <http://dx.doi.org/10.1016/j.scitotenv.2016.03.166>.
- Wu, MH; Zhu, JY; Tang, L; Liu, N; Peng, BQ; Sun, R; Xu, G. (2014). Hexabromocyclododecanes in surface sediments from Shanghai, China: spatial distribution, seasonal variation and diastereoisomer-specific profiles. *Chemosphere.* 111: 304-311. <http://dx.doi.org/10.1016/j.chemosphere.2014.04.031>.
- Wu, N; Herrmann, T; Paepke, O; Tickner, J; Hale, R; Harvey, E; La Guardia, M; Mcclean, MD; Webster, TF. (2007). Human Exposure to PBDEs: Associations of PBDE Body Burdens with Food Consumption and House Dust Concentrations. *Environ Sci Technol.* 41: 1584-1589. <http://dx.doi.org/10.1021/es0620282>.
- Wu, T; Huang, H; Zhang, S. (2016). Accumulation and phytotoxicity of technical hexabromocyclododecane in maize. *J Environ Sci.* 42: 97-104. <http://dx.doi.org/10.1016/j.jes.2015.06.018>.
- Wu, T; Wang, S; Huang, H; Zhang, S. (2012). Diastereomer-Specific Uptake, Translocation, and Toxicity of Hexabromocyclododecane Diastereoisomers to Maize. *J Agric Food Chem.* 60: 8528-8534. <http://dx.doi.org/10.1021/jf302682p>.
- Xia, C; Lam, JC; Wu, X; Sun, L; Xie, Z; Lam, PK. (2011). Hexabromocyclododecanes (HBCDs) in marine fishes along the Chinese coastline. *Chemosphere.* 82: 1662-1668. <http://dx.doi.org/10.1016/j.chemosphere.2010.11.012>.
- Xian, Q; Ramu, K; Isobe, T; Sudaryanto, A; Liu, X; Gao, Z; Takahashi, S; Yu, H; Tanabe, S. (2008). Levels and body distribution of polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecanes (HBCDs) in freshwater fishes from the Yangtze River, China. *Chemosphere.* 71: 268-276. <http://dx.doi.org/10.1016/j.chemosphere.2007.09.032>.
- Xiang, N; Chen, L; Meng, XZ; Dai, X. (2014). Occurrence of hexabromocyclododecane (HBCD) in sewage sludge from Shanghai: Implications for source and environmental burden. *Chemosphere.* 118C: 207-212. <http://dx.doi.org/10.1016/j.chemosphere.2014.08.058>.
- Xiao, Z; Feng, J; Shi, Z; Li, J; Zhao, Y; Wu, Y. (2011). [Determination of three brominated flame retardants in human serum using solid-phase extraction coupled with ultra-performance liquid chromatography-tandem mass spectrometry and gas chromatography-mass spectrometry]. *Sepu.* 29: 1165-1172.
- Xu, C; Ou, J; Cui, Y; Wang, L; Lv, C; Liu, K; Wang, B; Xu, T; Li, QX; Liu, S. (2013). Development of a monoclonal antibody-based enzyme-linked immunosorbent assay for tetrabromobisphenol A. *Anal Chim Acta.* 32: 113-118. <http://dx.doi.org/10.1089/mab.2012.0099>.
- Xu, D; Liu, X; Lu, R; Xue, P; Zhang, X; Zhou, H; Jia, J. (2011). New dendritic gelator bearing carbazole in each branching unit: selected response to fluoride ion in gel phase. *Org Biomol Chem.* 9: 1523-1528. <http://dx.doi.org/10.1039/c0ob00786b>.
- Xu, J; Zhang, Y; Guo, C; He, Y; Li, L; Meng, W. (2013). Levels and distribution of tetrabromobisphenol a and hexabromocyclododecane in Taihu Lake, China. *Environ Toxicol Chem.* 32: 2249-2255. <http://dx.doi.org/10.1002/etc.2318>.
- Xu, T; Wang, J; Liu, SZ; Lü, C; Shelver, WL; Li, QX; Li, J. (2012). A highly sensitive and selective immunoassay for the detection of tetrabromobisphenol A in soil and sediment. *Anal Chim Acta.* 751: 119-127. <http://dx.doi.org/10.1016/j.aca.2012.06.030>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Xu, W; Nanqi, R; Hong, Q; Wanli, M; Yifan, L. (2009). Levels and distribution of brominated flame retardants in the soil of Harbin in China. *J Environ Sci*. 21: 1541-1546. [http://dx.doi.org/10.1016/S1001-0742\(08\)62452-3](http://dx.doi.org/10.1016/S1001-0742(08)62452-3).
- Xu, Z; Juan, L; MinJie, C; Le, W; Chi, Z; Jie, Z; QunFang, Z; Yong, L. (2011). Toxicity of the brominated flame retardant tris-(2,3-dibromopropyl) isocyanurate in zebrafish (*Danio rerio*). *Chin Sci Bull*. 56: 1548-1555. <http://dx.doi.org/10.1007/s11434-011-4471-6>.
- Yamada, T; Takahama, Y; Yamada, Y. (2009). Isolation of *Pseudomonas* sp. strain HB01 which degrades the persistent brominated flame retardant gamma-hexabromocyclododecane. *Biosci Biotechnol Biochem*. 73: 1674-1678. <http://dx.doi.org/10.1271/bbb.90104>.
- Yanagisawa, R; Koike, E; Win-Shwe, TT; Yamamoto, M; Takano, H. (2014). Impaired lipid and glucose homeostasis in hexabromocyclododecane-exposed mice fed a high-fat diet. *Environ Health Perspect*. 122: 277-283. <http://dx.doi.org/10.1289/ehp.1307421>.
- Yanagisawa, R, ie; Win-Shwe, T; Koike, E; Takano, H. (2013). Impact of hexabromocyclododecane on lipid and glucose metabolism in high-fat diet-induced obese mice. *Toxicol Lett*. 221: S252-S252. <http://dx.doi.org/10.1016/j.toxlet.2013.05.628>.
- Yang, C; Rose, NL; Turner, SD; Yang, H; Goldsmith, B; Losada, S; Barber, JL; Harrad, S. (2016). Hexabromocyclododecanes, polybrominated diphenyl ethers, and polychlorinated biphenyls in radiometrically dated sediment cores from English lakes, ~1950-present. *Sci Total Environ*. 541: 721-728. <http://dx.doi.org/10.1016/j.scitotenv.2015.09.102>.
- Yang, R; Wei, H; Guo, J; Li, A. (2012). Emerging brominated flame retardants in the sediment of the Great Lakes. *Environ Sci Technol*. 46: 3119-3126. <http://dx.doi.org/10.1021/es204141p>.
- Yin, G; Asplund, L; Qiu, Y; Zhou, Y; Wang, H; Yao, Z; Jiang, J; Bergman, A. (2014). Chlorinated and brominated organic pollutants in shellfish from the Yellow Sea and East China Sea. *Environ Sci Pollut Res Int*. 22: 1713-1722. <http://dx.doi.org/10.1007/s11356-014-3198-8>.
- Yu, D; Yang, J; Li, T; Feng, J; Xian, Q; Zhu, J. (2015). Levels and distribution of dechloranes in sediments of Lake Taihu, China. *Environ Sci Pollut Res Int*. 22: 6601-6609. <http://dx.doi.org/10.1007/s11356-014-3794-7>.
- Yu, L, i; Liu, L; Song, S; Kuang, H, ua; Xu, C. (2016). Development of an immunochromatographic test strip and ic-ELISA for tetrabromobisphenol: a detection in lake water and rice pudding samples. *Food and Agricultural Immunology*. 27: 460-470. <http://dx.doi.org/10.1080/09540105.2015.1126234>.
- Yu, L; Luo, X; Zheng, X; Zeng, Y; Chen, D; Wu, J; Mai, B. (2013). Occurrence and biomagnification of organohalogen pollutants in two terrestrial predatory food chains. *Chemosphere*. 93: 506-511. <http://dx.doi.org/10.1016/j.chemosphere.2013.06.023>.
- Yu, LH; Luo, XJ; Liu, HY; Zeng, YH; Zheng, XB; Wu, JP; Yu, YJ; Mai, BX. (2014). Organohalogen contamination in passerine birds from three metropolises in China: geographical variation and its implication for anthropogenic effects on urban environments. *Environ Pollut*. 188: 118-123. <http://dx.doi.org/10.1016/j.envpol.2014.01.023>.
- Yu, Y; Zhou, D; Wu, F. (2015). Mechanism and products of the photolysis of hexabromocyclododecane in acetonitrile-water solutions under a UV-C lamp. *Chem Eng J*. 281: 892-899. <http://dx.doi.org/10.1016/j.cej.2015.07.031>.
- Yu, Z; Chen, L; Mai, B; Wu, M; Sheng, G; Fu, J; Peng, P. (2008). Diastereoisomer- and Enantiomer-specific Profiles of Hexabromocyclododecane in the Atmosphere of an Urban City in South China. *Environ Sci Technol*. 42: 3996-4001. <http://dx.doi.org/10.1021/es7027857>.
- Yu, Z; Peng, P; Sheng, G; Fu, J. (2008). Determination of hexabromocyclododecane diastereoisomers in air and soil by liquid chromatography-electrospray tandem mass spectrometry. *J Chromatogr A*. 1190: 74-79. <http://dx.doi.org/10.1016/j.chroma.2008.02.082>.
- Yuan, JP; Sun, YM; Liu, JH; Yao, YX; Chen, Y. (2016). Determination of hexabromocyclododecane enantiomers in chicken whole blood by a modified quick, easy, cheap, effective, rugged, and safe method with liquid chromatography and tandem mass spectrometry. *J Sep Sci*. 39: 2846-2852. <http://dx.doi.org/10.1002/jssc.201600005>.
- Zacs, D; Rjabova, J; Bartkevics, V. (2014). New perspectives on diastereoselective determination of hexabromocyclododecane traces in fish by ultra high performance liquid chromatography-high resolution orbitrap mass spectrometry. *J Chromatogr A*. 1330: 30-39. <http://dx.doi.org/10.1016/j.chroma.2014.01.023>.
- Zacs, D; Rjabova, J; Pugajeva, I; Nakurte, I; Viksna, A; Bartkevics, V. (2014). Ultra high performance liquid chromatography-time-of-flight high resolution mass spectrometry in the analysis of hexabromocyclododecane diastereomers: Method development and comparative evaluation versus ultra high performance liquid chromatography coupled to Orbitrap high resolution mass spectrometry and triple quadrupole tandem mass spectrometry. *J Chromatogr A*. 1366: 73-83. <http://dx.doi.org/10.1016/j.chroma.2014.09.021>.
- Zegers, BN; Mets, A; Van Bommel, R; Minkenberg, C; Hamers, T; Kamstra, JH; Pierce, GJ; Boon, JP. (2005). Levels of hexabromocyclododecane in harbor porpoises and common dolphins from western European seas, with evidence for stereoisomer-specific biotransformation by cytochrome p450. *Environ Sci Technol*. 39: 2095-2100. <http://dx.doi.org/10.1021/es049209t>.
- Zeller. (1962). Assessment of a possible irritating potential to the eye and to the eye mucosa. Letter from BASF to EPA. Zeller.
- Zeng, W; Terada, T. (2000). Freezability of boar spermatozoa is improved by exposure to 2-hydroxypropyl-beta-cyclodextrin. *Reprod Fertil Dev*. 12: 223-228.
- Zeng, WX; Terada, T. (2001). Protection of boar spermatozoa from cold shock damage by 2-hydroxypropyl-beta-cyclodextrin. *Theriogenology*. 55: 615-627.
- Zeng, Y; Luo, X; Chen, H; Wu, JP; Chen, S; Mai, B, ix. (2012). Separation of polybrominated diphenyl ethers in fish for compound-specific stable carbon isotope analysis. *Sci Total Environ*. 425: 208-213. <http://dx.doi.org/10.1016/j.scitotenv.2012.03.014>.
- Zeng, YH; Luo, XJ; Tang, B; Mai, BX. (2016). Habitat- and species-dependent accumulation of organohalogen pollutants in home-produced eggs from an electronic waste recycling site in South China: Levels, profiles, and human dietary exposure. *Environ Pollut*. 216: 64-70. <http://dx.doi.org/10.1016/j.envpol.2016.05.039>.
- Zhang, CC; Zhang, F, uS. (2014). Recovery of triphenyl phosphate from waste printed circuit boards by solvothermal process. *Chem Eng J*. 240: 10-15. <http://dx.doi.org/10.1016/j.cej.2013.11.048>.
- Zhang, H; Bayen, S; Kelly, BC. (2015). Co-extraction and simultaneous determination of multi-class hydrophobic organic contaminants in marine sediments and biota using GC-EI-MS/MS and LC-ESI-MS/MS. *Talanta*. 143: 7-18. <http://dx.doi.org/10.1016/j.talanta.2015.04.084>.
- Zhang, H; Pan, L; Tao, Y. (2014). Antioxidant responses in clam *Venerupis philippinarum* exposed to environmental pollutant hexabromocyclododecane. *Environ Sci Pollut Res Int*. 21: 8206-8215. <http://dx.doi.org/10.1007/s11356-014-2801-3>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Zhang, H, ui; Pan, L; Tao, Y; Tian, S; Hu, Y. (2013). Identification and expression of differentially expressed genes in clam *Venerupis philippinarum* in response to environmental pollutant hexabromocyclododecane (HBCD). *Exp Mar Bio Ecol.* 445: 166-173. <http://dx.doi.org/10.1016/j.jembe.2013.03.002>.
- Zhang, J; Abdallah, MA; Williams, TD; Harrad, S; Chipman, JK; Viant, MR. (2016). Gene expression and metabolic responses of HepG2/C3A cells exposed to flame retardants and dust extracts at concentrations relevant to indoor environmental exposures. *Chemosphere.* 144: 1996-2003. <http://dx.doi.org/10.1016/j.chemosphere.2015.10.014>.
- Zhang, K; Huang, J; Wang, H; Liu, K; Yu, G; Deng, S; Wang, B. (2014). Mechanochemical degradation of hexabromocyclododecane and approaches for the remediation of its contaminated soil. *Chemosphere.* 116: 40-45. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.006>.
- Zhang, L, i; Na, GS; He, CX; Li, R, ui; Gao, H, ui; Ge, L, inKe; Wang, Y, anJie; Yao, Y, ao. (2016). A novel method through solid phase extraction combined with gradient elution for concentration and separation of 66 (ultra) trace persistent toxic pollutants in Antarctic waters. *Chin Chem Lett.* 27: 405-411. <http://dx.doi.org/10.1016/j.ccllet.2015.12.001>.
- Zhang, X; Yang, F; Zhang, X; Xu, Y; Liao, T; Song, S; Wang, J. (2008). Induction of hepatic enzymes and oxidative stress in Chinese rare minnow (*Gobiocypris rarus*) exposed to waterborne hexabromocyclododecane (HBCDD). *Aquat Toxicol.* 86: 4-11. <http://dx.doi.org/10.1016/j.aquatox.2007.07.002>.
- Zhang, X; Zhang, D; Luo, Z; Lin, L; Yan, C. (2011). Diastereoisomer- and enantiomer-specific profiles of hexabromocyclododecane in the sediment of Dongjiang River, South China. *Environ Chem.* 8: 561-568. <http://dx.doi.org/10.1071/EN10136>.
- Zhang, Y; Sun, H; Liu, F; Dai, Y; Qin, X; Ruan, Y; Zhao, L; Gan, Z. (2013). Hexabromocyclododecanes in limnic and marine organisms and terrestrial plants from Tianjin, China: diastereomer- and enantiomer-specific profiles, biomagnification, and human exposure. *Chemosphere.* 93: 1561-1568. <http://dx.doi.org/10.1016/j.chemosphere.2013.08.004>.
- Zhang, Y; Sun, H; Ruan, Y. (2014). Enantiomer-specific accumulation, depuration, metabolism and isomerization of hexabromocyclododecane (HBCD) diastereoisomers in mirror carp from water. *J Hazard Mater.* 264: 8-15. <http://dx.doi.org/10.1016/j.jhazmat.2013.10.062>.
- Zhang, Y; Sun, H; Zhu, H; Ruan, Y; Liu, F; Liu, X. (2014). Accumulation of hexabromocyclododecane diastereoisomers and enantiomers in two microalgae, *Spirulina subsals* and *Scenedesmus obliquus*. *Ecotoxicol Environ Saf.* 104: 136-142. <http://dx.doi.org/10.1016/j.ecoenv.2014.02.027>.
- Zhang, Y; Wang, L; Sun, H; Yao, T; Zhu, H; Xu, J; Liu, X. (2016). Impacts of loach bioturbation on the selective bioaccumulation of HBCDD diastereoisomers and enantiomers by mirror carp in a microcosm. *Chemosphere.* 163: 471-479. <http://dx.doi.org/10.1016/j.chemosphere.2016.08.065>.
- Zhang, Y; Ye, J; Liu, M. (2016). Enantioselective biotransformation of chiral persistent organic pollutants [Review]. 17: 48-56. <http://dx.doi.org/10.2174/1389203717666160413124027>.
- Zhao, L; Yang, J; Zhan, S; Jiang, J; Yang, S. (2016). BIOREMEDIATION OF SEDIMENT CONTAMINATED WITH DECABROMODIPHENYL ETHER (BDE-209) BY COMPOSTING. *Fresen Environ Bull.* 25: 3700-3708.
- Zhao, RS; Hu, C; Zhou, JB; Yuan, JP; Wang, SS; Wang, X. (2011). Preconcentration and sensitive determination of hexabromocyclododecane diastereoisomers in environmental water samples using solid phase extraction with bamboo charcoal cartridge prior to rapid resolution liquid chromatography-electrospray tandem mass spectrometry. *Anal Bioanal Chem.* 400: 1189-1195. <http://dx.doi.org/10.1007/s00216-011-4857-y>.
- Zhao, YY; Zhang, XH; Sojiniu, OS. (2010). Thermodynamics and photochemical properties of alpha, beta, and gamma-hexabromocyclododecanes: a theoretical study. *Chemosphere.* 80: 150-156. <http://dx.doi.org/10.1016/j.chemosphere.2010.04.002>.
- Zheng, J; Wang, J; Luo, XJ; Tian, M; He, LY; Yuan, JG; Mai, BX; Yang, ZY. (2010). Dechlorane Plus in human hair from an e-waste recycling area in South China: comparison with dust. *Environ Sci Technol.* 44: 9298-9303. <http://dx.doi.org/10.1021/es103105x>.
- Zheng, X; Erratico, C; Abdallah, MA; Negreira, N; Luo, X; Mai, B; Covaci, A. (2015). In vitro metabolism of BDE-47, BDE-99, and α -, β -, γ -HBCD isomers by chicken liver microsomes. *Environ Res.* 143: 221-228. <http://dx.doi.org/10.1016/j.envres.2015.10.023>.
- Zheng, X; Erratico, C; Luo, X; Mai, B; Covaci, A. (2016). Oxidative metabolism of BDE-47, BDE-99, and HBCDs by cat liver microsomes: Implications of cats as sentinel species to monitor human exposure to environmental pollutants. *Chemosphere.* 151: 30-36. <http://dx.doi.org/10.1016/j.chemosphere.2016.02.054>.
- Zheng, XB; Wu, JP; Luo, XJ; Zeng, YH; She, YZ; Mai, BX. (2012). Halogenated flame retardants in home-produced eggs from an electronic waste recycling region in South China: levels, composition profiles, and human dietary exposure assessment. *Environ Int.* 45: 122-128. <http://dx.doi.org/10.1016/j.envint.2012.04.006>.
- Zhong, Y; Peng, P; Yu, Z; Deng, H. (2010). Effects of metals on the transformation of hexabromocyclododecane (HBCD) in solvents: implications for solvent-based recycling of brominated flame retardants. *Chemosphere.* 81: 72-78. <http://dx.doi.org/10.1016/j.chemosphere.2010.06.061>.
- Zhou, D; Wu, Y; Feng, X; Chen, Y; Wang, Z; Tao, T; Wei, D. (2014). Photodegradation of hexabromocyclododecane (HBCD) by Fe(III) complexes/H₂O₂ under simulated sunlight. *Environ Sci Pollut Res Int.* 21: 6228-6233. <http://dx.doi.org/10.1007/s11356-014-2553-0>.
- Zhou, DN; Chen, L; Wu, F; Wang, J; Yang, F. (2012). DEBROMINATION OF HEXABROMOCYCLODODECANE IN AQUEOUS SOLUTIONS BY UV-C IRRADIATION. *Fresen Environ Bull.* 21: 107-111.
- Zhou, T; Ross, DG; DeVito, MJ; Crofton, KM. (2001). Effects of short-term in vivo exposure to polybrominated diphenyl ethers on thyroid hormones and hepatic enzyme activities in weanling rats. *Toxicol Sci.* 61: 76-82.
- Zhou, T; Taylor, MM; Devito, MJ; Crofton, KM. (2002). Developmental exposure to brominated diphenyl ethers results in thyroid hormone disruption. *Toxicol Sci.* 66: 105-116. <http://dx.doi.org/10.1093/toxsci/66.1.105>.
- Zhou, X; Guo, J, ie; Zhang, W, ei; Zhou, P; Deng, J; Lin, K. (2014). Tetrabromobisphenol A contamination and emission in printed circuit board production and implications for human exposure. *J Hazard Mater.* 273: 27-35. <http://dx.doi.org/10.1016/j.jhazmat.2014.03.003>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Zhou, Y; Asplund, L; Yin, G; Athanassiadis, I; Wideqvist, U; Bignert, A; Qiu, Y; Zhu, Z; Zhao, J; Bergman, Å. (2016). Extensive organohalogen contamination in wildlife from a site in the Yangtze River Delta. *Sci Total Environ.* 554-555: 320-328. <http://dx.doi.org/10.1016/j.scitotenv.2016.02.176>.
- Zhu, C; Wang, P; Li, Y; Chen, Z; Li, H; Ssebugere, P; Zhang, Q; Jiang, G. (2017). Trophic transfer of hexabromocyclododecane in the terrestrial and aquatic food webs from an e-waste dismantling region in East China. *Environ Sci Process Impacts.* <http://dx.doi.org/10.1039/c6em00617e>.
- Zhu, H; Sun, H; Zhang, Y; Xu, J; Li, B; Zhou, Q. (2016). Uptake Pathway, Translocation, and Isomerization of Hexabromocyclododecane Diastereoisomers by Wheat in Closed Chambers. *Environ Sci Technol.* 50: 2652-2659. <http://dx.doi.org/10.1021/acs.est.5b05118>.
- Zhu, H; Zhang, K; Sun, H; Wang, F; Yao, Y. (2017). Spatial and temporal distributions of hexabromocyclododecanes in the vicinity of an expanded polystyrene material manufacturing plant in Tianjin, China. *Environ Pollut.* 222: 338-347. <http://dx.doi.org/10.1016/j.envpol.2016.12.029>.
- Zhu, J; Feng, YL; Shoeib, M. (2007). Detection of dechlorane plus in residential indoor dust in the city of Ottawa, Canada. *Environ Sci Technol.* 41: 7694-7698. <http://dx.doi.org/10.1021/es071716y>.
- Zhu, J; Hou, Y; Feng, YL; Shoeib, M; Harner, T. (2008). Identification and determination of hexachlorocyclopentadienyl-dibromocyclooctane (HCDBCO) in residential indoor air and dust: a previously unreported halogenated flame retardant in the environment. *Environ Sci Technol.* 42: 386-391. <http://dx.doi.org/10.1021/es702272s>.
- Zhu, LY; Hites, RA. (2005). Brominated flame retardants in sediment cores from Lakes Michigan and Erie.[erratum appears in *Environ Sci Technol.* 2005 Aug 1;39(15):5904]. *Environ Sci Technol.* 39: 3488-3494. <http://dx.doi.org/10.1021/es048240s>.
- Zhu, N; Fu, J; Gao, Y; Ssebugere, P; Wang, Y; Jiang, G. (2013). Hexabromocyclododecane in alpine fish from the Tibetan Plateau, China. *Environ Pollut.* 181: 7-13. <http://dx.doi.org/10.1016/j.envpol.2013.05.050>.
- Zhu, N; Li, A; Wang, T; Wang, P; Qu, G; Ruan, T; Fu, J; Yuan, B; Zeng, L; Wang, Y; Jiang, G. (2012). Tris(2,3-dibromopropyl) isocyanurate, hexabromocyclododecanes, and polybrominated diphenyl ethers in mollusks from Chinese Bohai Sea. *Environ Sci Technol.* 46: 7174-7181. <http://dx.doi.org/10.1021/es300776f>.
- Zhu, N; Schramm, KW; Wang, T; Henkelmann, B; Fu, J; Gao, Y; Wang, Y; Jiang, G. (2015). Lichen, moss and soil in resolving the occurrence of semi-volatile organic compounds on the southeastern Tibetan Plateau, China. *Sci Total Environ.* 518-519: 328-336. <http://dx.doi.org/10.1016/j.scitotenv.2015.03.024>.
- Zhu, N; Schramm, KW; Wang, T; Henkelmann, B; Zheng, X; Fu, J; Gao, Y; Wang, Y; Jiang, G. (2014). Environmental fate and behavior of persistent organic pollutants in Shergyla Mountain, southeast of the Tibetan Plateau of China. *Environ Pollut.* 191: 166-174. <http://dx.doi.org/10.1016/j.envpol.2014.04.031>.
- Zhu, ZC; Chen, SJ; Zheng, J; Tian, M; Feng, AH; Luo, XJ; Mai, BX. (2014). Occurrence of brominated flame retardants (BFRs), organochlorine pesticides (OCPs), and polychlorinated biphenyls (PCBs) in agricultural soils in a BFR-manufacturing region of North China. *Sci Total Environ.* 481: 47-54. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.023>.
- Zieminska, E; Stafiej, A; Toczylowska, B; Lazarewicz, JW. (2012). Acute Cytotoxicity Evoked by Tetrabromobisphenol A in Primary Cultures of Rat Cerebellar Granule Cells Outweighs the Effects of Polychlorinated Biphenyls. *Pol J Environ Stud.* 21: 1079-1087.
- Zimmer, KE; Montañó, M; Olsaker, I; Dahl, E; Berg, V; Karlsson, C; Murk, AJ; Skaare, JU; Ropstad, E; Verhaegen, S. (2011). In vitro steroidogenic effects of mixtures of persistent organic pollutants (POPs) extracted from burbot (*Lota lota*) caught in two Norwegian lakes. *Sci Total Environ.* 409: 2040-2048. <http://dx.doi.org/10.1016/j.scitotenv.2011.01.055>.
- Zitko, V. (1993). Expanded polystyrene as a source of contaminants. *Mar Pollut Bull.* 26: 584-585.
- Zitko, V. (1994). TLC DETECTION OF BROMINATED FLAME RETARDANTS IN STYROFOAM. *Chemosphere.* 28: 1211-1215.
- Zlamalikova, J; Demnerova, K; Mackova, M; Hajslova, J; Pulkrabova, J; Hradkova, P; Napravnikova, M; Macek, T; Stiborova, H. (2009). Plant uptake of hexabromocyclododecane (HBCD). *FEBS J.* 276: 296-296.
- Zorrilla, LM; Gibson, EK; Jeffay, SC; Crofton, KM; Setzer, WR; Cooper, RL; Stoker, TE. (2009). The effects of triclosan on puberty and thyroid hormones in male Wistar rats. *Toxicol Sci.* 107: 56-64. <http://dx.doi.org/10.1093/toxsci/kfn225>.
- Zou, W; Chen, C; Zhong, Y; An, J; Zhang, X; Yu, Y; Yu, Z; Fu, J. (2013). PI3K/Akt pathway mediates Nrf2/ARE activation in human L02 hepatocytes exposed to low-concentration HBCDs. *Environ Sci Technol.* 47: 12434-12440. <http://dx.doi.org/10.1021/es401791s>.
- Zou, Y; Christensen, ER; Li, A, n. (2013). Characteristic pattern analysis of polybromodiphenyl ethers in Great Lakes sediments: a combination of eigenspace projection and positive matrix factorization analysis. *Environmetrics.* 24: 41-50. <http://dx.doi.org/10.1002/env.2188>.

Exposure Literature Search Results

On Topic

- Abb, M; Stahl, B; Lorenz, W. (2011). Analysis of brominated flame retardants in house dust. *Chemosphere.* 85: 1657-1663. <http://dx.doi.org/10.1016/j.chemosphere.2011.06.022>.
- Abbasi, NA; Malik, RN; Frantz, A; Jaspers, VL. (2016). A review on current knowledge and future prospects of organohalogen contaminants (OHCs) in Asian birds [Review]. *Sci Total Environ.* 542: 411-426. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.088>.
- Abdallah, MA; Harrad, S. (2009). Personal exposure to HBCDs and its degradation products via ingestion of indoor dust. *Environ Int.* 35: 870-876. <http://dx.doi.org/10.1016/j.envint.2009.03.002>.
- Abdallah, MA; Harrad, S. (2011). Tetrabromobisphenol-A, hexabromocyclododecane and its degradation products in UK human milk: relationship to external exposure. *Environ Int.* 37: 443-448. <http://dx.doi.org/10.1016/j.envint.2010.11.008>.
- Abdallah, MA; Harrad, S; Covaci, A. (2008). Hexabromocyclododecanes and tetrabromobisphenol-A in indoor air and dust in Birmingham, U.K: implications for human exposure. *Environ Sci Technol.* 42: 6855-6861. <http://dx.doi.org/10.1021/es801110a>.

Exposure Literature Search Results

On Topic

- Abdallah, MA; Ibarra, C; Neels, H; Harrad, S; Covaci, A. (2008). Comparative evaluation of liquid chromatography-mass spectrometry versus gas chromatography-mass spectrometry for the determination of hexabromocyclododecanes and their degradation products in indoor dust. *J Chromatogr A*. 1190: 333-341. <http://dx.doi.org/10.1016/j.chroma.2008.03.006>.
- Abdallah, MA; Pawar, G; Harrad, S. (2015). Evaluation of 3D-human skin equivalents for assessment of human dermal absorption of some brominated flame retardants. *Environ Int*. 84: 64-70. <http://dx.doi.org/10.1016/j.envint.2015.07.015>.
- Abdallah, MAE; Harrad, S. (2010). Modification and Calibration of a Passive Air Sampler for Monitoring Vapor and Particulate Phase Brominated Flame Retardants in Indoor Air: Application to Car Interiors. *Environ Sci Technol*. 44: 3059-3065. <http://dx.doi.org/10.1021/es100146r>.
- Abdallah, MAE; Harrad, S; Ibarra, C; Diamond, M; Melymuk, L; Robson, M; Covaci, A. (2008). Hexabromocyclododecanes in indoor dust from Canada, the United Kingdom, and the United States. *Environ Sci Technol*. 42: 459-464. <http://dx.doi.org/10.1021/es702378t>.
- Alaee, M. (2003). An overview of commercially used brominated flame retardants, their applications, their use patterns in different countries/regions and possible modes of release [Review]. *Environ Int*. 29: 683-689. [http://dx.doi.org/10.1016/s0160-4120\(03\)00121-1](http://dx.doi.org/10.1016/s0160-4120(03)00121-1).
- Ali, N; Dirtu, AC; Van Den Eede, N; Goosey, E; Harrad, S; Neels, H; 'T Mannelte, A; Coakley, J; Douwes, J; Covaci, A. (2012). Occurrence of alternative flame retardants in indoor dust from New Zealand: indoor sources and human exposure assessment. *Chemosphere*. 88: 1276-1282. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.100>.
- Allen, JG; Stapleton, HM; Vallarino, J; Mcneely, E; Mcclean, MD; Harrad, SJ; Rauer, CB; Spengler, JD. (2013). Exposure to flame retardant chemicals on commercial airplanes. *Environ Health*. 12: 17. <http://dx.doi.org/10.1186/1476-069X-12-17>.
- Allgood, JM; Jimah, T; Mccliskey, CM; La Guardia, MJ; Hammel, SC; Zeineddine, MM; Tang, IW; Runnerstrom, MG; Ogunseitan, OA. (2016). Potential human exposure to halogenated flame-retardants in elevated surface dust and floor dust in an academic environment. *Environ Res*. 153: 55-62. <http://dx.doi.org/10.1016/j.envres.2016.11.010>.
- Al-Odaini, NA; Shim, WJ; Han, GM; Jang, M; Hong, SH. (2015). Enrichment of hexabromocyclododecanes in coastal sediments near aquaculture areas and a wastewater treatment plant in a semi-enclosed bay in South Korea. *Sci Total Environ*. 505: 290-298. <http://dx.doi.org/10.1016/j.scitotenv.2014.10.019>.
- Al-Zaidan, AS; Al-Sarawi, HA; Massoud, MS; Al-Enezi, M; Smith, AJ; Bignell, JP; Green, MJ; Askem, C; Bolam, TP; Barber, JL; Bersuder, P; Lyons, BP. (2015). Histopathology and contaminant concentrations in fish from Kuwait's marine environment. *Mar Pollut Bull*. 100: 637-645. <http://dx.doi.org/10.1016/j.marpolbul.2015.07.030>.
- Andersen, MS; Fuglei, E; König, M; Lipasti, I; Pedersen, ÅØ; Polder, A; Yoccoz, NG; Routti, H. (2015). Levels and temporal trends of persistent organic pollutants (POPs) in arctic foxes (*Vulpes lagopus*) from Svalbard in relation to dietary habits and food availability. *Sci Total Environ*. 511: 112-122. <http://dx.doi.org/10.1016/j.scitotenv.2014.12.039>.
- Aniagu, SO; Williams, TD; Allen, Y; Katsiadaki, I; Chipman, JK. (2008). Global genomic methylation levels in the liver and gonads of the three-spine stickleback (*Gasterosteus aculeatus*) after exposure to hexabromocyclododecane and 17-beta oestradiol. *Environ Int*. 34: 310-317. <http://dx.doi.org/10.1016/j.envint.2007.03.009>.
- Anon. (2015). Substance Monograph for 1,2,5,6,9,10-Hexabromocyclododecane (HBCDD) - HBM-levels for HBCDD in the Fatty Component of Breast Milk or of Blood Plasma. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz*. 58: 889-907. <http://dx.doi.org/10.1007/s00103-015-2193-7>.
- Antignac, JP; Cariou, R; Maume, D; Marchand, P; Monteau, F; Zalko, D; Berrebi, A; Cravedi, JP; Andre, F; Le Bizec, B. (2008). Exposure assessment of fetus and newborn to brominated flame retardants in France: preliminary data. *Mol Nutr Food Res*. 52: 258-265. <http://dx.doi.org/10.1002/mnfr.200700077>.
- Antignac, JP; Main, KM; Virtanen, HE; Boquien, CY; Marchand, P; Venisseau, A; Guiffard, I; Bichon, E; Wohlfahrt-Veje, C; Legrand, A; Boscher, C; Skakkebaek, NE; Toppari, J; Le Bizec, B. (2016). Country-specific chemical signatures of persistent organic pollutants (POPs) in breast milk of French, Danish and Finnish women. *Environ Pollut*. 218: 728-738. <http://dx.doi.org/10.1016/j.envpol.2016.07.069>.
- Arinaitwe, K; Muir, DC; Kiremire, BT; Fellin, P; Li, H; Teixeira, C. (2014). Polybrominated diphenyl ethers and alternative flame retardants in air and precipitation samples from the northern Lake Victoria region, East Africa. *Environ Sci Technol*. 48: 1458-1466. <http://dx.doi.org/10.1021/es403600a>.
- Arnot, JA; Armitage, JM; Mccarty, LS; Wania, F; Cousins, IT; Toose-Reid, L. (2011). Toward a Consistent Evaluative Framework for POP Risk Characterization. *Environ Sci Technol*. 45: 97-103. <http://dx.doi.org/10.1021/es102551d>.
- Asante, KA; Adu-Kumi, S; Nakahiro, K; Takahashi, S; Isobe, T; Sudaryanto, A; Devanathan, G; Clarke, E; Ansa-Asare, OD; Dapaah-Siakwan, S; Tanabe, S. (2011). Human exposure to PCBs, PBDEs and HBCDs in Ghana: Temporal variation, sources of exposure and estimation of daily intakes by infants. *Environ Int*. 37: 921-928. <http://dx.doi.org/10.1016/j.envint.2011.03.011>.
- Asante, KA; Takahashi, S; Itai, T; Isobe, T; Devanathan, G; Muto, M; Agyakwah, SK; Adu-Kumi, S; Subramanian, A; Tanabe, S. (2013). Occurrence of halogenated contaminants in inland and coastal fish from Ghana: levels, dietary exposure assessment and human health implications. *Ecotoxicol Environ Saf*. 94: 123-130. <http://dx.doi.org/10.1016/j.ecoenv.2013.05.008>.
- Aylward, LL; Hays, SM. (2011). Biomonitoring-based risk assessment for hexabromocyclododecane (HBCD) [Review]. *Int J Hyg Environ Health*. 214: 179-187. <http://dx.doi.org/10.1016/j.ijheh.2011.02.002>.
- Aznar-Alemany, Ò; Trabalón, L; Jacobs, S; Barbosa, VL; Tejedor, MF; Granby, K; Kwadijk, C; Cunha, SC; Ferrari, F; Vandermeersch, G; Sioen, I; Verbeke, W; Vilavert, L; Domingo, JL; Eljarrat, E; Barceló, D. (2016). Occurrence of halogenated flame retardants in commercial seafood species available in European markets. *Food Chem Toxicol*. 24. <http://dx.doi.org/10.1016/j.fct.2016.12.034>.
- Barghi, M; Shin, ES; Son, MH; Choi, SD; Pyo, H; Chang, YS. (2016). Hexabromocyclododecane (HBCD) in the Korean food basket and estimation of dietary exposure. *Environ Pollut*. 213: 268-277. <http://dx.doi.org/10.1016/j.envpol.2016.02.026>.
- Baron, E; Bosch, C; Manez, M; Andreu, A; Sergio, F; Hiraldo, F; Eljarrat, E; Barcelo, D. (2015). Temporal trends in classical and alternative flame retardants in bird eggs from Donana Natural Space and surrounding areas (south-western Spain) between 1999 and 2013. *Chemosphere*. 138: 316-323. <http://dx.doi.org/10.1016/j.chemosphere.2015.06.013>.

Exposure Literature Search Results

On Topic

- Baron, E; Gimenez, J; Verborgh, R; Gauffier, P; De Stephanis, R; Eljarrat, E; Barcelo, D. (2015). Bioaccumulation and biomagnification of classical flame retardants, related halogenated natural compounds and alternative flame retardants in three delphinids from Southern European waters. *Environ Pollut.* 203: 107-115. <http://dx.doi.org/10.1016/j.envpol.2015.03.041>.
- Birnbaum, LS; Staskal, DF. (2004). Brominated flame retardants: Cause for concern? [Review]. *Environ Health Perspect.* 112: 9-17. <http://dx.doi.org/10.1289/ehp.6559>.
- Bjeremo, H; Aune, M; Cantillana, T; Glynn, A; Lind, PM; Ridefelt, P; Darnerud, PO. (2017). Serum levels of brominated flame retardants (BFRs: PBDE, HBCD) and influence of dietary factors in a population-based study on Swedish adults. *Chemosphere.* 167: 485-491. <http://dx.doi.org/10.1016/j.chemosphere.2016.10.008>.
- Björklund, JA; Sellström, U; de Wit, CA; Aune, M; Lignell, S; Darnerud, PO. (2012). Comparisons of polybrominated diphenyl ether and hexabromocyclododecane concentrations in dust collected with two sampling methods and matched breast milk samples. *Indoor Air.* 22: 279-288. <http://dx.doi.org/10.1111/j.1600-0668.2011.00765.x>.
- Bogdal, C; Schmid, P; Kohler, M; Müller, CE; Iozza, S; Bucheli, TD; Scheringer, M; Hungerbühler, K. (2008). Sediment record and atmospheric deposition of brominated flame retardants and organochlorine compounds in Lake Thun, Switzerland: lessons from the past and evaluation of the present. *Environ Sci Technol.* 42: 6817-6822. <http://dx.doi.org/10.1021/es800964z>.
- Boyles, E; Tan, H; Wu, Y; Nielsen, CK; Shen, L; Reiner, EJ; Chen, D. (2017). Halogenated flame retardants in bobcats from the midwestern United States. *Environ Pollut.* 221: 191-198. <http://dx.doi.org/10.1016/j.envpol.2016.11.063>.
- Brandli, RC; Kupper, T; Bucheli, TD; Zennegg, M; Huber, S; Ortelli, D; Müller, J; Schaffner, C; Iozza, S; Schmid, P; Berger, U; Edder, P; Oehme, M; Stadelmann, FX; Tarradellas, J. (2007). Organic pollutants in compost and digestate. Part 2. Polychlorinated dibenzo-p-dioxins, and -furans, dioxin-like polychlorinated biphenyls, brominated flame retardants, perfluorinated alkyl substances, pesticides, and other compounds. *J Environ Monit.* 9: 465-472. <http://dx.doi.org/10.1039/b617103f>.
- Brandsma, SH; Leonards, PE; Leslie, HA; de Boer, J. (2014). Tracing organophosphorus and brominated flame retardants and plasticizers in an estuarine food web. *Sci Total Environ.* 505C: 22-31. <http://dx.doi.org/10.1016/j.scitotenv.2014.08.072>.
- Brandsma, SH; Van der Ven, LT; De Boer, J; Leonards, PE. (2009). Identification of hydroxylated metabolites of hexabromocyclododecane in wildlife and 28-days exposed Wistar rats. *Environ Sci Technol.* 43: 6058-6063. <http://dx.doi.org/10.1021/es900879k>.
- Braune, BM; Letcher, RJ; Gaston, AJ; Mallory, ML. (2015). Trends of polybrominated diphenyl ethers and hexabromocyclododecane in eggs of Canadian Arctic seabirds reflect changing use patterns. *Environ Res.* 142: 651-661. <http://dx.doi.org/10.1016/j.envres.2015.08.010>.
- Braune, BM; Mallory, ML; Grant Gilchrist, H; Letcher, RJ; Drouillard, KG. (2007). Levels and trends of organochlorines and brominated flame retardants in ivory gull eggs from the Canadian Arctic, 1976 to 2004. *Sci Total Environ.* 378: 403-417. <http://dx.doi.org/10.1016/j.scitotenv.2007.03.003>.
- Bustnes, JO; Borgå, K; Dempster, T; Lie, E; Nygård, T; Uglem, I. (2012). Latitudinal distribution of persistent organic pollutants in pelagic and demersal marine fish on the Norwegian Coast. *Environ Sci Technol.* 46: 7836-7843. <http://dx.doi.org/10.1021/es301191t>.
- Bustnes, JO; Lie, E; Herzke, D; Dempster, T; Bjørn, PA; Nygård, T; Uglem, I. (2010). Salmon farms as a source of organohalogenated contaminants in wild fish. *Environ Sci Technol.* 44: 8736-8743. <http://dx.doi.org/10.1021/es102195d>.
- Bustnes, JO; Yoccoz, NG; Bangjord, G; Polder, A; Skaare, JU. (2007). Temporal trends (1986-2004) of organochlorines and brominated flame retardants in tawny owl eggs from northern Europe. *Environ Sci Technol.* 41: 8491-8497. <http://dx.doi.org/10.1021/es071581w>.
- Cao, Z; Xu, F; Li, W; Sun, J; Shen, M; Su, X; Feng, J; Yu, G; Covaci, A. (2015). Seasonal and Particle Size-Dependent Variations of Hexabromocyclododecanes in Settled Dust: Implications for Sampling. *Environ Sci Technol.* 49: 11151-11157. <http://dx.doi.org/10.1021/acs.est.5b01717>.
- Carignan, CC; Abdallah, MA; Wu, N; Heiger-Bernays, W; McClean, MD; Harrad, S; Webster, TF. (2012). Predictors of tetrabromobisphenol-A (TBBP-A) and hexabromocyclododecanes (HBCD) in milk from Boston mothers. *Environ Sci Technol.* 46: 12146-12153. <http://dx.doi.org/10.1021/es302638d>.
- Cheaib, Z; Grandjean, D; Kupper, T; de Alencastro, LF. (2009). Brominated flame retardants in fish of Lake Geneva (Switzerland). *Bull Environ Contam Toxicol.* 82: 522-527. <http://dx.doi.org/10.1007/s00128-008-9628-x>.
- Chen, D; Hale, RC; La Guardia, MJ; Luellen, D; Kim, S; Geisz, HN. (2015). Hexabromocyclododecane flame retardant in Antarctica: Research stations as sources. *Environ Pollut.* 206: 611-618. <http://dx.doi.org/10.1016/j.envpol.2015.08.024>.
- Chen, D; La Guardia, MJ; Luellen, DR; Harvey, E; Mainor, TM; Hale, RC. (2011). Do temporal and geographical patterns of HBCD and PBDE flame retardants in U.S. fish reflect evolving industrial usage? *Environ Sci Technol.* 45: 8254-8261. <http://dx.doi.org/10.1021/es201444w>.
- Chen, D; Letcher, RJ; Burgess, NM; Champoux, L; Elliott, JE; Hebert, CE; Martin, P; Wayland, M; Chip Weseloh, DV; Wilson, L. (2012). Flame retardants in eggs of four gull species (Laridae) from breeding sites spanning Atlantic to Pacific Canada [Review]. *Environ Pollut.* 168: 1-9. <http://dx.doi.org/10.1016/j.envpol.2012.03.040>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2015). Alkylphenol ethoxylates and brominated flame retardants in water, fish (carp) and sediment samples from the Vaal River, South Africa. *Environ Sci Pollut Res Int.* 22: 11922-11929. <http://dx.doi.org/10.1007/s11356-015-4430-x>.
- Chokwe, TB; Okonkwo, OJ; Sibali, LL; Mporetji, SM. (2016). Occurrence and Distribution Pattern of Alkylphenol Ethoxylates and Brominated Flame Retardants in Sediment Samples from Vaal River, South Africa. *Bull Environ Contam Toxicol.* 97: 353-358. <http://dx.doi.org/10.1007/s00128-016-1886-4>.
- Coelho, SD; Sousa, A, nA; Isobe, T; Tanabe, S; Nogueira, AJA. (2014). Flame Retardants in Indoor Dust - A Review on the Levels of Polybrominated Diphenyl Ethers and Hexabromocyclododecanes. *Current Organic Chemistry.* 18: 2218-2230.
- Coelho, SD; Sousa, AC; Isobe, T; Kim, JW; Kunisue, T; Nogueira, AJ; Tanabe, S. (2016). Brominated, chlorinated and phosphate organic contaminants in house dust from Portugal. *Sci Total Environ.* 569-570: 442-449. <http://dx.doi.org/10.1016/j.scitotenv.2016.06.137>.

Exposure Literature Search Results

On Topic

- Coelho, SD; Sousa, AC; Isobe, T; Kunisue, T; Nogueira, AJ; Tanabe, S. (2016). Brominated flame retardants and organochlorine compounds in duplicate diet samples from a Portuguese academic community. *Chemosphere*. 160: 89-94. <http://dx.doi.org/10.1016/j.chemosphere.2016.06.038>.
- Colles, A; Koppen, G; Hanot, V; Nelen, V; Dewolf, MC; Noël, E; Malisch, R; Kotz, A; Kypke, K; Biot, P; Vinkx, C; Schoeters, G. (2008). Fourth WHO-coordinated survey of human milk for persistent organic pollutants (POPs): Belgian results. *Chemosphere*. 73: 907-914. <http://dx.doi.org/10.1016/j.chemosphere.2008.07.002>.
- Covaci, A; Gerecke, AC; Law, RJ; Voorspoels, S; Kohler, M; Heeb, NV; Leslie, H; Allchin, CR; De Boer, J. (2006). Hexabromocyclododecanes (HBCDs) in the environment and humans: a review [Review]. *Environ Sci Technol*. 40: 3679-3688. <http://dx.doi.org/10.1021/es0602492>.
- Covaci, A; Roosens, L; Dirtu, AC; Waegeneers, N; Van Overmeire, I; Neels, H; Goeyens, L. (2009). Brominated flame retardants in Belgian home-produced eggs: levels and contamination sources. *Sci Total Environ*. 407: 4387-4396. <http://dx.doi.org/10.1016/j.scitotenv.2008.09.057>.
- Croes, K; Colles, A; Koppen, G; Govarts, E; Bruckers, L; Van de Mierop, E; Nelen, V; Covaci, A; Dirtu, AC; Thomsen, C; Haug, LS; Becher, G; Mampaey, M; Schoeters, G; Van Larebeke, N; Baeyens, W. (2012). Persistent organic pollutants (POPs) in human milk: a biomonitoring study in rural areas of Flanders (Belgium). *Chemosphere*. 89: 988-994. <http://dx.doi.org/10.1016/j.chemosphere.2012.06.058>.
- Darnerud, P; Lignell, S; Aune, M; Isaksson, M; Cantillana, T; Redeby, J; Glynn, A. (2015). Time trends of polybrominated diphenylether (PBDE) congeners in serum of Swedish mothers and comparisons to breast milk data. *Environ Res*. 138: 352-360. <http://dx.doi.org/10.1016/j.envres.2015.02.031>.
- Darnerud, PO; Aune, M; Larsson, L; Lignell, S; Mutshatshi, T; Okonkwo, J; Botha, B; Agyei, N. (2011). Levels of brominated flame retardants and other persistent organic pollutants in breast milk samples from Limpopo Province, South Africa. *Sci Total Environ*. 409: 4048-4053. <http://dx.doi.org/10.1016/j.scitotenv.2011.05.054>.
- de Boer, J. (2004). Brominated Flame Retardants in the Environment-The Price for our Convenience? *Environ Chem*. 1: 81-85. <http://dx.doi.org/10.1071/EN04038>.
- de Wit, CA. (2002). An overview of brominated flame retardants in the environment [Review]. *Chemosphere*. 46: 583-624.
- de Wit, CA; Alaee, M; Muir, DC. (2006). Levels and trends of brominated flame retardants in the Arctic. *Chemosphere*. 64: 209-233. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.029>.
- de Wit, CA; Björklund, JA; Thuresson, K. (2012). Tri-decabrominated diphenyl ethers and hexabromocyclododecane in indoor air and dust from Stockholm microenvironments 2: indoor sources and human exposure. *Environ Int*. 39: 141-147. <http://dx.doi.org/10.1016/j.envint.2011.11.001>.
- de Wit, CA; Herzke, D; Vorkamp, K. (2010). Brominated flame retardants in the Arctic environment -- trends and new candidates [Review]. *Sci Total Environ*. 408: 2885-2918. <http://dx.doi.org/10.1016/j.scitotenv.2009.08.037>.
- Devanathan, G; Subramanian, A; Sudaryanto, A; Takahashi, S; Isobe, T; Tanabe, S. (2012). Brominated flame retardants and polychlorinated biphenyls in human breast milk from several locations in India: potential contaminant sources in a municipal dumping site. *Environ Int*. 39: 87-95. <http://dx.doi.org/10.1016/j.envint.2011.10.005>.
- D'Hollander, W; Roosens, L; Covaci, A; Cornelis, C; Reynders, H; Campenhout, KV; Voogt, P, d; Bervoets, L. (2010). Brominated flame retardants and perfluorinated compounds in indoor dust from homes and offices in Flanders, Belgium. *Chemosphere*. 81: 478-487. <http://dx.doi.org/10.1016/j.chemosphere.2010.07.043>.
- Dietz, R; Rigét, FF; Sonne, C; Born, EW; Bechshøft, T; Mckinney, MA; Drimmie, RJ; Muir, DC; Letcher, RJ. (2013). Three decades (1983-2010) of contaminant trends in East Greenland polar bears (*Ursus maritimus*). Part 2: Brominated flame retardants. *Environ Int*. 59: 494-500. <http://dx.doi.org/10.1016/j.envint.2012.09.008>.
- Ding, WW; Tian, Y; Jin, J; Wang, Y; Cui, C; Zhang, L; Gao, Y; Wang, XJ; Shi, R. (2011). [Levels of hexabromocyclododecane in human breast milk and the daily intake of newborns in a Shanghai hospital]. *Zhonghua Yufang Yixue Zazhi*. 45: 498-501.
- Dirtu, AC; Ali, N; Van den Eede, N; Neels, H; Covaci, A. (2012). Country specific comparison for profile of chlorinated, brominated and phosphate organic contaminants in indoor dust. Case study for Eastern Romania, 2010. *Environ Int*. 49: 1-8. <http://dx.doi.org/10.1016/j.envint.2012.08.002>.
- Dirtu, AC; Covaci, A. (2010). Estimation of daily intake of organohalogenated contaminants from food consumption and indoor dust ingestion in Romania. *Environ Sci Technol*. 44: 6297-6304. <http://dx.doi.org/10.1021/es101233z>.
- Drage, D; Mueller, JF; Birch, G; Eaglesham, G; Hearn, LK; Harrad, S. (2015). Historical trends of PBDEs and HBCDs in sediment cores from Sydney estuary, Australia. *Sci Total Environ*. 512-513: 177-184. <http://dx.doi.org/10.1016/j.scitotenv.2015.01.034>.
- Drage, DS; Mueller, JF; Hobson, P; Harden, FA; Toms, LL. (2017). Demographic and temporal trends of hexabromocyclododecanes (HBCDD) in an Australian population. *Environ Res*. 152: 192-198. <http://dx.doi.org/10.1016/j.envres.2016.10.015>.
- Drage, DS; Newton, S; de Wit, CA; Harrad, S. (2016). Concentrations of legacy and emerging flame retardants in air and soil on a transect in the UK West Midlands. *Chemosphere*. 148: 195-203. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.034>.
- Driffield, M; Harmer, N; Bradley, E; Fernandes, AR; Rose, M; Mortimer, D; Dicks, P. (2008). Determination of brominated flame retardants in food by LC-MS/MS: diastereoisomer-specific hexabromocyclododecane and tetrabromobisphenol A. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess*. 25: 895-903. <http://dx.doi.org/10.1080/02652030701882999>.
- Duan, H; Yu, D; Zuo, J; Yang, B; Zhang, Y; Niu, Y. (2016). Characterization of brominated flame retardants in construction and demolition waste components: HBCD and PBDEs. *Sci Total Environ*. 572: 77-85. <http://dx.doi.org/10.1016/j.scitotenv.2016.07.165>.
- Eggesbø, M; Thomsen, C; Jørgensen, JV; Becher, G; Odland, JØ; Longnecker, MP. (2011). Associations between brominated flame retardants in human milk and thyroid-stimulating hormone (TSH) in neonates. *Environ Res*. 111: 737-743. <http://dx.doi.org/10.1016/j.envres.2011.05.004>.

Exposure Literature Search Results

On Topic

- Eguchi, A; Isobe, T; Ramu, K; Tue, NM; Sudaryanto, A; Devanathan, G; Viet, PH; Tana, RS; Takahashi, S; Subramanian, A; Tanabe, S. (2013). Soil contamination by brominated flame retardants in open waste dumping sites in Asian developing countries. *Chemosphere*. 90: 2365-2371. <http://dx.doi.org/10.1016/j.chemosphere.2012.10.027>.
- Eljarrat, E; de la Cal, A; Raldua, D; Duran, C; Barcelo, D. (2005). Brominated flame retardants in *Alburnus alburnus* from Cinca River Basin (Spain). *Environ Pollut*. 133: 501-508. <http://dx.doi.org/10.1016/j.envpol.2004.06.017>.
- Eljarrat, E; de la Cal, A; Raldua, D; Duran, C; Barceló, D. (2004). Occurrence and bioavailability of polybrominated diphenyl ethers and hexabromocyclododecane in sediment and fish from the Cinca River, a tributary of the Ebro River (Spain). *Environ Sci Technol*. 38: 2603-2608.
- Eljarrat, E; Gorga, M; Gasser, M; Díaz-Ferrero, J; Barceló, D. (2014). Dietary exposure assessment of Spanish citizens to hexabromocyclododecane through the diet. *J Agric Food Chem*. 62: 2462-2468. <http://dx.doi.org/10.1021/jf405007x>.
- Eljarrat, E; Guerra, P; Martínez, E; Farré, M; Alvarez, JG; López-Teijón, M; Barceló, D. (2009). Hexabromocyclododecane in human breast milk: levels and enantiomeric patterns. *Environ Sci Technol*. 43: 1940-1946. <http://dx.doi.org/10.1021/es802919e>.
- Esslinger, S; Becker, R; Jung, C; Schröter-Kermani, C; Bremser, W; Nehls, I. (2011). Temporal trend (1988-2008) of hexabromocyclododecane enantiomers in herring gull eggs from the German coastal region. *Chemosphere*. 83: 161-167. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.047>.
- Eulaers, I; Jaspers, VL; Pinxten, R; Covaci, A; Eens, M. (2014). Legacy and current-use brominated flame retardants in the Barn Owl. *Sci Total Environ*. 472: 454-462. <http://dx.doi.org/10.1016/j.scitotenv.2013.11.054>.
- Evenset, A; Christensen, GN; Carroll, J; Zaborska, A; Berger, U; Herzke, D; Gregor, D. (2007). Historical trends in persistent organic pollutants and metals recorded in sediment from Lake Ellasjoen, Bjornoya, Norwegian Arctic. *Environ Pollut*. 146: 196-205. <http://dx.doi.org/10.1016/j.envpol.2006.04.038>.
- Feng, AH; Chen, SJ; Chen, MY; He, MJ; Luo, XJ; Mai, BX. (2012). Hexabromocyclododecane (HBCD) and tetrabromobisphenol A (TBBPA) in riverine and estuarine sediments of the Pearl River Delta in southern China, with emphasis on spatial variability in diastereoisomer- and enantiomer-specific distribution of HBCD. *Mar Pollut Bull*. 64: 919-925. <http://dx.doi.org/10.1016/j.marpolbul.2012.03.008>.
- Fernandes, A; Dicks, P; Mortimer, D; Gem, M; Smith, F; Driffield, M; White, S; Rose, M. (2008). Brominated and chlorinated dioxins, PCBs and brominated flame retardants in Scottish shellfish: methodology, occurrence and human dietary exposure. *Mol Nutr Food Res*. 52: 238-249. <http://dx.doi.org/10.1002/mnfr.200700135>.
- Fernandes, AR; Mortimer, D; Rose, M; Smith, F; Panton, S; Garcia-Lopez, M. (2016). Bromine content and brominated flame retardants in food and animal feed from the UK. *Chemosphere*. 150: 472-478. <http://dx.doi.org/10.1016/j.chemosphere.2015.12.042>.
- Fernie, KJ; Letcher, RJ. (2010). Historical contaminants, flame retardants, and halogenated phenolic compounds in peregrine Falcon (*Falco peregrinus*) nestlings in the Canadian Great Lakes Basin. *Environ Sci Technol*. 44: 3520-3526. <http://dx.doi.org/10.1021/es100400n>.
- Fliedner, A; Lohmann, N; Rüdél, H; Teubner, D; Wellmitz, J; Koschorreck, J. (2016). Current levels and trends of selected EU Water Framework Directive priority substances in freshwater fish from the German environmental specimen bank. *Environ Pollut*. 216: 866-876. <http://dx.doi.org/10.1016/j.envpol.2016.06.060>.
- Fournier, A; Feidt, C; Marchand, P; Véniisseau, A; Le Bizec, B; Sellier, N; Engel, E; Ratel, J; Travel, A; Jondreville, C. (2012). Kinetic study of γ -hexabromocyclododecane orally given to laying hens (*Gallus domesticus*). "Transfer of HBCD in laying hens". *Environ Sci Pollut Res Int*. 19: 440-447. <http://dx.doi.org/10.1007/s11356-011-0573-6>.
- Frederiksen, M; Vorkamp, K; Bossi, R; Riget, F; Dam, M; Svensmark, B, o. (2007). Method development for simultaneous analysis of HBCD, TBBPA, and dimethyl-TBBPA in marine biota from Greenland and the Faroe Islands. *Int J Environ Anal Chem*. 87: 1095-1109.
- Fromme, H; Becher, G; Hilger, B; Völkel, W. (2015). Brominated flame retardants - Exposure and risk assessment for the general population [Review]. *Int J Hyg Environ Health*. 219: 1-23. <http://dx.doi.org/10.1016/j.ijheh.2015.08.004>.
- Fromme, H; Hilger, B; Albrecht, M; Gries, W; Leng, G; Völkel, W. (2016). Occurrence of chlorinated and brominated dioxins/furans, PCBs, and brominated flame retardants in blood of German adults. *Int J Hyg Environ Health*. 219: 380-388. <http://dx.doi.org/10.1016/j.ijheh.2016.03.003>.
- Fromme, H; Hilger, B; Kopp, E; Miserok, M; Völkel, W. (2014). Polybrominated diphenyl ethers (PBDEs), hexabromocyclododecane (HBCD) and "novel" brominated flame retardants in house dust in Germany. *Environ Int*. 64: 61-68. <http://dx.doi.org/10.1016/j.envint.2013.11.017>.
- Gao, S; Wang, J; Yu, Z; Guo, Q; Sheng, G; Fu, J. (2011). Hexabromocyclododecanes in surface soils from E-waste recycling areas and industrial areas in South China: concentrations, diastereoisomer- and enantiomer-specific profiles, and inventory. *Environ Sci Technol*. 45: 2093-2099. <http://dx.doi.org/10.1021/es1033712>.
- García-Valcárcel, AI; Tadeo, JL. (2009). Determination of hexabromocyclododecane isomers in sewage sludge by LC-MS/MS. *J Sep Sci*. 32: 3890-3897. <http://dx.doi.org/10.1002/jssc.200900424>.
- Gauthier, LT; Hebert, CE; Weseloh, DV; Letcher, RJ. (2007). Current-use flame retardants in the eggs of herring gulls (*Larus argentatus*) from the Laurentian Great Lakes. *Environ Sci Technol*. 41: 4561-4567. <http://dx.doi.org/10.1021/es0630487>.
- Gebbink, WA; Sonne, C; Dietz, R; Kirkegaard, M; Born, EW; Muir, DC; Letcher, RJ. (2008). Target tissue selectivity and burdens of diverse classes of brominated and chlorinated contaminants in polar bears (*Ursus maritimus*) from East Greenland. *Environ Sci Technol*. 42: 752-759. <http://dx.doi.org/10.1021/es071941f>.
- Gerecke, AC; Schmid, P; Bogdal, C; Kohler, M; Zennegg, M; Heeb, NV. (2008). Brominated flame retardants - Endocrine-disrupting chemicals in the Swiss environment. *Chimia*. 62: 352-357. <http://dx.doi.org/10.2533/chimia.2008.352>.
- Gilchrist, TT; Letcher, RJ; Thomas, P; Fernie, KJ. (2014). Polybrominated diphenyl ethers and multiple stressors influence the reproduction of free-ranging tree swallows (*Tachycineta bicolor*) nesting at wastewater treatment plants. *Sci Total Environ*. 472: 63-71. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.090>.

Exposure Literature Search Results

On Topic

- Glynn, A; Lignell, S; Darnerud, PO; Aune, M; Halldin Ankarberg, E; Bergdahl, IA; Barregård, L; Bensryd, I. (2011). Regional differences in levels of chlorinated and brominated pollutants in mother's milk from primiparous women in Sweden. *Environ Int.* 37: 71-79. <http://dx.doi.org/10.1016/j.envint.2010.07.003>.
- Gosciny, S; Vandevijvere, S; Maleki, M; Van Overmeire, I; Windal, I; Hanot, V; Blaude, MN; Vleminckx, C; Van Loco, J. (2011). Dietary intake of hexabromocyclododecane diastereoisomers (α -, β -, and γ -HBCD) in the Belgian adult population. *Chemosphere.* 84: 279-288. <http://dx.doi.org/10.1016/j.chemosphere.2011.04.048>.
- Guerra, P; Alae, M; Jiménez, B; Pacepavicius, G; Marvin, C; Macinnis, G; Eljarrat, E; Barceló, D; Champoux, L; Fernie, K. (2012). Emerging and historical brominated flame retardants in peregrine falcon (*Falco peregrinus*) eggs from Canada and Spain. *Environ Int.* 40: 179-186. <http://dx.doi.org/10.1016/j.envint.2011.07.014>.
- Guerra, P; De La Cal, A; Marsh, G; Eljarrat, E; Barcelo, D. (2009). Transfer of hexabromocyclododecane from industrial effluents to sediments and biota: Case study in Cinca river (Spain). *J Hydrol.* 369: 360-367. <http://dx.doi.org/10.1016/j.jhydrol.2009.02.024>.
- Guerra, P; de La Cal, A; Marsh, G; Raldua, D; Barata, C; Eljarrat, E; Barcelo, D. (2009). Transfer of hexabromocyclododecane from industrial effluents to sediments and biota: Case study in Cinca river (Spain) (vol 369, pg 360, 2009). *J Hydrol.* 378: 355-355. <http://dx.doi.org/10.1016/j.jhydrol.2009.09.008>.
- Guerra, P; Eljarrat, E; Barcelo, D. (2010). Analysis and occurrence of emerging brominated flame retardants in the Llobregat River basin. *J Hydrol.* 383: 39-43. <http://dx.doi.org/10.1016/j.jhydrol.2009.06.052>.
- Guerra, P; Eljarrat, E; Barceló, D. (2010). Simultaneous determination of hexabromocyclododecane, tetrabromobisphenol A, and related compounds in sewage sludge and sediment samples from Ebro River basin (Spain). *Anal Bioanal Chem.* 397: 2817-2824. <http://dx.doi.org/10.1007/s00216-010-3670-3>.
- Hajslova, J; Pulkrabova, J; Poustka, J, an; Cajka, T; Randak, T. (2007). Brominated flame retardants and related chlorinated persistent organic pollutants in fish from river Elbe and its main tributary Vltava. *Chemosphere.* 69: 1195-1203. <http://dx.doi.org/10.1016/j.chemosphere.2007.06.030>.
- Hakk, H; Letcher, RJ. (2003). Metabolism in the toxicokinetics and fate of brominated flame retardants--a review [Review]. *Environ Int.* 29: 801-828. [http://dx.doi.org/10.1016/S0160-4120\(03\)00109-0](http://dx.doi.org/10.1016/S0160-4120(03)00109-0).
- Hale, RC; La Guardia, MJ; Harvey, E; Gaylor, MO; Mainor, TM. (2006). Brominated flame retardant concentrations and trends in abiotic media. *Chemosphere.* 64: 181-186. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.006>.
- Han, C; Chen, X; Xie, W; Zhu, Z; Liu, C; Chen, F; Shen, Y. (2010). Determination of hexabromocyclododecane diastereoisomers in *Sargassum fusiforme* and comparison of the extraction efficiency of ultrasonication, microwave-assisted extraction, Soxhlet extraction and pressurised liquid extraction. *J Sep Sci.* 33: 3319-3325. <http://dx.doi.org/10.1002/jssc.201000558>.
- Hardy, ML; Biesemeier, J; Manor, O; Gentit, W. (2003). Industry-sponsored research on the potential health and environmental effects of selected brominated flame retardants. *Environ Int.* 29: 793-799. [http://dx.doi.org/10.1016/S0160-4120\(03\)00111-9](http://dx.doi.org/10.1016/S0160-4120(03)00111-9).
- Harrad, S; Abdallah, MA. (2011). Brominated flame retardants in dust from UK cars--within-vehicle spatial variability, evidence for degradation and exposure implications. *Chemosphere.* 82: 1240-1245. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.038>.
- Harrad, S; Abdallah, MA. (2015). Concentrations of polybrominated diphenyl ethers, hexabromocyclododecanes and tetrabromobisphenol-A in breast milk from United Kingdom women do not decrease over twelve months of lactation. *Environ Sci Technol.* 49: 13899-13903. <http://dx.doi.org/10.1021/acs.est.5b00539>.
- Harrad, S; Abdallah, MA; Covaci, A. (2009). Causes of variability in concentrations and diastereomer patterns of hexabromocyclododecanes in indoor dust. *Environ Int.* 35: 573-579. <http://dx.doi.org/10.1016/j.envint.2008.10.005>.
- Harrad, S; de Wit, CA; Abdallah, MA; Bergh, C; Björklund, JA; Covaci, A; Darnerud, PO; de Boer, J; Diamond, M; Huber, S; Leonards, P; Mandalakis, M; Ostman, C; Haug, LS; Thomsen, C; Webster, TF. (2010). Indoor contamination with hexabromocyclododecanes, polybrominated diphenyl ethers, and perfluoroalkyl compounds: an important exposure pathway for people [Review]. *Environ Sci Technol.* 44: 3221-3231. <http://dx.doi.org/10.1021/es903476t>.
- Harrad, S; Goosey, E; Desborough, J; Abdallah, MA; Roosens, L; Covaci, A. (2010). Dust from U.K. primary school classrooms and daycare centers: the significance of dust as a pathway of exposure of young U.K. children to brominated flame retardants and polychlorinated biphenyls. *Environ Sci Technol.* 44: 4198-4202. <http://dx.doi.org/10.1021/es100750s>.
- Harrad, S; Ibarra, C; Abdallah, MAE; Boon, R; Neels, H; Covaci, A. (2008). Concentrations of brominated flame retardants in dust from United Kingdom cars, homes, and offices: causes of variability and implications for human exposure. *Environ Int.* 34: 1170-1175. <http://dx.doi.org/10.1016/j.envint.2008.05.001>.
- Hassan, Y; Shoeib, T. (2014). Levels of polybrominated diphenyl ethers and novel flame retardants in microenvironment dust from Egypt: An assessment of human exposure. *Sci Total Environ.* 505C: 47-55. <http://dx.doi.org/10.1016/j.scitotenv.2014.09.080>.
- Haug, LS; Thomsen, C; Liane, VH; Becher, G. (2008). Comparison of GC and LC determinations of hexabromocyclododecane in biological samples - results from two interlaboratory comparison studies. *Chemosphere.* 71: 1087-1092. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.044>.
- Haukås, M; Hylland, K; Berge, JA; Nygård, T; Mariussen, E. (2009). Spatial diastereomer patterns of hexabromocyclododecane (HBCD) in a Norwegian fjord. *Sci Total Environ.* 407: 5907-5913. <http://dx.doi.org/10.1016/j.scitotenv.2009.08.024>.
- Haukås, M; Hylland, K; Nygård, T; Berge, JA; Mariussen, E. (2010). Diastereomer-specific bioaccumulation of hexabromocyclododecane (HBCD) in a coastal food web, Western Norway. *Sci Total Environ.* 408: 5910-5916. <http://dx.doi.org/10.1016/j.scitotenv.2010.08.026>.
- Haukås, M; Ruus, A; Hylland, K; Berge, JA; Mariussen, E. (2010). Bioavailability of hexabromocyclododecane to the polychaete *Hediste diversicolor*: exposure through sediment and food from a contaminated fjord. *Environ Toxicol Chem.* 29: 1709-1715. <http://dx.doi.org/10.1002/etc.201>.

Exposure Literature Search Results

On Topic

- He, MJ; Luo, X; Yu, L, eH; Liu, J; Zhang, X; Chen, S; Mai, B, iX. (2010). Tetrabromobisphenol-A and Hexabromocyclododecane in Birds from an E-Waste Region in South China: Influence of Diet on Diastereoisomer- and Enantiomer-specific Distribution and Trophodynamics (vol 44, pg 5748, 2010). *Environ Sci Technol.* 44: 8357-8357. <http://dx.doi.org/10.1021/es1032597>.
- He, MJ; Luo, XJ; Yu, LH; Liu, J; Zhang, XL; Chen, SJ; Chen, D; Mai, BX. (2010). Tetrabromobisphenol-A and hexabromocyclododecane in birds from an e-waste region in South China: influence of diet on diastereoisomer- and enantiomer-specific distribution and trophodynamics. *Environ Sci Technol.* 44: 5748-5754. <http://dx.doi.org/10.1021/es101503r>.
- He, MJ; Luo, XJ; Yu, LH; Wu, JP; Chen, SJ; Mai, BX. (2013). Diastereoisomer and enantiomer-specific profiles of hexabromocyclododecane and tetrabromobisphenol A in an aquatic environment in a highly industrialized area, South China: vertical profile, phase partition, and bioaccumulation. *Environ Pollut.* 179: 105-110. <http://dx.doi.org/10.1016/j.envpol.2013.04.016>.
- Helgason, LB; Polder, A; Føreid, S; Baek, K; Lie, E; Gabrielsen, GW; Barrett, RT; Skaare, JU. (2009). Levels and temporal trends (1983-2003) of polybrominated diphenyl ethers and hexabromocyclododecanes in seabird eggs from north Norway. *Environ Toxicol Chem.* 28: 1096-1103. <http://dx.doi.org/10.1897/08-404.1>.
- Henny, CJ; Kaiser, JL; Grove, RA; Johnson, BL; Letcher, RJ. (2009). Polybrominated diphenyl ether flame retardants in eggs may reduce reproductive success of ospreys in Oregon and Washington, USA. *Ecotoxicology.* 18: 802-813. <http://dx.doi.org/10.1007/s10646-009-0323-4>.
- Hermanson, MH; Isaksson, E; Forsström, S; Teixeira, C; Muir, DC; Pohjola, VA; van de Wal, RS. (2010). Deposition history of brominated flame retardant compounds in an ice core from Holtedahlfonna, Svalbard, Norway. *Environ Sci Technol.* 44: 7405-7410. <http://dx.doi.org/10.1021/es1016608>.
- Herzke, D; Berger, U; Kallenborn, R; Nygård, T; Vetter, W. (2005). Brominated flame retardants and other organobromines in Norwegian predatory bird eggs. *Chemosphere.* 61: 441-449. <http://dx.doi.org/10.1016/j.chemosphere.2005.01.066>.
- Hiebl, J; Vetter, W. (2007). Detection of hexabromocyclododecane and its metabolite pentabromocyclododecene in chicken egg and fish from the official food control. *J Agric Food Chem.* 55: 3319-3324. <http://dx.doi.org/10.1021/jf063428b>.
- Hloušková, V; Lanková, D; Kalachová, K; Hrádková, P; Poustka, J; Hajšlová, J; Pulkrabová, J. (2013). Occurrence of brominated flame retardants and perfluoroalkyl substances in fish from the Czech aquatic ecosystem. *Sci Total Environ.* 461-462: 88-98. <http://dx.doi.org/10.1016/j.scitotenv.2013.04.081>.
- Hloušková, V; Lanková, D; Kalachová, K; Hrádková, P; Poustka, J; Hajšlová, J; Pulkrabová, J. (2014). Brominated flame retardants and perfluoroalkyl substances in sediments from the Czech aquatic ecosystem. *Sci Total Environ.* 470-471: 407-416. <http://dx.doi.org/10.1016/j.scitotenv.2013.09.074>.
- Hoguet, J; Keller, JM; Reiner, JL; Kucklick, JR; Bryan, CE; Moors, AJ; Pugh, RS; Becker, PR. (2013). Spatial and temporal trends of persistent organic pollutants and mercury in beluga whales (*Delphinapterus leucas*) from Alaska. *Sci Total Environ.* 449: 285-294. <http://dx.doi.org/10.1016/j.scitotenv.2013.01.072>.
- Hoh, E; Hites, RA. (2005). Brominated flame retardants in the atmosphere of the East-Central United States. *Environ Sci Technol.* 39: 7794-7802. <http://dx.doi.org/10.1021/es050718k>.
- Hong, J; Gao, S; Chen, L; Han, Q; Yu, Z; Peng, P; Fu, J. (2016). Hexabromocyclododecanes in the indoor environment of two cities in South China: their occurrence and implications of human inhalation exposure. *Indoor Built Environ.* 25: 41-49. <http://dx.doi.org/10.1177/1420326X13499170>.
- Hong, SH; Shim, WJ; Han, GM; Ha, SY; Jang, M; Rani, M; Hong, S; Yeo, GY. (2014). Levels and profiles of persistent organic pollutants in resident and migratory birds from an urbanized coastal region of South Korea. *Sci Total Environ.* 470-471: 1463-1470. <http://dx.doi.org/10.1016/j.scitotenv.2013.07.089>.
- Houde, M; Wang, X; Ferguson, SH; Gagnon, P; Brown, TM; Tanabe, S; Kunito, T; Kwan, M; Muir, DC. (2017). Spatial and temporal trends of alternative flame retardants and polybrominated diphenyl ethers in ringed seals (*Phoca hispida*) across the Canadian Arctic. *Environ Pollut.* <http://dx.doi.org/10.1016/j.envpol.2017.01.023>.
- Hrádková, P; Pulkrabová, J; Kalachová, K; Hloušková, V; Tomaniová, M; Poustka, J; Hajšlová, J. (2012). Occurrence of halogenated contaminants in fish from selected river localities and ponds in the Czech Republic. *Arch Environ Contam Toxicol.* 62: 85-96. <http://dx.doi.org/10.1007/s00244-011-9681-z>.
- Hu, J; Jin, J; Wang, Y; Ma, Z; Zheng, W. (2011). Levels of polybrominated diphenyl ethers and hexabromocyclododecane in the atmosphere and tree bark from Beijing, China. *Chemosphere.* 84: 355-360. <http://dx.doi.org/10.1016/j.chemosphere.2011.04.002>.
- Hu, X; Hu, D; Song, Q; Li, J; Wang, P. (2011). Determinations of hexabromocyclododecane (HBCD) isomers in channel catfish, crayfish, hen eggs and fish feeds from China by isotopic dilution LC-MS/MS. *Chemosphere.* 82: 698-707. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.096>.
- Ichihara, M; Yamamoto, A; Takakura, K; Kakutani, N; Sudo, M. (2014). Distribution and pollutant load of hexabromocyclododecane (HBCD) in sewage treatment plants and water from Japanese Rivers. *Chemosphere.* 110: 78-84. <http://dx.doi.org/10.1016/j.chemosphere.2014.03.074>.
- Ilyas, M; Sudaryanto, A; Setiawan, IE; Riyadi, AS; Isobe, T; Ogawa, S; Takahashi, S; Tanabe, S. (2011). Characterization of polychlorinated biphenyls and brominated flame retardants in surface soils from Surabaya, Indonesia. *Chemosphere.* 83: 783-791. <http://dx.doi.org/10.1016/j.chemosphere.2011.02.067>.
- Ilyas, M; Sudaryanto, A; Setiawan, IE; Riyadi, AS; Isobe, T; Takahashi, S; Tanabe, S. (2011). Characterization of polychlorinated biphenyls and brominated flame retardants in sediments from riverine and coastal waters of Surabaya, Indonesia. *Mar Pollut Bull.* 62: 89-98. <http://dx.doi.org/10.1016/j.marpolbul.2010.09.006>.
- Ilyas, M; Sudaryanto, A; Setiawan, IE; Riyadi, AS; Isobe, T; Tanabe, S. (2013). Characterization of polychlorinated biphenyls and brominated flame retardants in sludge, sediment and fish from municipal dumpsite at Surabaya, Indonesia. *Chemosphere.* 93: 1500-1510. <http://dx.doi.org/10.1016/j.chemosphere.2013.07.048>.

Exposure Literature Search Results

On Topic

- Ilyina, T; Hunziker, RW. (2010). Scenarios of temporal and spatial evolution of hexabromocyclododecane in the North Sea. *Environ Sci Technol.* 44: 4622-4628. <http://dx.doi.org/10.1021/es9034599>.
- Ionas, AC; Covaci, A. (2013). Simplifying multi-residue analysis of flame retardants in indoor dust. *Int J Environ Anal Chem.* 93: 1074-1083. <http://dx.doi.org/10.1080/03067319.2013.763248>.
- Ismail, N; Gewurtz, SB; Pleskach, K; Whittle, DM; Helm, PA; Marvin, CH; Tomy, GT. (2009). Brominated and chlorinated flame retardants in Lake Ontario, Canada, lake trout (*Salvelinus namaycush*) between 1979 and 2004 and possible influences of food-web changes. *Environ Toxicol Chem.* 28: 910-920. <http://dx.doi.org/10.1897/08-162.1>.
- Isobe, T; Ochi, Y; Ramu, K; Yamamoto, T; Tajima, Y; Yamada, TK; Amano, M; Miyazaki, N; Takahashi, S; Tanabe, S. (2009). Organohalogen contaminants in striped dolphins (*Stenella coeruleoalba*) from Japan: present contamination status, body distribution and temporal trends (1978-2003). *Mar Pollut Bull.* 58: 396-401. <http://dx.doi.org/10.1016/j.marpolbul.2008.10.008>.
- Isobe, T; Oda, H; Takayanagi, N; Kunisue, T; Komori, H; Arita, N; Ueda, N; Nose, M; Yamada, T; Takahashi, S; Tanabe, S. (2009). Hexabromocyclododecanes in human adipose tissue from Japan. *Environ Chem.* 6: 328-333. <http://dx.doi.org/10.1071/EN09024>.
- Isobe, T; Ogawa, SP; Ramu, K; Sudaryanto, A; Tanabe, S. (2012). Geographical distribution of non-PBDE-brominated flame retardants in mussels from Asian coastal waters. *Environ Sci Pollut Res Int.* 19: 3107-3117. <http://dx.doi.org/10.1007/s11356-012-0945-6>.
- Isobe, T; Oshihoi, T; Hamada, H; Nakayama, K; Yamada, TK; Tajima, Y; Amano, M; Tanabe, S. (2011). Contamination status of POPs and BFRs and relationship with parasitic infection in finless porpoises (*Neophocaena phocaenoides*) from Seto Inland Sea and Omura Bay, Japan. *Mar Pollut Bull.* 63: 564-571. <http://dx.doi.org/10.1016/j.marpolbul.2011.01.014>.
- Isobe, T; Ramu, K; Kajiwara, N; Takahashi, S; Lam, PK; Jefferson, TA; Zhou, K; Tanabe, S. (2007). Isomer specific determination of hexabromocyclododecanes (HBCDs) in small cetaceans from the South China Sea--Levels and temporal variation. *Mar Pollut Bull.* 54: 1139-1145. <http://dx.doi.org/10.1016/j.marpolbul.2007.04.017>.
- Iwata, T; Nakai, S. (2011). Exposure Assessment of Hexabromocyclododecane Among Japanese Population. *Epidemiology.* 22: S89-S89.
- Janák, K; Covaci, A; Voorspoels, S; Becher, G. (2005). Hexabromocyclododecane in marine species from the Western Scheldt Estuary: diastereoisomer- and enantiomer-specific accumulation. *Environ Sci Technol.* 39: 1987-1994. <http://dx.doi.org/10.1021/es0484909>.
- Janák, K; Sellström, U; Johansson, AK; Becher, G; de Wit, CA; Lindberg, P; Helander, B. (2008). Enantiomer-specific accumulation of hexabromocyclododecanes in eggs of predatory birds. *Chemosphere.* 73: S193-S200. <http://dx.doi.org/10.1016/j.chemosphere.2007.03.077>.
- Jang, M; Shim, WJ; Han, GM; Rani, M; Song, YK; Hong, SH. (2016). Styrofoam Debris as a Source of Hazardous Additives for Marine Organisms. *Environ Sci Technol.* 50: 4951-4960. <http://dx.doi.org/10.1021/acs.est.5b05485>.
- Jaspers, V; Covaci, A; Maervoet, J; Dauwe, T; Voorspoels, S; Schepens, P; Eens, M. (2005). Brominated flame retardants and organochlorine pollutants in eggs of little owls (*Athene noctua*) from Belgium. *Environ Pollut.* 136: 81-88. <http://dx.doi.org/10.1016/j.envpol.2004.12.003>.
- Jeannerat, D; Pupier, M; Schweizer, S; Mitrev, YN; Favreau, P; Kohler, M. (2016). Discrimination of hexabromocyclododecane from new polymeric brominated flame retardant in polystyrene foam by nuclear magnetic resonance. *Chemosphere.* 144: 1391-1397. <http://dx.doi.org/10.1016/j.chemosphere.2015.10.021>.
- Jenssen, BM; Sørmo, EG; Baek, K; Bytingsvik, J; Gaustad, H; Ruus, A; Skaare, JU. (2007). Brominated flame retardants in North-East Atlantic marine ecosystems. *Environ Health Perspect.* 115 Suppl 1: 35-41. <http://dx.doi.org/10.1289/ehp.9355>.
- Jeong, GH; Hwang, NR; Hwang, EH; Lee, BC; Yoon, J. (2014). Hexabromocyclododecanes in crucian carp and sediment from the major rivers in Korea. *Sci Total Environ.* 470-471: 1471-1478. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.038>.
- Johansson, AK; Sellström, U; Lindberg, P; Bignert, A; de Wit, CA. (2011). Temporal trends of polybrominated diphenyl ethers and hexabromocyclododecane in Swedish Peregrine Falcon (*Falco peregrinus peregrinus*) eggs. *Environ Int.* 37: 678-686. <http://dx.doi.org/10.1016/j.envint.2011.01.010>.
- Johansson, AK; Sellström, U; Lindberg, P; Bignert, A; De Witt, CA. (2009). Polybrominated diphenyl ether congener patterns, hexabromocyclododecane, and brominated biphenyl 153 in eggs of peregrine falcons (*Falco peregrinus*) breeding in Sweden. *Environ Toxicol Chem.* 28: 9-17. <http://dx.doi.org/10.1897/08-142.1>.
- Johnson, PI; Stapleton, HM; Mukherjee, B; Hauser, R; Meeker, JD. (2013). Associations between brominated flame retardants in house dust and hormone levels in men. *Sci Total Environ.* 445-446: 177-184. <http://dx.doi.org/10.1016/j.scitotenv.2012.12.017>.
- Johnson-Restrepo, B; Adams, DH; Kannan, K. (2008). Tetrabromobisphenol A (TBBPA) and hexabromocyclododecanes (HBCDs) in tissues of humans, dolphins, and sharks from the United States. *Chemosphere.* 70: 1935-1944. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.002>.
- Jörundsdóttir, H; Löfstrand, K; Svavarsson, J; Bignert, A; Bergman, Å. (2013). Polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) in seven different marine bird species from Iceland. *Chemosphere.* 93: 1526-1532. <http://dx.doi.org/10.1016/j.chemosphere.2013.07.061>.
- Kajiwara, N; Desborough, J; Harrad, S; Takigami, H. (2013). Photolysis of brominated flame retardants in textiles exposed to natural sunlight. *Environ Sci Process Impacts.* 15: 653-660. <http://dx.doi.org/10.1039/c3em30887a>.
- Kajiwara, N; Hirata, O; Takigami, H; Noma, Y; Tachifuji, A; Matsufuji, Y. (2014). Leaching of brominated flame retardants from mixed wastes in lysimeters under conditions simulating landfills in developing countries. *Chemosphere.* 116: 46-53. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.025>.
- Kajiwara, N; Takigami, H. (2013). Emission behavior of hexabromocyclododecanes and polybrominated diphenyl ethers from flame-retardant-treated textiles. *Environ Sci Process Impacts.* 15: 1957-1963. <http://dx.doi.org/10.1039/c3em00359k>.
- Kakimoto, K; Akutsu, K; Konishi, Y; Tanaka, Y. (2008). Time trend of hexabromocyclododecane in the breast milk of Japanese women. *Chemosphere.* 71: 1110-1114. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.035>.

Exposure Literature Search Results

On Topic

- Kakimoto, K; Nagayoshi, H; Yoshida, J; Akutsu, K; Konishi, Y; Toriba, A; Hayakawa, K. (2012). Detection of Dechlorane Plus and brominated flame retardants in marketed fish in Japan. *Chemosphere*. 89: 416-419. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.072>.
- Kalachova, K; Hradkova, P; Lankova, D; Hajslova, J; Pulkrabova, J. (2012). Occurrence of brominated flame retardants in household and car dust from the Czech Republic. *Sci Total Environ*. 441: 182-193. <http://dx.doi.org/10.1016/j.scitotenv.2012.09.061>.
- Kalantzi, OI; Geens, T; Covaci, A; Siskos, PA. (2011). Distribution of polybrominated diphenyl ethers (PBDEs) and other persistent organic pollutants in human serum from Greece. *Environ Int*. 37: 349-353. <http://dx.doi.org/10.1016/j.envint.2010.10.005>.
- Kefeni, KK; Okonkwo, JO; Olukunle, OI; Botha, B. (2011). Brominated flame retardants: sources, distribution, exposure pathways, and toxicity. *Environ Rev*. 19: 238-253. <http://dx.doi.org/10.1139/A11-010>.
- Kemmlin, S; Herzke, D; Law, RJ. (2003). BFR-governmental testing programme [Review]. *Environ Int*. 29: 781-792. [http://dx.doi.org/10.1016/S0160-4120\(03\)00112-0](http://dx.doi.org/10.1016/S0160-4120(03)00112-0).
- Kiciński, M; Viaene, MK; Den Hond, E; Schoeters, G; Covaci, A; Dirtu, AC; Nelen, V; Bruckers, L; Croes, K; Sioen, I; Baeyens, W; Van Larebeke, N; Nawrot, TS. (2012). Neurobehavioral function and low-level exposure to brominated flame retardants in adolescents: A cross-sectional study. *Environ Health*. 11: 86. <http://dx.doi.org/10.1186/1476-069X-11-86>.
- Kim, GB; Stapleton, HM. (2010). PBDEs, methoxylated PBDEs and HBCDs in Japanese common squid (*Todarodes pacificus*) from Korean offshore waters. *Mar Pollut Bull*. 60: 935-940. <http://dx.doi.org/10.1016/j.marpolbul.2010.03.025>.
- Kim, JT; Son, MH; Kang, JH; Kim, JH; Jung, JW; Chang, YS. (2015). Occurrence of Legacy and New Persistent Organic Pollutants in Avian Tissues from King George Island, Antarctica. *Environ Sci Technol*. 49: 13628-13638. <http://dx.doi.org/10.1021/acs.est.5b03181>.
- Kim, UJ; Lee, IS; Oh, JE. (2016). Occurrence, removal and release characteristics of dissolved brominated flame retardants and their potential metabolites in various kinds of wastewater. *Environ Pollut*. 218: 551-557. <http://dx.doi.org/10.1016/j.envpol.2016.07.037>.
- Kim, UJ; Oh, JE. (2014). Tetrabromobisphenol A and hexabromocyclododecane flame retardants in infant-mother paired serum samples, and their relationships with thyroid hormones and environmental factors. *Environ Pollut*. 184: 193-200. <http://dx.doi.org/10.1016/j.envpol.2013.08.034>.
- Klamer, HJ; Leonards, PE; Lamoree, MH; Villierius, LA; Kerman, JE; Bakker, JF. (2005). A chemical and toxicological profile of Dutch North Sea surface sediments. *Chemosphere*. 58: 1579-1587. <http://dx.doi.org/10.1016/j.chemosphere.2004.11.027>.
- Klosterhaus, SL; Stapleton, HM; La Guardia, MJ; Greig, DJ. (2012). Brominated and chlorinated flame retardants in San Francisco Bay sediments and wildlife. *Environ Int*. 47: 56-65. <http://dx.doi.org/10.1016/j.envint.2012.06.005>.
- Knutsen, HK; Kvalem, HE; Thomsen, C; Frøshaug, M; Haugen, M; Becher, G; Alexander, J; Meltzer, HM. (2008). Dietary exposure to brominated flame retardants correlates with male blood levels in a selected group of Norwegians with a wide range of seafood consumption. *Mol Nutr Food Res*. 52: 217-227. <http://dx.doi.org/10.1002/mnfr.200700096>.
- Kohler, M; Zennegg, M; Bogdal, C; Gerecke, AC; Schmid, P; Heeb, NV; Sturm, M; Vonmont, H; Kohler, HP; Giger, W. (2008). Temporal trends, congener patterns, and sources of octa-, nona-, and decabromodiphenyl ethers (PBDE) and hexabromocyclododecanes (HBCD) in Swiss lake sediments. *Environ Sci Technol*. 42: 6378-6384. <http://dx.doi.org/10.1021/es702586r>.
- Kopp, EK; Fromme, H; Voelkel, W. (2012). Analysis of common and emerging brominated flame retardants in house dust using ultrasonic assisted solvent extraction and on-line sample preparation via column switching with liquid chromatography-mass spectrometry. *J Chromatogr A*. 1241: 28-36. <http://dx.doi.org/10.1016/j.chroma.2012.04.022>.
- Köppen, R; Becker, R; Esslinger, S; Nehls, I. (2010). Enantiomer-specific analysis of hexabromocyclododecane in fish from Etnefjorden (Norway). *Chemosphere*. 80: 1241-1245. <http://dx.doi.org/10.1016/j.chemosphere.2010.06.019>.
- Kowalski, B; Mazur, M. (2014). The Simultaneous Determination of Six Flame Retardants in Water Samples Using SPE Pre-concentration and UHPLC-UV Method. *Water Air Soil Pollut*. 225: 1866. <http://dx.doi.org/10.1007/s11270-014-1866-4>.
- Kuang, J; Ma, Y; Harrad, S. (2016). Concentrations of "legacy" and novel brominated flame retardants in matched samples of UK kitchen and living room/bedroom dust. *Chemosphere*. 149: 224-230. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.092>.
- Kunisue, T; Takayanagi, N; Isobe, T; Takahashi, S; Nakatsu, S; Tsubota, T; Okumoto, K; Bushisue, S; Shindo, K; Tanabe, S. (2008). Regional trend and tissue distribution of brominated flame retardants and persistent organochlorines in raccoon dogs (*Nyctereutes procyonoides*) from Japan. *Environ Sci Technol*. 42: 685-691. <http://dx.doi.org/10.1021/es071565z>.
- Kuo, Y, uY; Zhang, H; Gerecke, AC; Wang, J. (2014). Chemical Composition of Nanoparticles Released from Thermal Cutting of Polystyrene Foams and the Associated Isomerization of Hexabromocyclododecane (HBCD) Diastereomers. *Aerosol Air Qual Res*. 14: 1114-1120. <http://dx.doi.org/10.4209/aaqr.2013.02.0059>.
- Kupper, T; de Alencastro, LF; Gatsigazi, R; Furrer, R; Grandjean, D; Tarradellas, J. (2008). Concentrations and specific loads of brominated flame retardants in sewage sludge. *Chemosphere*. 71: 1173-1180. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.019>.
- La Guardia, MJ; Hale, RC. (2015). Halogenated flame-retardant concentrations in settled dust, respirable and inhalable particulates and polyurethane foam at gymnastic training facilities and residences. *Environ Int*. 79: 106-114. <http://dx.doi.org/10.1016/j.envint.2015.02.014>.
- La Guardia, MJ; Hale, RC; Harvey, E; Chen, D. (2010). Flame-retardants and other organohalogens detected in sewage sludge by electron capture negative ion mass spectrometry. *Environ Sci Technol*. 44: 4658-4664. <http://dx.doi.org/10.1021/es9039264>.
- La Guardia, MJ; Hale, RC; Harvey, E; Mainor, TM; Ciparis, S. (2012). In situ accumulation of HBCD, PBDEs, and several alternative flame-retardants in the bivalve (*Corbicula fluminea*) and gastropod (*Elimia proxima*). *Environ Sci Technol*. 46: 5798-5805. <http://dx.doi.org/10.1021/es3004238>.
- La Guardia, MJ; Hale, RC; Newman, B. (2013). Brominated flame-retardants in sub-Saharan Africa: burdens in inland and coastal sediments of the eThekweni metropolitan municipality, South Africa. *Environ Sci Technol*. 47: 9643-9650. <http://dx.doi.org/10.1021/es4020212>.
- Laborie, S; Moreau-Guigon, E; Alliot, F; Desportes, A; Oziol, L; Chevreuil, M. (2016). A new analytical protocol for the determination of 62 endocrine-disrupting compounds in indoor air. *Talanta*. 147: 132-141. <http://dx.doi.org/10.1016/j.talanta.2015.09.028>.

Exposure Literature Search Results

On Topic

- Labunska, I; Abdallah, MA; Eulaers, I; Covaci, A; Tao, F; Wang, M; Santillo, D; Johnston, P; Harrad, S. (2015). Human dietary intake of organohalogen contaminants at e-waste recycling sites in Eastern China. *Environ Int.* 74: 209-220. <http://dx.doi.org/10.1016/j.envint.2014.10.020>.
- Lam, JC; Lau, RK; Murphy, MB; Lam, PK. (2009). Temporal trends of hexabromocyclododecanes (HBCDs) and polybrominated diphenyl ethers (PBDEs) and detection of two novel flame retardants in marine mammals from Hong Kong, South China. *Environ Sci Technol.* 43: 6944-6949. <http://dx.doi.org/10.1021/es901408t>.
- Lankova, D; Kockovska, M; Lacina, O; Kalachova, K; Pulkrabova, J; Hajslova, J. (2013). Rapid and simple method for determination of hexabromocyclododecanes and other LC-MS-MS-amenable brominated flame retardants in fish. *Anal Bioanal Chem.* 405: 7829-7839. <http://dx.doi.org/10.1007/s00216-013-7076-x>.
- Law, K; Halldorson, T; Danell, R; Stern, G; Gewurtz, S; Alae, M; Marvin, C; Whittle, M; Tomy, G. (2006). Bioaccumulation and trophic transfer of some brominated flame retardants in a Lake Winnipeg (Canada) food web. *Environ Toxicol Chem.* 25: 2177-2186.
- Law, RJ. (2013). Woodhead Publishing Series in Food Science Technology and Nutrition Brominated flame retardants in foods. <http://dx.doi.org/10.1533/9780857098917.2.261>.
- Law, RJ. (2014). An overview of time trends in organic contaminant concentrations in marine mammals: Going up or down? [Review]. *Mar Pollut Bull.* 82: 7-10. <http://dx.doi.org/10.1016/j.marpolbul.2014.03.024>.
- Law, RJ; Allchin, CR; de Boer, J; Covaci, A; Herzke, D; Lepom, P; Morris, S; Tronczynski, J; de Wit, CA. (2006). Levels and trends of brominated flame retardants in the European environment. *Chemosphere.* 64: 187-208. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.007>.
- Law, RJ; Barry, J; Barber, JL; Bersuder, P; Deaville, R; Reid, RJ; Brownlow, A; Penrose, R; Barnett, J; Loveridge, J; Smith, B; Jepson, PD. (2012). Contaminants in cetaceans from UK waters: status as assessed within the Cetacean Strandings Investigation Programme from 1990 to 2008. *Mar Pollut Bull.* 64: 1485-1494. <http://dx.doi.org/10.1016/j.marpolbul.2012.05.024>.
- Law, RJ; Bersuder, P; Allchin, CR; Barry, J. (2006). Levels of the flame retardants hexabromocyclododecane and tetrabromobisphenol A in the blubber of harbor porpoises (*Phocoena phocoena*) stranded or bycaught in the U.K., with evidence for an increase in HBCD concentrations in recent years. *Environ Sci Technol.* 40: 2177-2183. <http://dx.doi.org/10.1021/es052416o>.
- Law, RJ; Bersuder, P; Barry, J; Wilford, BH; Allchin, CR; Jepson, PD. (2008). A significant downturn in levels of hexabromocyclododecane in the blubber of harbor porpoises (*Phocoena phocoena*) stranded or bycaught in the UK: an update to 2006. *Environ Sci Technol.* 42: 9104-9109. <http://dx.doi.org/10.1021/es8014309>.
- Law, RJ; Covaci, A; Harrad, S; Herzke, D; Abdallah, MA; Fernie, K; Toms, LM; Takigami, H. (2014). Levels and trends of PBDEs and HBCDs in the global environment: status at the end of 2012 [Review]. *Environ Int.* 65: 147-158. <http://dx.doi.org/10.1016/j.envint.2014.01.006>.
- Law, RJ; Herzke, D; Harrad, S; Morris, S; Bersuder, P; Allchin, CR. (2008). Levels and trends of HBCD and BDEs in the European and Asian environments, with some information for other BFRs. *Chemosphere.* 73: 223-241. <http://dx.doi.org/10.1016/j.chemosphere.2008.02.066>.
- Law, RJ; Kohler, M; Heeb, NV; Gerecke, AC; Schmid, P; Voorspoels, S; Covaci, A; Becher, G; Janák, K; Thomsen, C. (2005). Hexabromocyclododecane challenges scientists and regulators [Review]. *Environ Sci Technol.* 39: 281A-287A. <http://dx.doi.org/10.1021/es053302f>.
- Lee, IS; Kang, HH; Kim, UJ; Oh, JE. (2015). Brominated flame retardants in Korean river sediments, including changes in polybrominated diphenyl ether concentrations between 2006 and 2009. *Chemosphere.* 126: 18-24. <http://dx.doi.org/10.1016/j.chemosphere.2015.01.004>.
- Lee, SC; Sverko, E; Harner, T; Pozo, K; Barresi, E; Schachtschneider, J; Zaruk, D; Dejong, M; Narayan, J. (2016). Retrospective analysis of "new" flame retardants in the global atmosphere under the GAPS Network. *Environ Pollut.* 217: 62-69. <http://dx.doi.org/10.1016/j.envpol.2016.01.080>.
- Leslie, HA; Leonards, PE; Shore, RF; Walker, LA; Bersuder, PR; Morris, S; Allchin, CR; Boer, J, d. (2011). Decabromodiphenylether and hexabromocyclododecane in wild birds from the United Kingdom, Sweden and The Netherlands: Screening and time trends. *Chemosphere.* 82: 88-95. <http://dx.doi.org/10.1016/j.chemosphere.2010.09.073>.
- Letcher, R. (2010). Hexabromocyclododecane (HBCD) flame retardant in the environment, biota and humans: Stereoisomeric paradox. *Toxicol Lett.* 196: S33-S33. <http://dx.doi.org/10.1016/j.toxlet.2010.03.150>.
- Letcher, RJ; Gebbink, WA; Sonne, C; Born, EW; Mckinney, MA; Dietz, R. (2009). Bioaccumulation and biotransformation of brominated and chlorinated contaminants and their metabolites in ringed seals (*Pusa hispida*) and polar bears (*Ursus maritimus*) from East Greenland. *Environ Int.* 35: 1118-1124. <http://dx.doi.org/10.1016/j.envint.2009.07.006>.
- Letcher, RJ; Lu, Z; Chu, S; Haffner, GD; Drouillard, K; Marvin, CH; Ciborowski, JJ. (2015). Hexabromocyclododecane Flame Retardant Isomers in Sediments from Detroit River and Lake Erie of the Laurentian Great Lakes of North America. *Bull Environ Contam Toxicol.* 95: 31-36. <http://dx.doi.org/10.1007/s00128-015-1491-y>.
- Li, F; Jin, J; Tan, D; Wang, L; Geng, N; Cao, R; Gao, Y; Chen, J. (2016). Hexabromocyclododecane and tetrabromobisphenol A in sediments and paddy soils from Liaohe River Basin, China: Levels, distribution and mass inventory. *J Environ Sci.* 48: 209-217. <http://dx.doi.org/10.1016/j.jes.2016.03.018>.
- Li, H; Mo, L; Yu, Z; Sheng, G; Fu, J. (2012). Levels, isomer profiles and chiral signatures of particle-bound hexabromocyclododecanes in ambient air around Shanghai, China. *Environ Pollut.* 165: 140-146. <http://dx.doi.org/10.1016/j.envpol.2012.02.015>.
- Li, H; Shang, H; Wang, P; Wang, Y; Zhang, H; Zhang, Q; Jiang, G. (2013). Occurrence and distribution of hexabromocyclododecane in sediments from seven major river drainage basins in China. *J Environ Sci.* 25: 69-76. [http://dx.doi.org/10.1016/S1001-0742\(12\)60010-2](http://dx.doi.org/10.1016/S1001-0742(12)60010-2).
- Li, H; Zhang, Q; Wang, P; Li, Y; Lv, J; Chen, W; Geng, D; Wang, Y; Wang, T; Jiang, G. (2012). Levels and distribution of hexabromocyclododecane (HBCD) in environmental samples near manufacturing facilities in Laizhou Bay area, East China. *J Environ Monit.* 14: 2591-2597. <http://dx.doi.org/10.1039/c2em30231d>.

Exposure Literature Search Results

On Topic

- Li, WL; Huo, CY; Liu, LY; Song, WW; Zhang, ZF; Ma, WL; Qiao, LN; Li, YF. (2016). Multi-year air monitoring of legacy and current-use brominated flame retardants in an urban center in northeastern China. *Sci Total Environ.* 571: 633-642. <http://dx.doi.org/10.1016/j.scitotenv.2016.07.031>.
- Li, X; Gao, Y; Wang, Y; Pan, Y. (2014). Emerging persistent organic pollutants in Chinese Bohai Sea and its coastal regions [Review]. *ScientificWorldJournal.* 2014: 608231. <http://dx.doi.org/10.1155/2014/608231>.
- Li, XW; Zeng, H; Ni, HG. (2015). [Indoor Exposure to Particle-Bound BFRs via Inhalation]. *Huanjing Kexue.* 36: 1989-1997.
- Li, Y; Zhou, Q; Wang, Y; Xie, X. (2011). Fate of tetrabromobisphenol A and hexabromocyclododecane brominated flame retardants in soil and uptake by plants. *Chemosphere.* 82: 204-209. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.021>.
- Li, ZH; Zlabek, V; Turek, J; Velisek, J; Pulkrabova, J; Kolarova, J; Sudova, E; Berankova, P; Hradkova, P; Hajslova, J; Randak, T. (2011). Evaluating environmental impact of STPs situated on streams in the Czech Republic: an integrated approach to biomonitoring the aquatic environment. *Water Res.* 45: 1403-1413. <http://dx.doi.org/10.1016/j.watres.2010.10.032>.
- Lignell, S; Aune, M; Darnerud, PO; Cnattingius, S; Glynn, A. (2009). Persistent organochlorine and organobromine compounds in mother's milk from Sweden 1996-2006: Compound-specific temporal trends. *Environ Res.* 109: 760-767. <http://dx.doi.org/10.1016/j.envres.2009.04.011>.
- Lindberg, P; Sellström, U; Häggberg, L; de Wit, CA. (2004). Higher brominated diphenyl ethers and hexabromocyclododecane found in eggs of peregrine falcons (*Falco peregrinus*) breeding in Sweden. *Environ Sci Technol.* 38: 93-96. <http://dx.doi.org/10.1021/es034614q>.
- Luigi, V; Giuseppe, M; Claudio, R. (2015). Emerging and priority contaminants with endocrine active potentials in sediments and fish from the River Po (Italy). *Environ Sci Pollut Res Int.* 22: 14050-14066. <http://dx.doi.org/10.1007/s11356-015-4388-8>.
- Lundstedt-Enkel, K; Asplund, L; Nylund, K; Bignert, A; Tysklind, M; Olsson, M; Orberg, J. (2006). Multivariate data analysis of organochlorines and brominated flame retardants in Baltic Sea guillemot (*Uria aalge*) egg and muscle. *Chemosphere.* 65: 1591-1599. <http://dx.doi.org/10.1016/j.chemosphere.2006.03.051>.
- Lundstedt-Enkel, K; Johansson, AK; Tysklind, M; Asplund, L; Nylund, K; Olsson, M; Orberg, J. (2005). Multivariate data analyses of chlorinated and brominated contaminants and biological characteristics in adult guillemot (*Uria aalge*) from the Baltic Sea. *Environ Sci Technol.* 39: 8630-8637. <http://dx.doi.org/10.1021/es051118o>.
- Lyons, BP; Barber, JL; Rumney, HS; Bolam, TP; Bersuder, P; Law, RJ; Mason, C; Smith, AJ; Morris, S; Devlin, MJ; Al-Enezi, M; Massoud, MS; Al-Zaidan, AS; Al-Sarawi, HA. (2015). Baseline survey of marine sediments collected from the State of Kuwait: PAHs, PCBs, brominated flame retardants and metal contamination. *Mar Pollut Bull.* 100: 629-636. <http://dx.doi.org/10.1016/j.marpolbul.2015.08.014>.
- Malarvannan, G; Belpaire, C; Geeraerts, C; Eulaers, I; Neels, H; Covaci, A. (2014). Assessment of persistent brominated and chlorinated organic contaminants in the European eel (*Anguilla anguilla*) in Flanders, Belgium: Levels, profiles and health risk. *Sci Total Environ.* 482-483: 222-233. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.127>.
- Malarvannan, G; Dirinck, E; Dirtu, AC; Pereira-Fernandes, A; Neels, H; Jorens, PG; Gaal, LV; Blust, R; Covaci, A. (2013). Distribution of persistent organic pollutants in two different fat compartments from obese individuals. *Environ Int.* 55: 33-42. <http://dx.doi.org/10.1016/j.envint.2013.02.012>.
- Malarvannan, G; Isobe, T; Covaci, A; Prudente, M; Tanabe, S. (2013). Accumulation of brominated flame retardants and polychlorinated biphenyls in human breast milk and scalp hair from the Philippines: levels, distribution and profiles. *Sci Total Environ.* 442: 366-379. <http://dx.doi.org/10.1016/j.scitotenv.2012.10.005>.
- Managaki, S; Enomoto, I; Masunaga, S. (2012). Sources and distribution of hexabromocyclododecanes (HBCDs) in Japanese river sediment. *J Environ Monit.* 14: 901-907. <http://dx.doi.org/10.1039/c2em10621c>.
- Marsh, G; Athanasiadou, M; Athanassiadis, I; Bergman, A; Endo, T; Haraguchi, K. (2005). Identification, quantification, and synthesis of a novel dimethoxylated polybrominated biphenyl in marine mammals caught off the coast of Japan. *Environ Sci Technol.* 39: 8684-8690. <http://dx.doi.org/10.1021/es051153v>.
- Marvin, CH; Tomy, GT; Alaee, M; Macinnis, G. (2006). Distribution of hexabromocyclododecane in Detroit River suspended sediments. *Chemosphere.* 64: 268-275. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.011>.
- Marvin, CH; Tomy, GT; Armitage, JM; Arnot, JA; Mccarty, L; Covaci, A; Palace, V. (2011). Hexabromocyclododecane: current understanding of chemistry, environmental fate and toxicology and implications for global management. *Environ Sci Technol.* 45: 8613-8623. <http://dx.doi.org/10.1021/es201548c>.
- Mchugh, B; Poole, R; Corcoran, J; Anninou, P; Boyle, B; Joyce, E; Barry Foley, M; MCGovern, E. (2010). The occurrence of persistent chlorinated and brominated organic contaminants in the European eel (*Anguilla anguilla*) in Irish waters. *Chemosphere.* 79: 305-313. <http://dx.doi.org/10.1016/j.chemosphere.2010.01.029>.
- Mckinney, MA; Cesh, LS; Elliott, JE; Williams, TD; Garcelon, DK; Letcher, RJ. (2006). Brominated flame retardants and halogenated phenolic compounds in North American west coast bald eaglet (*Haliaeetus leucocephalus*) plasma. *Environ Sci Technol.* 40: 6275-6281. <http://dx.doi.org/10.1021/es061061l>.
- Mckinney, MA; Letcher, RJ; Aars, J; Born, EW; Branigan, M; Dietz, R; Evans, TJ; Gabrielsen, GW; Peacock, E; Sonne, C. (2011). Flame retardants and legacy contaminants in polar bears from Alaska, Canada, East Greenland and Svalbard, 2005-2008. *Environ Int.* 37: 365-374. <http://dx.doi.org/10.1016/j.envint.2010.10.008>.
- Mckinney, MA; Stirling, I; Lunn, NJ; Peacock, E; Letcher, RJ. (2010). The role of diet on long-term concentration and pattern trends of brominated and chlorinated contaminants in western Hudson Bay polar bears, 1991-2007. *Sci Total Environ.* 408: 6210-6222. <http://dx.doi.org/10.1016/j.scitotenv.2010.08.033>.
- Meijer, L; Weiss, J; Van Velzen, M; Brouwer, A; Bergman, A; Sauer, PJ. (2008). Serum concentrations of neutral and phenolic organohalogenes in pregnant women and some of their infants in The Netherlands. *Environ Sci Technol.* 42: 3428-3433. <http://dx.doi.org/10.1021/es702446p>.

Exposure Literature Search Results

On Topic

- Meng, XZ; Duan, YP; Yang, C; Pan, ZY; Wen, ZH; Chen, L. (2011). Occurrence, sources, and inventory of hexabromocyclododecanes (HBCDs) in soils from Chongming Island, the Yangtze River Delta (YRD). *Chemosphere*. 82: 725-731. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.091>.
- Meng, XZ; Xiang, N; Duan, YP; Chen, L; Zeng, EY. (2012). Hexabromocyclododecane in consumer fish from South China: implications for human exposure via dietary intake. *Environ Toxicol Chem*. 31: 1424-1430. <http://dx.doi.org/10.1002/etc.1826>.
- Meyer, T; Muir, DC; Teixeira, C; Wang, X; Young, T; Wania, F. (2012). Deposition of brominated flame retardants to the Devon Ice Cap, Nunavut, Canada. *Environ Sci Technol*. 46: 826-833. <http://dx.doi.org/10.1021/es202900u>.
- Miège, C; Peretti, A; Labadie, P; Budzinski, H; Le Bizec, B; Vorkamp, K; Tronczyński, J; Persat, H; Coquery, M; Babut, M. (2012). Occurrence of priority and emerging organic compounds in fishes from the Rhone River (France). *Anal Bioanal Chem*. 404: 2721-2735. <http://dx.doi.org/10.1007/s00216-012-6187-0>.
- Miller, A; Elliott, JE; Elliott, KH; Guigueno, MF; Wilson, LK; Lee, S; Idrissi, A. (2014). Brominated flame retardant trends in aquatic birds from the Salish Sea region of the west coast of North America, including a mini-review of recent trends in marine and estuarine birds. *Sci Total Environ*. 502C: 60-69. <http://dx.doi.org/10.1016/j.scitotenv.2014.09.006>.
- Miller, A; Elliott, JE; Elliott, KH; Guigueno, MF; Wilson, LK; Lee, S; Idrissi, A. (2014). Spatial and temporal trends in brominated flame retardants in seabirds from the Pacific coast of Canada. *Environ Pollut*. 195C: 48-55. <http://dx.doi.org/10.1016/j.envpol.2014.08.009>.
- Minh, NH; Isobe, T; Ueno, D; Matsumoto, K; Mine, M; Kajiwara, N; Takahashi, S; Tanabe, S. (2007). Spatial distribution and vertical profile of polybrominated diphenyl ethers and hexabromocyclododecanes in sediment core from Tokyo Bay, Japan. *Environ Pollut*. 148: 409-417. <http://dx.doi.org/10.1016/j.envpol.2006.12.011>.
- Montie, EW; Letcher, RJ; Reddy, CM; Moore, MJ; Rubinstein, B; Hahn, ME. (2010). Brominated flame retardants and organochlorine contaminants in winter flounder, harp and hooded seals, and North Atlantic right whales from the Northwest Atlantic Ocean. *Mar Pollut Bull*. 60: 1160-1169. <http://dx.doi.org/10.1016/j.marpolbul.2010.04.002>.
- Morris, S; Allchin, CR; Zegers, BN; Haftka, JJ; Boon, JP; Belpaire, C; Leonards, PE; Van Leeuwen, SP; De Boer, J. (2004). Distribution and fate of HBCD and TBBPA brominated flame retardants in North Sea estuaries and aquatic food webs. *Environ Sci Technol*. 38: 5497-5504. <http://dx.doi.org/10.1021/es049640i>.
- Müller, MH; Polder, A; Brynildsrud, OB; Lie, E; Løken, KB; Manyilizu, WB; Mdegela, RH; Mokiti, F; Murtadha, M; Nonga, HE; Skaare, JU; Lyche, JL. (2016). Brominated flame retardants (BFRs) in breast milk and associated health risks to nursing infants in Northern Tanzania. *Environ Int*. 89-90: 38-47. <http://dx.doi.org/10.1016/j.envint.2015.12.032>.
- Munsch, C; Marchand, P; Venisseau, A; Veyrand, B; Zendong, Z. (2013). Levels and trends of the emerging contaminants HBCDs (hexabromocyclododecanes) and PFCs (perfluorinated compounds) in marine shellfish along French coasts. *Chemosphere*. 91: 233-240. <http://dx.doi.org/10.1016/j.chemosphere.2012.12.063>.
- Munsch, C; Olivier, N; Veyrand, B; Marchand, P. (2015). Occurrence of legacy and emerging halogenated organic contaminants in marine shellfish along French coasts. *Chemosphere*. 118: 329-335. <http://dx.doi.org/10.1016/j.chemosphere.2014.09.106>.
- Murvoll, KM; Skaare, JU; Anderssen, E; Jenssen, BM. (2006). Exposure and effects of persistent organic pollutants in European shag (*Phalacrocorax aristotelis*) hatchlings from the coast of Norway. *Environ Toxicol Chem*. 25: 190-198.
- Murvoll, KM; Skaare, JU; Jenssen, H; Jenssen, BM. (2007). Associations between persistent organic pollutants and vitamin status in Brünnich's guillemot and common eider hatchlings. *Sci Total Environ*. 381: 134-145. <http://dx.doi.org/10.1016/j.scitotenv.2007.03.037>.
- Murvoll, KM; Skaare, JU; Moe, B; Anderssen, E; Jenssen, BM. (2006). Spatial trends and associated biological responses of organochlorines and brominated flame retardants in hatchlings of north Atlantic kittiwakes (*Rissa tridactyla*). *Environ Toxicol Chem*. 25: 1648-1656.
- Nakagawa, R; Murata, S; Ashizuka, Y; Shintani, Y; Hori, T; Tsutsumi, T. (2010). Hexabromocyclododecane determination in seafood samples collected from Japanese coastal areas. *Chemosphere*. 81: 445-452. <http://dx.doi.org/10.1016/j.chemosphere.2010.08.015>.
- Newton, S; Sellstrom, U; de Wit, CA. (2015). Emerging Flame Retardants, PBDEs, and HBCDDs in Indoor and Outdoor Media in Stockholm, Sweden. *Environ Sci Technol*. 49: 2912-2920. <http://dx.doi.org/10.1021/es505946e>.
- NICNAS. (2005). Current Australian use and regulatory activities on polybrominated flame retardants. Sydney, Australia.
- Nordlöf, U; Helander, B; Bignert, A; Asplund, L. (2010). Levels of brominated flame retardants and methoxylated polybrominated diphenyl ethers in eggs of white-tailed sea eagles breeding in different regions of Sweden. *Sci Total Environ*. 409: 238-246. <http://dx.doi.org/10.1016/j.scitotenv.2010.09.042>.
- Oh, JK; Kotani, K; Managaki, S; Masunaga, S. (2014). Levels and distribution of hexabromocyclododecane and its lower brominated derivative in Japanese riverine environment. *Chemosphere*. 109: 157-163. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.074>.
- Okonski, K; Degrendele, C; Melymuk, L; Landlová, L; Kukučka, P; Vojta, S; Kohoutek, J; Cupr, P; Klánová, J. (2014). Particle size distribution of halogenated flame retardants and implications for atmospheric deposition and transport. *Environ Sci Technol*. 48: 14426-14434. <http://dx.doi.org/10.1021/es5044547>.
- Olukunle, OI; Okonkwo, OJ. (2015). Concentration of novel brominated flame retardants and HBCD in leachates and sediments from selected municipal solid waste landfill sites in Gauteng Province, South Africa. *Waste Manag*. 43: 300-306. <http://dx.doi.org/10.1016/j.wasman.2015.07.009>.
- Ortiz, X; Guerra, P; Díaz-Ferrero, J; Eljarrat, E; Barceló, D. (2011). Diastereoisomer- and enantiomer-specific determination of hexabromocyclododecane in fish oil for food and feed. *Chemosphere*. 82: 739-744. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.088>.
- Paama, LA; Kokk, KY. (1985). DETERMINATION OF HEXABROMOCYCLODODECANE IN WASTE-WATERS WITH A BROMIDE-SELECTIVE ELECTRODE. *Industrial Laboratory*. 51: 404-406.
- Paama, LA; Kokk, KY; Kheinaste, TA; Soloveva, EV; Vostrikov, VI. (1985). DETERMINATION OF MICROQUANTITIES OF HEXABROMOCYCLODODECANE IN AIR. *Industrial Laboratory*. 51: 105-107.

Exposure Literature Search Results

On Topic

- Pawar, G; Abdallah, MA; de Sáa, EV; Harrad, S. (2016). Dermal bioaccessibility of flame retardants from indoor dust and the influence of topically applied cosmetics. *J Expo Sci Environ Epidemiol*. 27: 100-105. <http://dx.doi.org/10.1038/jes.2015.84>.
- Peck, AM; Pugh, RS; Moors, A; Ellisor, MB; Porter, BJ; Becker, PR; Kucklick, JR. (2008). Hexabromocyclododecane in white-sided dolphins: temporal trend and stereoisomer distribution in tissues. *Environ Sci Technol*. 42: 2650-2655. <http://dx.doi.org/10.1021/es072052v>.
- Peters, RJB; Beeltje, H; van Delft, RJ. (2008). Xeno-estrogenic compounds in precipitation. *J Environ Monit*. 10: 760-769. <http://dx.doi.org/10.1039/b805983g>.
- Polder, A; Gabrielsen, GW; Odland, JØ; Savinova, TN; Tkachev, A; Løken, KB; Skaare, JU. (2008). Spatial and temporal changes of chlorinated pesticides, PCBs, dioxins (PCDDs/PCDFs) and brominated flame retardants in human breast milk from Northern Russia. *Sci Total Environ*. 391: 41-54. <http://dx.doi.org/10.1016/j.scitotenv.2007.10.045>.
- Polder, A; Muller, MB; Brynildsrud, OB; de Boer, J; Hamers, T; Kamstra, JH; Lie, E; Mdegela, RH; Moberg, H; Nonga, HE; Sandvik, M; Skaare, JU; Lyche, JL. (2016). Dioxins, PCBs, chlorinated pesticides and brominated flame retardants in free-range chicken eggs from peri-urban areas in Arusha, Tanzania: Levels and implications for human health. *Sci Total Environ*. 551: 656-667. <http://dx.doi.org/10.1016/j.scitotenv.2016.02.021>.
- Polder, A; Müller, MB; Lyche, JL; Mdegela, RH; Nonga, HE; Mabiki, FP; Mbise, TJ; Skaare, JU; Sandvik, M; Skjerve, E; Lie, E. (2014). Levels and patterns of persistent organic pollutants (POPs) in tilapia (*Oreochromis sp.*) from four different lakes in Tanzania: Geographical differences and implications for human health. *Sci Total Environ*. 488-489: 252-260. <http://dx.doi.org/10.1016/j.scitotenv.2014.04.085>.
- Polder, A; Thomsen, C; Lindström, G; Løken, KB; Skaare, JU. (2008). Levels and temporal trends of chlorinated pesticides, polychlorinated biphenyls and brominated flame retardants in individual human breast milk samples from Northern and Southern Norway. *Chemosphere*. 73: 14-23. <http://dx.doi.org/10.1016/j.chemosphere.2008.06.002>.
- Polder, A; Venter, B; Skaare, JU; Bouwman, H. (2008). Polybrominated diphenyl ethers and HBCD in bird eggs of South Africa. *Chemosphere*. 73: 148-154. <http://dx.doi.org/10.1016/j.chemosphere.2008.03.021>.
- Poma, G; Binelli, A; Volta, P; Roscioli, C; Guzzella, L. (2014). Evaluation of spatial distribution and accumulation of novel brominated flame retardants, HBCD and PBDEs in an Italian subalpine lake using zebra mussel (*Dreissena polymorpha*). *Environ Sci Pollut Res Int*. 21: 9655-9664. <http://dx.doi.org/10.1007/s11356-014-2826-7>.
- Poma, G; Roscioli, C; Guzzella, L. (2014). PBDE, HBCD, and novel brominated flame retardant contamination in sediments from Lake Maggiore (Northern Italy). *Environ Monit Assess*. 186: 7683-7692. <http://dx.doi.org/10.1007/s10661-014-3959-3>.
- Poma, G; Volta, P; Roscioli, C; Bettinetti, R; Guzzella, L. (2014). Concentrations and trophic interactions of novel brominated flame retardants, HBCD, and PBDEs in zooplankton and fish from Lake Maggiore (Northern Italy). *Sci Total Environ*. 481: 401-408. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.063>.
- Pulkřabov, J; Hajslov, J; Poustka, J; Kazda, R. (2007). Fish as biomonitors of polybrominated diphenyl ethers and hexabromocyclododecane in Czech aquatic ecosystems: pollution of the Elbe River basin. *Environ Health Perspect*. 115 Suppl 1: 28-34. <http://dx.doi.org/10.1289/ehp.9354>.
- Pulkřabov, J; Hřdkov, P; Hajslov, J; Poustka, J; Npravnkov, M; Polcek, V. (2009). Brominated flame retardants and other organochlorine pollutants in human adipose tissue samples from the Czech Republic. *Environ Int*. 35: 63-68. <http://dx.doi.org/10.1016/j.envint.2008.08.001>.
- Qi, H; Li, WL; Liu, LY; Song, WW; Ma, WL; Li, YF. (2014). Brominated flame retardants in the urban atmosphere of Northeast China: Concentrations, temperature dependence and gas-particle partitioning. *Sci Total Environ*. 491-492: 60-66. <http://dx.doi.org/10.1016/j.scitotenv.2014.03.002>.
- Qi, H; Li, WL; Liu, LY; Zhang, ZF; Zhu, NZ; Song, WW; Ma, WL; Li, YF. (2014). Levels, distribution and human exposure of new non-BDE brominated flame retardants in the indoor dust of China. *Environ Pollut*. 195C: 1-8. <http://dx.doi.org/10.1016/j.envpol.2014.08.008>.
- Qiu, Y; Strid, A; Bignert, A; Zhu, Z; Zhao, J; Athanasiadou, M; Athanassiadis, I; Bergman, . (2012). Chlorinated and brominated organic contaminants in fish from Shanghai markets: a case study of human exposure. *Chemosphere*. 89: 458-466. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.099>.
- Ramu, K; Isobe, T; Takahashi, S; Kim, EY; Min, BY; We, SU; Tanabe, S. (2010). Spatial distribution of polybrominated diphenyl ethers and hexabromocyclododecanes in sediments from coastal waters of Korea. *Chemosphere*. 79: 713-719. <http://dx.doi.org/10.1016/j.chemosphere.2010.02.048>.
- Ramu, K; Kajiwara, N; Isobe, T; Takahashi, S; Kim, EY; Min, BY; We, SU; Tanabe, S. (2007). Spatial distribution and accumulation of brominated flame retardants, polychlorinated biphenyls and organochlorine pesticides in blue mussels (*Mytilus edulis*) from coastal waters of Korea. *Environ Pollut*. 148: 562-569. <http://dx.doi.org/10.1016/j.envpol.2006.11.034>.
- Rani, M; Shim, WJ; Han, GM; Jang, M; Song, YK; Hong, SH. (2014). Hexabromocyclododecane in polystyrene based consumer products: An evidence of unregulated use. *Chemosphere*. 110: 111-119. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.022>.
- Rauert, C; Lazarov, B; Harrad, S; Covaci, A; Stranger, M. (2014). A review of chamber experiments for determining specific emission rates and investigating migration pathways of flame retardants. *Atmos Environ*. 82: 44-55. <http://dx.doi.org/10.1016/j.atmosenv.2013.10.003>.
- Rawn, DF; Corrigan, C; Mnard, C; Breton, F; Sun, WF. (2016). A method for the analysis of multiple novel halogenated flame retardants in cow's milk. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess*. 33: 1207-1218. <http://dx.doi.org/10.1080/19440049.2016.1198049>.
- Rawn, DF; Gaertner, DW; Weber, D; Curran, IH; Cooke, GM; Goodyer, CG. (2014). Hexabromocyclododecane concentrations in Canadian human fetal liver and placental tissues. *Sci Total Environ*. 468-469: 622-629. <http://dx.doi.org/10.1016/j.scitotenv.2013.08.014>.
- Rawn, DF; Ryan, JJ; Sadler, AR; Sun, WF; Weber, D; Laffey, P; Haines, D; Macey, K; Van Oostdam, J. (2014). Brominated flame retardant concentrations in sera from the Canadian Health Measures Survey (CHMS) from 2007 to 2009. *Environ Int*. 63: 26-34. <http://dx.doi.org/10.1016/j.envint.2013.10.012>.

Exposure Literature Search Results

On Topic

- Rawn, DF; Sadler, A; Quade, SC; Sun, WF; Lau, BP; Kosarac, I; Hayward, S; Ryan, JJ. (2011). Brominated flame retardants in Canadian chicken egg yolks. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 28: 807-815. <http://dx.doi.org/10.1080/19440049.2010.545443>.
- Reindl, AR; Falkowska, L. (2014). Flame retardants at the top of a simulated baltic marine food web-A case study concerning african penguins from the Gdansk zoo. *Arch Environ Contam Toxicol.* 68: 259-264. <http://dx.doi.org/10.1007/s00244-014-0081-z>.
- Reiner, JL; Becker, PR; Gribble, MO; Lynch, JM; Moors, AJ; Ness, J; Peterson, D; Pugh, RS; Ragland, T; Rimmer, C; Rhoderick, J; Schantz, MM; Trevillian, J; Kucklick, JR. (2015). Organohalogen Contaminants and Vitamins in Northern Fur Seals (*Callorhinus ursinus*) Collected During Subsistence Hunts in Alaska. *Arch Environ Contam Toxicol.* 70: 96-105. <http://dx.doi.org/10.1007/s00244-015-0179-y>.
- Remberger, M; Sternbeck, J; Palm, A; Kaj, L; Strömberg, K; Brorström-Lundén, E. (2004). The environmental occurrence of hexabromocyclododecane in Sweden. *Chemosphere.* 54: 9-21. [http://dx.doi.org/10.1016/S0045-6535\(03\)00758-6](http://dx.doi.org/10.1016/S0045-6535(03)00758-6).
- Rivière, G; Sirot, V; Tard, A; Jean, J; Marchand, P; Veyrand, B; Le Bizec, B; Leblanc, JC. (2014). Food risk assessment for perfluoroalkyl acids and brominated flame retardants in the French population: Results from the second French total diet study. *Sci Total Environ.* 491-492: 176-183. <http://dx.doi.org/10.1016/j.scitotenv.2014.01.104>.
- Robson, M; Melymuk, L; Bradley, L; Treen, B; Backus, S. (2013). Wet deposition of brominated flame retardants to the Great Lakes basin - Status and trends. *Environ Pollut.* 182: 299-306. <http://dx.doi.org/10.1016/j.envpol.2013.07.018>.
- Roosens, L; Abdallah, MA; Harrad, S; Neels, H; Covaci, A. (2009). Exposure to hexabromocyclododecanes (HBCDs) via dust ingestion, but not diet, correlates with concentrations in human serum: preliminary results. *Environ Health Perspect.* 117: 1707-1712. <http://dx.doi.org/10.1289/ehp.0900869>.
- Roosens, L; Cornelis, C; D'Hollander, W; Bervoets, L; Reynders, H; Van Campenhout, K; Van Den Heuvel, R; Neels, H; Covaci, A. (2010). Exposure of the Flemish population to brominated flame retardants: model and risk assessment. *Environ Int.* 36: 368-376. <http://dx.doi.org/10.1016/j.envint.2010.02.005>.
- Roosens, L; D'Hollander, W; Bervoets, L; Reynders, H; Van Campenhout, K; Cornelis, C; Van Den Heuvel, R; Koppen, G; Covaci, A. (2010). Brominated flame retardants and perfluorinated chemicals, two groups of persistent contaminants in Belgian human blood and milk. *Environ Pollut.* 158: 2546-2552. <http://dx.doi.org/10.1016/j.envpol.2010.05.022>.
- Roosens, L; Dirtu, AC; Goemans, G; Belpaire, C; Gheorghe, A; Neels, H; Blust, R; Covaci, A. (2008). Brominated flame retardants and polychlorinated biphenyls in fish from the river Scheldt, Belgium. *Environ Int.* 34: 976-983. <http://dx.doi.org/10.1016/j.envint.2008.02.009>.
- Roosens, L; Geeraerts, C; Belpaire, C; Van Pelt, I; Neels, H; Covaci, A. (2010). Spatial variations in the levels and isomeric patterns of PBDEs and HBCDs in the European eel in Flanders. *Environ Int.* 36: 415-423. <http://dx.doi.org/10.1016/j.envint.2010.03.001>.
- Rüdel, H; Müller, J; Quack, M; Klein, R. (2012). Monitoring of hexabromocyclododecane diastereomers in fish from European freshwaters and estuaries. *Environ Sci Pollut Res Int.* 19: 772-783. <http://dx.doi.org/10.1007/s11356-011-0604-3>.
- Ryan, JJ; Rawn, DF. (2014). The brominated flame retardants, PBDEs and HBCD, in Canadian human milk samples collected from 1992 to 2005; concentrations and trends. *Environ Int.* 70: 1-8. <http://dx.doi.org/10.1016/j.envint.2014.04.020>.
- Sagerup, K; Helgason, LB; Polder, A; Strøm, H; Josefsen, TD; Skåre, JU; Gabrielsen, GW. (2009). Persistent organic pollutants and mercury in dead and dying glaucous gulls (*Larus hyperboreus*) at Björnøya (Svalbard). *Sci Total Environ.* 407: 6009-6016. <http://dx.doi.org/10.1016/j.scitotenv.2009.08.020>.
- Sahlström, L; Sellström, U; de Wit, CA. (2012). Clean-up method for determination of established and emerging brominated flame retardants in dust. *Anal Bioanal Chem.* 404: 459-466. <http://dx.doi.org/10.1007/s00216-012-6160-y>.
- Sahlström, LM; Sellström, U; de Wit, CA; Lignell, S; Darnerud, PO. (2014). Brominated flame retardants in matched serum samples from Swedish first-time mothers and their toddlers. *Environ Sci Technol.* 48: 7584-7592. <http://dx.doi.org/10.1021/es501139d>.
- Sahlström, LM; Sellström, U; de Wit, CA; Lignell, S; Darnerud, PO. (2015). Estimated intakes of brominated flame retardants via diet and dust compared to internal concentrations in a Swedish mother-toddler cohort. *Int J Hyg Environ Health.* 218: 422-432. <http://dx.doi.org/10.1016/j.ijheh.2015.03.011>.
- Saito, I; Onuki, A; Seto, H. (2007). Indoor organophosphate and polybrominated flame retardants in Tokyo. *Indoor Air.* 17: 28-36. <http://dx.doi.org/10.1111/j.1600-0668.2006.00442.x>.
- Salamova, A; Hites, RA. (2013). Brominated and chlorinated flame retardants in tree bark from around the globe. *Environ Sci Technol.* 47: 349-354. <http://dx.doi.org/10.1021/es303393z>.
- Samsonek, J; Puype, F. (2013). Occurrence of brominated flame retardants in black thermo cups and selected kitchen utensils purchased on the European market. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 30: 1976-1986. <http://dx.doi.org/10.1080/19440049.2013.829246>.
- Schechter, A; Colacino, J; Haffner, D; Patel, K; Opel, M; Pöpke, O; Birnbaum, L. (2010). Perfluorinated compounds, polychlorinated biphenyls, and organochlorine pesticide contamination in composite food samples from Dallas, Texas, USA. *Environ Health Perspect.* 118: 796-802. <http://dx.doi.org/10.1289/ehp.0901347>.
- Schechter, A; Haffner, D; Colacino, J; Patel, K; Pöpke, O; Opel, M; Birnbaum, L. (2010). Polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) in composite U.S. food samples. *Environ Health Perspect.* 118: 357-362. <http://dx.doi.org/10.1289/ehp.0901345>.
- Schechter, A; Harris, TR; Brummitt, S; Shah, N; Paepke, O. (2008). PBDE and HBCD Brominated Flame Retardants in the USA, Update 2008: Levels in Human Milk and Blood, Food, and Environmental Samples. *Epidemiology.* 19: S76-S76.
- Schechter, A; Szabo, DT; Miller, J; Gent, TL; Malik-Bass, N; Petersen, M; Paepke, O; Colacino, JA; Hynan, LS; Harris, TR; Malla, S; Birnbaum, LS. (2012). Hexabromocyclododecane (HBCD) Stereoisomers in U.S. Food from Dallas, Texas. *Environ Health Perspect.* 120: 1260-1264. <http://dx.doi.org/10.1289/ehp.1204993>.
- Schreder, ED; La Guardia, MJ. (2014). Flame retardant transfers from u.s. Households (dust and laundry wastewater) to the aquatic environment. *Environ Sci Technol.* 48: 11575-11583. <http://dx.doi.org/10.1021/es502227h>.

Exposure Literature Search Results

On Topic

- Schwarz, S; Rackstraw, A; Behnisch, PA; Brouwer, A; Koehler, HR; Kotz, A; Kuballa, T; Malisch, R; Neugebauer, F; Schilling, F; Schmidt, D; von Der Trenck, KT. (2016). Peregrine falcon egg pollutants Mirror Stockholm POPs list including methylmercury. *Toxicol Environ Chem.* 98: 886-923. <http://dx.doi.org/10.1080/02772248.2015.1126717>.
- Seguí, X; Pujolasus, E; Betrò, S; Agueda, A; Casal, J; Ocampo-Duque, W; Rudolph, I; Barra, R; Páez, M; Barón, E; Eljarrat, E; Barceló, D; Darbra, RM. (2013). Fuzzy model for risk assessment of persistent organic pollutants in aquatic ecosystems. *Environ Pollut.* 178: 23-32. <http://dx.doi.org/10.1016/j.envpol.2013.02.014>.
- Sellström, U; Bignert, A; Kierkegaard, A; Häggberg, L; de Wit, CA; Olsson, M; Jansson, B. (2003). Temporal trend studies on tetra- and pentabrominated diphenyl ethers and hexabromocyclododecane in guillemot egg from the Baltic Sea. *Environ Sci Technol.* 37: 5496-5501. <http://dx.doi.org/10.1021/es0300766>.
- Sellstrom, U; Kierkegaard, A; De Wit, C; Jansson, B. (1998). Polybrominated diphenyl ethers and hexabromocyclododecane in sediment and fish from a Swedish River. *Environ Toxicol Chem.* 17: 1065-1072.
- Shaw, SD; Berger, ML; Brenner, D; Kannan, K; Lohmann, N; Päpke, O. (2009). Bioaccumulation of polybrominated diphenyl ethers and hexabromocyclododecane in the northwest Atlantic marine food web. *Sci Total Environ.* 407: 3323-3329. <http://dx.doi.org/10.1016/j.scitotenv.2009.02.018>.
- Shaw, SD; Berger, ML; Weijs, L; Covaci, A. (2012). Tissue-specific accumulation of polybrominated diphenyl ethers (PBDEs) including Deca-BDE and hexabromocyclododecanes (HBCDs) in harbor seals from the northwest Atlantic. *Environ Int.* 44: 1-6. <http://dx.doi.org/10.1016/j.envint.2012.01.001>.
- Shi, Z; Jiao, Y; Hu, Y; Sun, Z; Zhou, X; Feng, J; Li, J; Wu, Y. (2013). Levels of tetrabromobisphenol A, hexabromocyclododecanes and polybrominated diphenyl ethers in human milk from the general population in Beijing, China. *Sci Total Environ.* 452-453: 10-18. <http://dx.doi.org/10.1016/j.scitotenv.2013.02.038>.
- Shi, Z; Zhang, L; Li, J; Zhao, Y; Sun, Z; Zhou, X; Wu, Y. (2016). Novel brominated flame retardants in food composites and human milk from the Chinese Total Diet Study in 2011: Concentrations and a dietary exposure assessment. *Environ Int.* 96: 82-90. <http://dx.doi.org/10.1016/j.envint.2016.09.005>.
- Shi, ZX; Wu, YN; Li, JG; Zhao, YF; Feng, JF. (2009). Dietary exposure assessment of Chinese adults and nursing infants to tetrabromobisphenol-A and hexabromocyclododecanes: occurrence measurements in foods and human milk. *Environ Sci Technol.* 43: 4314-4319. <http://dx.doi.org/10.1021/es8035626>.
- Shoeib, M; Harner, T; Webster, GM; Sverko, E; Cheng, Y. (2012). Legacy and current-use flame retardants in house dust from Vancouver, Canada. *Environ Pollut.* 169: 175-182. <http://dx.doi.org/10.1016/j.envpol.2012.01.043>.
- Skotak, K; Szcotko, M. (2016). Dicofof, endosulfan, trifluralin, hexabromocyclododecane and pentachlorophenol. A review of environmental and human health impact. *Przemysł Chemiczny.* 95: 554-560.
- Son, MH; Kim, J; Shin, ES; Seo, SH; Chang, YS. (2015). Diastereoisomer- and species-specific distribution of hexabromocyclododecane (HBCD) in fish and marine invertebrates. *J Hazard Mater.* 300: 114-120. <http://dx.doi.org/10.1016/j.jhazmat.2015.06.023>.
- Sørmo, EG; Jenssen, BM; Lie, E; Skaare, JU. (2009). Brominated flame retardants in aquatic organisms from the North Sea in comparison with biota from the high Arctic marine environment. *Environ Toxicol Chem.* 28: 2082-2090. <http://dx.doi.org/10.1897/08-452.1>.
- Sørmo, EG; Lie, E; Ruus, A; Gaustad, H; Skaare, JU; Jenssen, BM. (2011). Trophic level determines levels of brominated flame-retardants in coastal herring gulls. *Ecotoxicol Environ Saf.* 74: 2091-2098. <http://dx.doi.org/10.1016/j.ecoenv.2011.06.012>.
- Sørmo, EG; Salmer, MP; Jenssen, BM; Hop, H; Baek, K; Kovacs, KM; Lydersen, C; Falk-Petersen, S; Gabrielsen, GW; Lie, E; Skaare, JU. (2006). Biomagnification of polybrominated diphenyl ether and hexabromocyclododecane flame retardants in the polar bear food chain in Svalbard, Norway. *Environ Toxicol Chem.* 25: 2502-2511.
- Stapleton, H; Allen, J; Kelly, S; Konstantinov, A; Klosterhaus, S; Watkins, D; Mcclean, M; Webster, T. (2008). Alternate and new brominated flame retardants detected in U.S. house dust. *Environ Sci Technol.* 42: 6910-6916. <http://dx.doi.org/10.1021/es801070p>.
- Stapleton, HM; Dodder, NG; Kucklick, JR; Reddy, CM; Schantz, MM; Becker, PR; Gulland, F; Porter, BJ; Wise, SA. (2006). Determination of HBCD, PBDEs and MeO-BDEs in California sea lions (*Zalophus californianus*) stranded between 1993 and 2003. *Mar Pollut Bull.* 52: 522-531. <http://dx.doi.org/10.1016/j.marpolbul.2005.09.045>.
- Stapleton, HM; Eagle, S; Sjödin, A; Webster, TF. (2012). Serum PBDEs in a North Carolina toddler cohort: Associations with hand wipes, house dust and socioeconomic variables. *Environ Health Perspect.* 120: 1049-1054. <http://dx.doi.org/10.1289/ehp.1104802>.
- Stapleton, HM; Misenheimer, J; Hoffman, K; Webster, TF. (2014). Flame retardant associations between children's handwipes and house dust. *Chemosphere.* 116: 54-60. <http://dx.doi.org/10.1016/j.chemosphere.2013.12.100>.
- Stiborova, H; Kolar, M; Vrkoslavova, J; Pulkrabova, J; Hajslova, J; Demnerova, K; Uhlik, O. (2017). Linking toxicity profiles to pollutants in sludge and sediments. *J Hazard Mater.* 321: 672-680. <http://dx.doi.org/10.1016/j.jhazmat.2016.09.051>.
- Su, G; Letcher, RJ; Moore, JN; Williams, LL; Martin, PA; de Solla, SR; Bowerman, WW. (2015). Spatial and temporal comparisons of legacy and emerging flame retardants in herring gull eggs from colonies spanning the Laurentian Great Lakes of Canada and United States. *Environ Res.* 142: 720-730. <http://dx.doi.org/10.1016/j.envres.2015.08.018>.
- Su, G; Saunders, D; Yu, Y; Yu, H; Zhang, X; Liu, H; Giesy, JP. (2014). Occurrence of additive brominated flame retardants in aquatic organisms from Tai Lake and Yangtze River in Eastern China, 2009-2012. *Chemosphere.* 114: 340-346. <http://dx.doi.org/10.1016/j.chemosphere.2014.05.046>.
- Su, J; Lu, Y; Liu, Z; Gao, S; Zeng, X; Yu, Z; Sheng, G; Fu, JM. (2015). Distribution of polybrominated diphenyl ethers and HBCD in sediments of the Hunhe River in Northeast China. *Environ Sci Pollut Res Int.* 22: 16781-16790. <http://dx.doi.org/10.1007/s11356-015-4779-x>.
- Subramanian, A; Tanabe, S. (2007). Developments in Environmental Science Persistent Toxic Substances in India. [http://dx.doi.org/10.1016/S1474-8177\(07\)07009-X](http://dx.doi.org/10.1016/S1474-8177(07)07009-X).
- Sudaryanto, A; Takahashi, S; Tanabe, S. (2007). Developments in Environmental Science Persistent Toxic Substances in the Environment of Indonesia. [http://dx.doi.org/10.1016/S1474-8177\(07\)07013-1](http://dx.doi.org/10.1016/S1474-8177(07)07013-1).

Exposure Literature Search Results

On Topic

- Sühning, R; Barber, JL; Wolschke, H; Kötke, D; Ebinghaus, R. (2015). Fingerprint analysis of brominated flame retardants and Dechloranes in North Sea sediments. *Environ Res.* 140: 569-578. <http://dx.doi.org/10.1016/j.envres.2015.05.018>.
- Sühning, R; Busch, F; Fricke, N; Kötke, D; Wolschke, H; Ebinghaus, R. (2016). Distribution of brominated flame retardants and dechloranes between sediments and benthic fish--A comparison of a freshwater and marine habitat. *Sci Total Environ.* 542: 578-585. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.085>.
- Sun, YX; Luo, XJ; Mo, L; He, MJ; Zhang, Q; Chen, SJ; Zou, FS; Mai, BX. (2012). Hexabromocyclododecane in terrestrial passerine birds from e-waste, urban and rural locations in the Pearl River Delta, South China: levels, biomagnification, diastereoisomer- and enantiomer-specific accumulation. *Environ Pollut.* 171: 191-198. <http://dx.doi.org/10.1016/j.envpol.2012.07.026>.
- Suzuki, S; Hasegawa, A. (2006). Determination of hexabromocyclododecane diastereoisomers and tetrabromobisphenol A in water and sediment by liquid chromatography/mass spectrometry. *Anal Sci.* 22: 469-474.
- Svendsen, TC; Camus, L; Hargrave, B; Fisk, A; Muir, DCG; Borga, K. (2007). Polyaromatic hydrocarbons, chlorinated and brominated organic contaminants as tracers of feeding ecology in polar benthic amphipods. *Mar Ecol Prog Ser.* 337: 155-164.
- Svihlikova, V; Lankova, D; Poustka, J; Tomaniova, M; Hajslova, J; Pulkrabova, J. (2015). Perfluoroalkyl substances (PFASs) and other halogenated compounds in fish from the upper Labe River basin. *Chemosphere.* 129: 170-178. <http://dx.doi.org/10.1016/j.chemosphere.2014.09.096>.
- Takahashi, S; Oshihoi, T; Ramu, K; Isobe, T; Ohmori, K; Kubodera, T; Tanabe, S. (2010). Organohalogen compounds in deep-sea fishes from the western North Pacific, off-Tohoku, Japan: Contamination status and bioaccumulation profiles. *Mar Pollut Bull.* 60: 187-196. <http://dx.doi.org/10.1016/j.marpolbul.2009.09.027>.
- Takigami, H; Suzuki, G; Hirai, Y; Ishikawa, Y; Sunami, M; Sakai, S. (2009). Flame retardants in indoor dust and air of a hotel in Japan. *Environ Int.* 35: 688-693. <http://dx.doi.org/10.1016/j.envint.2008.12.007>.
- Takigami, H; Suzuki, G; Hirai, Y; Sakai, S. (2008). Transfer of brominated flame retardants from components into dust inside television cabinets. *Chemosphere.* 73: 161-169. <http://dx.doi.org/10.1016/j.chemosphere.2008.06.032>.
- Takigami, H; Suzuki, G; Hirai, Y; Sakai, S. (2009). Brominated flame retardants and other polyhalogenated compounds in indoor air and dust from two houses in Japan. *Chemosphere.* 76: 270-277. <http://dx.doi.org/10.1016/j.chemosphere.2009.03.006>.
- Tan, Z; Lu, S; Zhang, J; Jiang, Y; Zhou, J; Zhu, H; Li, S; Lin, X. (2014). [Determination of hexabromocyclododecanes diastereoisomers in human breast milk by HPLC-MS/MS]. *Wei Sheng Yan Jiu.* 43: 809-813.
- Tanabe, S. (2008). Temporal trends of brominated flame retardants in coastal waters of Japan and South China: retrospective monitoring study using archived samples from es-Bank, Ehime University, Japan. *Mar Pollut Bull.* 57: 267-274. <http://dx.doi.org/10.1016/j.marpolbul.2007.12.017>.
- Tang, B; Zeng, YH; Luo, XJ; Zheng, XB; Mai, BX. (2015). Bioaccumulative characteristics of tetrabromobisphenol A and hexabromocyclododecanes in multi-tissues of prey and predator fish from an e-waste site, South China. *Environ Sci Pollut Res Int.* 22: 12011-12017. <http://dx.doi.org/10.1007/s11356-015-4463-1>.
- Tang, J; Feng, J; Li, X; Li, G. (2014). Levels of flame retardants HBCD, TBBPA and TBC in surface soils from an industrialized region of East China. *Environ Sci Process Impacts.* 16: 1015-1021. <http://dx.doi.org/10.1039/c3em00656e>.
- Tang, L; Shao, HY; Zhu, JY; Xu, G; Han, T; Peng, BQ; Wu, MH. (2015). Hexabromocyclododecane diastereoisomers in surface sediments from river drainage basins of Shanghai, China: occurrence, distribution, and mass inventory. *Environ Sci Pollut Res Int.* 22: 11993-12000. <http://dx.doi.org/10.1007/s11356-015-4336-7>.
- Tao, F; Matsukami, H; Suzuki, G; Tue, NM; Viet, PH; Takigami, H; Harrad, S. (2016). Emerging halogenated flame retardants and hexabromocyclododecanes in food samples from an e-waste processing area in Vietnam. *Environ Sci Process Impacts.* 18: 361-370. <http://dx.doi.org/10.1039/c5em00593k>.
- Tappin, AD; Millward, GE. (2015). The English Channel: Contamination status of its transitional and coastal waters. *Mar Pollut Bull.* 95: 529-550. <http://dx.doi.org/10.1016/j.marpolbul.2014.12.012>.
- ten Dam, G; Pardo, O; Traag, W; van der Lee, M; Peters, R. (2012). Simultaneous extraction and determination of HBCD isomers and TBBPA by ASE and LC-MS/MS in fish. *J Chromatogr B Analyt Technol Biomed Life Sci.* 898: 101-110. <http://dx.doi.org/10.1016/j.jchromb.2012.04.025>.
- Thomsen, C; Stigum, H; Frøshaug, M; Broadwell, SL; Becher, G; Eggesbø, M. (2010). Determinants of brominated flame retardants in breast milk from a large scale Norwegian study. *Environ Int.* 36: 68-74. <http://dx.doi.org/10.1016/j.envint.2009.10.002>.
- Thuresson, K; Björklund, JA; de Wit, CA. (2012). Tri-decabrominated diphenyl ethers and hexabromocyclododecane in indoor air and dust from Stockholm microenvironments 1: levels and profiles. *Sci Total Environ.* 414: 713-721. <http://dx.doi.org/10.1016/j.scitotenv.2011.11.016>.
- Tian, Y; Liu, A, iF; Qu, G, bo; Liu, CX; Chen, J; Handberg, E; Shi, J, bo; Chen, H, wen; Jiang, G, uibin. (2015). Silver ion post-column derivatization electrospray ionization mass spectrometry for determination of tetrabromobisphenol A derivatives in water samples. *RSC Advances.* 5: 17474-17481. <http://dx.doi.org/10.1039/c4ra16166a>.
- Toms, LM; Guerra, P; Eljarrat, E; Barceló, D; Harden, FA; Hobson, P; Sjodin, A; Ryan, E; Mueller, JF. (2012). Brominated flame retardants in the Australian population: 1993-2009. *Chemosphere.* 89: 398-403. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.053>.
- Tomy, GT; Budakowski, W; Halldorson, T; Whittle, DM; Keir, MJ; Marvin, C; Macinnis, G; Alae, M. (2004). Biomagnification of alpha- and gamma-hexabromocyclododecane isomers in a Lake Ontario food web. *Environ Sci Technol.* 38: 2298-2303. <http://dx.doi.org/10.1021/es034968h>.
- Tomy, GT; Pleskach, K; Ferguson, SH; Hare, J; Stern, G; Macinnis, G; Marvin, CH; Loseto, L. (2009). Trophodynamics of Some PFCs and BFRs in a Western Canadian Arctic Marine Food Web. *Environ Sci Technol.* 43: 4076-4081. <http://dx.doi.org/10.1021/es900162n>.

Exposure Literature Search Results

On Topic

- Tomy, GT; Pleskach, K; Oswald, T; Halldorson, T; Helm, PA; Macinnis, G; Marvin, CH. (2008). Enantioselective bioaccumulation of hexabromocyclododecane and congener-specific accumulation of brominated diphenyl ethers in an eastern Canadian Arctic marine food web. *Environ Sci Technol.* 42: 3634-3639. <http://dx.doi.org/10.1021/es703083z>.
- Törnkvist, A; Glynn, A; Aune, M; Darnerud, PO; Ankarberg, EH. (2011). PCDD/F, PCB, PBDE, HBCD and chlorinated pesticides in a Swedish market basket from 2005--levels and dietary intake estimations. *Chemosphere.* 83: 193-199. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.042>.
- Tue, NM; Sudaryanto, A; Minh, TB; Isobe, T; Takahashi, S; Viet, PH; Tanabe, S. (2010). Accumulation of polychlorinated biphenyls and brominated flame retardants in breast milk from women living in Vietnamese e-waste recycling sites. *Sci Total Environ.* 408: 2155-2162. <http://dx.doi.org/10.1016/j.scitotenv.2010.01.012>.
- Tue, NM; Takahashi, S; Suzuki, G; Isobe, T; Viet, PH; Kobara, Y; Seike, N; Zhang, G; Sudaryanto, A; Tanabe, S. (2013). Contamination of indoor dust and air by polychlorinated biphenyls and brominated flame retardants and relevance of non-dietary exposure in Vietnamese informal e-waste recycling sites. *Environ Int.* 51: 160-167. <http://dx.doi.org/10.1016/j.envint.2012.11.006>.
- U.S. EPA. (1988). Recommendations for and documentation of biological values for use in risk assessment (pp. 1-395). (EPA/600/6-87/008). Cincinnati, OH: U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=34855>.
- Ueno, D; Alae, M; Marvin, C; Muir, DC; Macinnis, G; Reiner, E; Crozier, P; Furdui, VI; Subramanian, A; Fillmann, G; Lam, PK; Zheng, GJ; Muchtar, M; Razak, H; Prudente, M; Chung, KH; Tanabe, S. (2006). Distribution and transportability of hexabromocyclododecane (HBCD) in the Asia-Pacific region using skipjack tuna as a bioindicator. *Environ Pollut.* 144: 238-247. <http://dx.doi.org/10.1016/j.envpol.2005.12.024>.
- Ueno, D; Isobe, T; Ramu, K; Tanabe, S; Alae, M; Marvin, C; Inoue, K; Someya, T; Miyajima, T; Kodama, H; Nakata, H. (2010). Spatial distribution of hexabromocyclododecanes (HBCDs), polybrominated diphenyl ethers (PBDEs) and organochlorines in bivalves from Japanese coastal waters. *Chemosphere.* 78: 1213-1219. <http://dx.doi.org/10.1016/j.chemosphere.2009.12.058>.
- Van den Eede, N; Dirtu, AC; Neels, H; Covaci, A. (2011). Analytical developments and preliminary assessment of human exposure to organophosphate flame retardants from indoor dust. *Environ Int.* 37: 454-461. <http://dx.doi.org/10.1016/j.envint.2010.11.010>.
- van der Ven, LTM; Lilienthal, H; van de Kuil, A; Piersma, AH. (2007). Endocrine effects of hexabromocyclododecane (HBCD) in a one-generation reproduction study in Wistar rats [Abstract]. *Birth Defects Res A Clin Mol Teratol.* 79: 412.
- van Leeuwen, SP; de Boer, J. (2008). Brominated flame retardants in fish and shellfish - levels and contribution of fish consumption to dietary exposure of Dutch citizens to HBCD. *Mol Nutr Food Res.* 52: 194-203. <http://dx.doi.org/10.1002/mnfr.200700207>.
- van Leeuwen, SP; van Velzen, MJ; Swart, CP; van der Veen, I; Traag, WA; de Boer, J. (2009). Halogenated contaminants in farmed salmon, trout, tilapia, pangasius, and shrimp. *Environ Sci Technol.* 43: 4009-4015. <http://dx.doi.org/10.1021/es803558r>.
- Venier, M; Hites, RA. (2011). Flame retardants in the serum of pet dogs and in their food. *Environ Sci Technol.* 45: 4602-4608. <http://dx.doi.org/10.1021/es1043529>.
- Venier, M; Wierda, M; Bowerman, WW; Hites, RA. (2010). Flame retardants and organochlorine pollutants in bald eagle plasma from the Great Lakes region. *Chemosphere.* 80: 1234-1240. <http://dx.doi.org/10.1016/j.chemosphere.2010.05.043>.
- Verboven, N; Verreault, J; Letcher, RJ; Gabrielsen, GW; Evans, NP. (2009). DIFFERENTIAL INVESTMENT IN EGGS BY ARCTIC-BREEDING GLAUCOUS GULLS (LARUS HYPERBOREUS) EXPOSED TO PERSISTENT ORGANIC POLLUTANTS. *Auk.* 126: 123-133. <http://dx.doi.org/10.1525/auk.2009.08039>.
- Verreault, J; Gabrielsen, GW; Bustnes, JO. (2010). The Svalbard glaucous gull as bioindicator species in the European arctic: insight from 35 years of contaminants research [Review]. *Rev Environ Contam Toxicol.* 205: 77-116. http://dx.doi.org/10.1007/978-1-4419-5623-1_2.
- Verreault, J; Gabrielsen, GW; Chu, S; Muir, DC; Andersen, M; Hamaed, A; Letcher, RJ. (2005). Flame retardants and methoxylated and hydroxylated polybrominated diphenyl ethers in two Norwegian Arctic top predators: glaucous gulls and polar bears. *Environ Sci Technol.* 39: 6021-6028. <http://dx.doi.org/10.1021/es050738m>.
- Verreault, J; Gebbink, WA; Gauthier, LT; Gabrielsen, GW; Letcher, RJ. (2007). Brominated flame retardants in glaucous gulls from the Norwegian Arctic: more than just an issue of polybrominated diphenyl ethers. *Environ Sci Technol.* 41: 4925-4931. <http://dx.doi.org/10.1021/es070522f>.
- Verreault, J; Shahmiri, S; Gabrielsen, GW; Letcher, RJ. (2007). Organohalogen and metabolically-derived contaminants and associations with whole body constituents in Norwegian Arctic glaucous gulls. *Environ Int.* 33: 823-830. <http://dx.doi.org/10.1016/j.envint.2007.03.013>.
- Vetter, W; Rosenfelder, N. (2008). Gas chromatography retention data of environmentally relevant polybrominated compounds. *Anal Bioanal Chem.* 392: 489-504. <http://dx.doi.org/10.1007/s00216-008-2277-4>.
- Villanger, GD; Lydersen, C; Kovacs, KM; Lie, E; Skaare, JU; Jenssen, BM. (2011). Disruptive effects of persistent organohalogen contaminants on thyroid function in white whales (*Delphinapterus leucas*) from Svalbard. *Sci Total Environ.* 409: 2511-2524. <http://dx.doi.org/10.1016/j.scitotenv.2011.03.014>.
- Vojta, Š; Bečanová, J; Melymuk, L; Komprdová, K; Kohoutek, J; Kukučka, P; Klánová, J. (2017). Screening for halogenated flame retardants in European consumer products, building materials and wastes. *Chemosphere.* 168: 457-466. <http://dx.doi.org/10.1016/j.chemosphere.2016.11.032>.
- Vorkamp, K; Bester, K; Rigét, FF. (2012). Species-specific time trends and enantiomer fractions of hexabromocyclododecane (HBCD) in biota from East Greenland. *Environ Sci Technol.* 46: 10549-10555. <http://dx.doi.org/10.1021/es301564z>.
- Vorkamp, K; Bossi, R; Bester, K; Bollmann, UE; Boutrup, S. (2014). New priority substances of the European Water Framework Directive: biocides, pesticides and brominated flame retardants in the aquatic environment of Denmark. *Sci Total Environ.* 470-471: 459-468. <http://dx.doi.org/10.1016/j.scitotenv.2013.09.096>.
- Vorkamp, K; Bossi, R; Rigét, FF; Skov, H; Sonne, C; Dietz, R. (2015). Novel brominated flame retardants and dechlorane plus in Greenland air and biota. *Environ Pollut.* 196: 284-291. <http://dx.doi.org/10.1016/j.envpol.2014.10.007>.

Exposure Literature Search Results

On Topic

- Vorkamp, K; Rigét, FF; Bossi, R; Dietz, R. (2011). Temporal trends of hexabromocyclododecane, polybrominated diphenyl ethers and polychlorinated biphenyls in ringed seals from East Greenland. *Environ Sci Technol.* 45: 1243-1249. <http://dx.doi.org/10.1021/es102755x>.
- Vorkamp, K; Thomsen, M; Falk, K; Leslie, H; Møller, S; Sørensen, PB. (2005). Temporal development of brominated flame retardants in peregrine Falcon (*Falco peregrinus*) eggs from South Greenland (1986-2003). *Environ Sci Technol.* 39: 8199-8206. <http://dx.doi.org/10.1021/es0508830>.
- Vos, JG; Becher, G; van den Berg, M; de Boer, J; Leonards, PEG. (2003). Brominated flame retardants and endocrine disruption. *Pure Appl Chem.* 75: 2039-2046.
- Walsh, GE; Yoder, MJ; McLaughlin, LL; Lores, EM. (1987). Responses of marine unicellular algae to brominated organic compounds in six growth media. *Ecotoxicol Environ Saf.* 14: 215-222.
- Wang, L; Zhang, M; Lou, Y; Ke, R; Zheng, M. (2017). Levels and distribution of tris-(2,3-dibromopropyl) isocyanurate and hexabromocyclododecanes in surface sediments from the Yellow River Delta wetland of China. *Mar Pollut Bull.* 114: 577-582. <http://dx.doi.org/10.1016/j.marpolbul.2016.09.019>.
- Wang, T; Han, S; Ruan, T; Wang, Y; Feng, J; Jiang, G. (2013). Spatial distribution and inter-year variation of hexabromocyclododecane (HBCD) and tris-(2,3-dibromopropyl) isocyanurate (TBC) in farm soils at a peri-urban region. *Chemosphere.* 90: 182-187. <http://dx.doi.org/10.1016/j.chemosphere.2012.06.027>.
- Wang, X; Ren, N; Qi, H; Ma, W; Li, Y. (2009). Levels and distribution of brominated flame retardants in the soil of Harbin in China. *J Environ Sci.* 21: 1541-1546.
- Webster, L; Walsham, P; Russell, M; Neat, F; Phillips, L; Dalgarno, E; Packer, G; Scurfield, JA; Moffat, CF. (2009). Halogenated persistent organic pollutants in Scottish deep water fish. *J Environ Monit.* 11: 406-417. <http://dx.doi.org/10.1039/b815313b>.
- Westerink, R; Heusinkveld, H; Bergman, A; Van Den Berg, M; Dingemans, M. (2010). The brominated flame retardants hexabromocyclododecane (HBCD) and BDE-47 affect calcium homeostasis in rat PC12 cells. *Toxicol Lett.* 196: S222-S223. <http://dx.doi.org/10.1016/j.toxlet.2010.03.747>.
- Wikoff, DS; Birnbaum, L. (2011). Handbook of Environmental Chemistry Series Human Health Effects of Brominated Flame Retardants. http://dx.doi.org/10.1007/978_2010_97.
- Wildlife Intl LTD. (1997). ANALYTICAL METHOD VERIFICATION FOR THE DETERMINATION OF HEXABROMOCYCLODODECANE (HBCD) IN WELL WATER WITH COVER LETTER DATED 06/27/1997. (TSCATS/453551).
- Wildlife Intl LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 48-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE CLADOCERAN (*DAPHNIA MAGNA*) WITH COVER LETTER DATED 06/20/1997. (TSCATS/452984).
- Wildlife Intl LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 96-HOUR TOXICITY TEST WITH THE FRESHWATER ALGA (*SELANASTRUM CAPRICORNUTUM*) WITH COVER LETTER DATED 06/26/1997. (TSCATS/453549).
- Wildlife Intl LTD. (1997). LETTER FROM CHEM MFGS ASSOC TO USEPA REGARDING: TOXICOLOGICAL INVESTIGATION OF HEXABROMOCYCLODODECANE (HBCD) WITH ATTACHMENTS, DATED 06/27/1997. (TSCATS/452990).
- Wildlife Intl LTD. (1998). INITIAL SUBMISSION: HEXABROMOCYCLODODECANE (HBCD) - A FLOW-THROUGH LIFE-CYCLE TOXICITY TEST WITH THE CLADOCERAN (*DAPHNIA MAGNA*), FINAL REPORT, WITH COVER LETTER DATED 5/18/1998. (TSCATS/445953).
- Wildlife Intl LTD. (1998). INITIAL SUBMISSION: LETTER FROM CHEM MFGS ASSN TO USEPA REPORTING RESULTS IN 21-DAY LIFE-CYCLE TOXICITY TEST IN CLADOCERAN (*DAPHNIA MAGNA*) W/HEXABROMOCYCLODODECANE, DATED 4/23/98. (TSCATS/445416).
- Wu, JP; Guan, YT; Zhang, Y; Luo, XJ; Zhi, H; Chen, SJ; Mai, BX. (2010). Trophodynamics of hexabromocyclododecanes and several other non-PBDE brominated flame retardants in a freshwater food web. *Environ Sci Technol.* 44: 5490-5495. <http://dx.doi.org/10.1021/es101300t>.
- Wu, JP; Guan, YT; Zhang, Y; Luo, XJ; Zhi, H; Chen, SJ; Mai, BX. (2011). Several current-use, non-PBDE brominated flame retardants are highly bioaccumulative: evidence from field determined bioaccumulation factors. *Environ Int.* 37: 210-215. <http://dx.doi.org/10.1016/j.envint.2010.09.006>.
- Wu, MH; Han, T; Xu, G; Zang, C; Li, YJ; Sun, R; Xu, BT; Sun, Y; Chen, FF; Tang, L. (2016). Occurrence of Hexabromocyclododecane in soil and road dust from mixed-land-use areas of Shanghai, China, and its implications for human exposure. *Sci Total Environ.* 559: 282-290. <http://dx.doi.org/10.1016/j.scitotenv.2016.03.166>.
- Wu, N; Herrmann, T; Paepke, O; Tickner, J; Hale, R; Harvey, E; La Guardia, M; McClean, MD; Webster, TF. (2007). Human Exposure to PBDEs: Associations of PBDE Body Burdens with Food Consumption and House Dust Concentrations. *Environ Sci Technol.* 41: 1584-1589. <http://dx.doi.org/10.1021/es0620282>.
- Xia, C; Lam, JC; Wu, X; Sun, L; Xie, Z; Lam, PK. (2011). Hexabromocyclododecanes (HBCDs) in marine fishes along the Chinese coastline. *Chemosphere.* 82: 1662-1668. <http://dx.doi.org/10.1016/j.chemosphere.2010.11.012>.
- Xian, Q; Ramu, K; Isobe, T; Sudaryanto, A; Liu, X; Gao, Z; Takahashi, S; Yu, H; Tanabe, S. (2008). Levels and body distribution of polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecanes (HBCDs) in freshwater fishes from the Yangtze River, China. *Chemosphere.* 71: 268-276. <http://dx.doi.org/10.1016/j.chemosphere.2007.09.032>.
- Xu, W; Nanqi, R; Hong, Q; Wanli, M; Yifan, L. (2009). Levels and distribution of brominated flame retardants in the soil of Harbin in China. *J Environ Sci.* 21: 1541-1546. [http://dx.doi.org/10.1016/S1001-0742\(08\)62452-3](http://dx.doi.org/10.1016/S1001-0742(08)62452-3).
- Yamada, T; Takahama, Y; Yamada, Y. (2009). Isolation of *Pseudomonas* sp. strain HB01 which degrades the persistent brominated flame retardant gamma-hexabromocyclododecane. *Biosci Biotechnol Biochem.* 73: 1674-1678. <http://dx.doi.org/10.1271/bbb.90104>.
- Yanagisawa, R; ie; Win-Shwe, T; Koike, E; Takano, H. (2013). Impact of hexabromocyclododecane on lipid and glucose metabolism in high-fat diet-induced obese mice. *Toxicol Lett.* 221: S252-S252. <http://dx.doi.org/10.1016/j.toxlet.2013.05.628>.
- Yi, S; Liu, JG; Jin, J; Zhu, J. (2016). Assessment of the occupational and environmental risks of hexabromocyclododecane (HBCD) in China. *Chemosphere.* 150: 431-437. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.047>.

Exposure Literature Search Results

On Topic

- Yin, G; Asplund, L; Qiu, Y; Zhou, Y; Wang, H; Yao, Z; Jiang, J; Bergman, A. (2014). Chlorinated and brominated organic pollutants in shellfish from the Yellow Sea and East China Sea. *Environ Sci Pollut Res Int.* 22: 1713-1722. <http://dx.doi.org/10.1007/s11356-014-3198-8>.
- Yu, G; Bu, Q; Cao, Z; Du, X; Xia, J; Wu, M; Huang, J. (2016). Brominated flame retardants (BFRs): A review on environmental contamination in China [Review]. *Chemosphere.* 150: 479-490. <http://dx.doi.org/10.1016/j.chemosphere.2015.12.034>.
- Yu, L; Luo, X; Zheng, X; Zeng, Y; Chen, D; Wu, J; Mai, B. (2013). Occurrence and biomagnification of organohalogen pollutants in two terrestrial predatory food chains. *Chemosphere.* 93: 506-511. <http://dx.doi.org/10.1016/j.chemosphere.2013.06.023>.
- Yu, LH; Luo, XJ; Liu, HY; Zeng, YH; Zheng, XB; Wu, JP; Yu, YJ; Mai, BX. (2014). Organohalogen contamination in passerine birds from three metropolises in China: geographical variation and its implication for anthropogenic effects on urban environments. *Environ Pollut.* 188: 118-123. <http://dx.doi.org/10.1016/j.envpol.2014.01.023>.
- Yu, Z; Chen, L; Mai, B; Wu, M; Sheng, G; Fu, J; Peng, P. (2008). Diastereoisomer- and Enantiomer-specific Profiles of Hexabromocyclododecane in the Atmosphere of an Urban City in South China. *Environ Sci Technol.* 42: 3996-4001. <http://dx.doi.org/10.1021/es7027857>.
- Yu, Z; Peng, P; Sheng, G; Fu, J. (2008). Determination of hexabromocyclododecane diastereoisomers in air and soil by liquid chromatography-electrospray tandem mass spectrometry. *J Chromatogr A.* 1190: 74-79. <http://dx.doi.org/10.1016/j.chroma.2008.02.082>.
- Yuan, JP; Sun, YM; Liu, JH; Yao, YX; Chen, Y. (2016). Determination of hexabromocyclododecane enantiomers in chicken whole blood by a modified quick, easy, cheap, effective, rugged, and safe method with liquid chromatography and tandem mass spectrometry. *J Sep Sci.* 39: 2846-2852. <http://dx.doi.org/10.1002/jssc.201600005>.
- Zacs, D; Rjabova, J; Bartkevics, V. (2014). New perspectives on diastereoselective determination of hexabromocyclododecane traces in fish by ultra high performance liquid chromatography-high resolution orbitrap mass spectrometry. *J Chromatogr A.* 1330: 30-39. <http://dx.doi.org/10.1016/j.chroma.2014.01.023>.
- Zacs, D; Rjabova, J; Pugajeva, I; Nakurte, I; Viksna, A; Bartkevics, V. (2014). Ultra high performance liquid chromatography-time-of-flight high resolution mass spectrometry in the analysis of hexabromocyclododecane diastereoisomers: Method development and comparative evaluation versus ultra high performance liquid chromatography coupled to Orbitrap high resolution mass spectrometry and triple quadrupole tandem mass spectrometry. *J Chromatogr A.* 1366: 73-83. <http://dx.doi.org/10.1016/j.chroma.2014.09.021>.
- Zegers, BN; Mets, A; Van Bommel, R; Minkenberg, C; Hamers, T; Kamstra, JH; Pierce, GJ; Boon, JP. (2005). Levels of hexabromocyclododecane in harbor porpoises and common dolphins from western European seas, with evidence for stereoisomer-specific biotransformation by cytochrome p450. *Environ Sci Technol.* 39: 2095-2100. <http://dx.doi.org/10.1021/es049209t>.
- Zeng, L; Yang, R; Zhang, Q; Zhang, H; Xiao, K; Zhang, H; Wang, Y; Lam, PK; Jiang, G. (2014). Current levels and composition profiles of emerging halogenated flame retardants and dehalogenated products in sewage sludge from municipal wastewater treatment plants in china. *Environ Sci Technol.* 48: 12586-12594. <http://dx.doi.org/10.1021/es503510q>.
- Zeng, YH; Luo, XJ; Tang, B; Mai, BX. (2016). Habitat- and species-dependent accumulation of organohalogen pollutants in home-produced eggs from an electronic waste recycling site in South China: Levels, profiles, and human dietary exposure. *Environ Pollut.* 216: 64-70. <http://dx.doi.org/10.1016/j.envpol.2016.05.039>.
- Zeng, YH; Luo, XJ; Zheng, XB; Tang, B; Wu, JP; Mai, BX. (2014). Species-specific bioaccumulation of halogenated organic pollutants and their metabolites in fish serum from an e-waste site, South China. *Arch Environ Contam Toxicol.* 67: 348-357. <http://dx.doi.org/10.1007/s00244-014-0040-8>.
- Zeng, YH; Tang, B; Luo, XJ; Zheng, XB; Peng, PA; Mai, BX. (2016). Organohalogen pollutants in surface particulates from workshop floors of four major e-waste recycling sites in China and implications for emission lists. *Sci Total Environ.* 569-570: 982-989. <http://dx.doi.org/10.1016/j.scitotenv.2016.06.053>.
- Zhang, CC; Zhang, FS. (2012). Removal of brominated flame retardant from electrical and electronic waste plastic by solvothermal technique. *J Hazard Mater.* 221-222: 193-198. <http://dx.doi.org/10.1016/j.jhazmat.2012.04.033>.
- Zhang, H; Bayen, S; Kelly, BC. (2015). Co-extraction and simultaneous determination of multi-class hydrophobic organic contaminants in marine sediments and biota using GC-EI-MS/MS and LC-ESI-MS/MS. *Talanta.* 143: 7-18. <http://dx.doi.org/10.1016/j.talanta.2015.04.084>.
- Zhang, L, i; Na, GS; He, CX; Li, R, uij; Gao, H, uij; Ge, L, inKe; Wang, Y, anJie; Yao, Y, ao. (2016). A novel method through solid phase extraction combined with gradient elution for concentration and separation of 66 (ultra) trace persistent toxic pollutants in Antarctic waters. *Chin Chem Lett.* 27: 405-411. <http://dx.doi.org/10.1016/j.ccllet.2015.12.001>.
- Zhang, X; Yang, F; Luo, C; Wen, S; Zhang, X; Xu, Y. (2009). Bioaccumulative characteristics of hexabromocyclododecanes in freshwater species from an electronic waste recycling area in China. *Chemosphere.* 76: 1572-1578. <http://dx.doi.org/10.1016/j.chemosphere.2009.05.031>.
- Zhang, Y; Li, Q; Lu, Y; Jones, K; Sweetman, AJ. (2016). Hexabromocyclododecanes (HBCDDs) in surface soils from coastal cities in North China: Correlation between diastereoisomer profiles and industrial activities. *Chemosphere.* 148: 504-510. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.051>.
- Zhang, Y; Sun, H; Liu, F; Dai, Y; Qin, X; Ruan, Y; Zhao, L; Gan, Z. (2013). Hexabromocyclododecanes in limnic and marine organisms and terrestrial plants from Tianjin, China: diastereomer- and enantiomer-specific profiles, biomagnification, and human exposure. *Chemosphere.* 93: 1561-1568. <http://dx.doi.org/10.1016/j.chemosphere.2013.08.004>.
- Zhang, Y; Sun, H; Zhu, H; Ruan, Y; Liu, F; Liu, X. (2014). Accumulation of hexabromocyclododecane diastereoisomers and enantiomers in two microalgae, *Spirulina subsals* and *Scenedesmus obliquus*. *Ecotoxicol Environ Saf.* 104: 136-142. <http://dx.doi.org/10.1016/j.ecoenv.2014.02.027>.
- Zhang, Y; Ye, J; Liu, M. (2016). Enantioselective biotransformation of chiral persistent organic pollutants [Review]. 17: 48-56. <http://dx.doi.org/10.2174/1389203717666160413124027>.
- Zhao, RS; Hu, C; Zhou, JB; Yuan, JP; Wang, SS; Wang, X. (2011). Preconcentration and sensitive determination of hexabromocyclododecane diastereoisomers in environmental water samples using solid phase extraction with bamboo charcoal cartridge prior to rapid resolution

Exposure Literature Search Results

On Topic

- liquid chromatography-electrospray tandem mass spectrometry. *Anal Bioanal Chem.* 400: 1189-1195. <http://dx.doi.org/10.1007/s00216-011-4857-y>.
- Zheng, XB; Wu, JP; Luo, XJ; Zeng, YH; She, YZ; Mai, BX. (2012). Halogenated flame retardants in home-produced eggs from an electronic waste recycling region in South China: levels, composition profiles, and human dietary exposure assessment. *Environ Int.* 45: 122-128. <http://dx.doi.org/10.1016/j.envint.2012.04.006>.
- Zhou, Y; Asplund, L; Yin, G; Athanassiadis, I; Wideqvist, U; Bignert, A; Qiu, Y; Zhu, Z; Zhao, J; Bergman, Å. (2016). Extensive organohalogen contamination in wildlife from a site in the Yangtze River Delta. *Sci Total Environ.* 554-555: 320-328. <http://dx.doi.org/10.1016/j.scitotenv.2016.02.176>.
- Zhu, C; Wang, P; Li, Y; Chen, Z; Li, H; Ssebugere, P; Zhang, Q; Jiang, G. (2017). Trophic transfer of hexabromocyclododecane in the terrestrial and aquatic food webs from an e-waste dismantling region in East China. *Environ Sci Process Impacts.* <http://dx.doi.org/10.1039/c6em00617e>.
- Zhu, H; Sun, H; Zhang, Y; Xu, J; Li, B; Zhou, Q. (2016). Uptake Pathway, Translocation, and Isomerization of Hexabromocyclododecane Diastereoisomers by Wheat in Closed Chambers. *Environ Sci Technol.* 50: 2652-2659. <http://dx.doi.org/10.1021/acs.est.5b05118>.
- Zhu, H; Zhang, K; Sun, H; Wang, F; Yao, Y. (2017). Spatial and temporal distributions of hexabromocyclododecanes in the vicinity of an expanded polystyrene material manufacturing plant in Tianjin, China. *Environ Pollut.* 222: 338-347. <http://dx.doi.org/10.1016/j.envpol.2016.12.029>.
- Zhu, J; Liu, JG; Hu, JX; Yi, S. (2016). Socio-economic analysis of the risk management of hexabromocyclododecane (HBCD) in China in the context of the Stockholm Convention. *Chemosphere.* 150: 520-527. <http://dx.doi.org/10.1016/j.chemosphere.2015.11.007>.
- Zhu, L; Ma, B; Hites, RA. (2009). Brominated flame retardants in serum from the general population in northern China. *Environ Sci Technol.* 43: 6963-6968. <http://dx.doi.org/10.1021/es901296t>.
- Zhu, N; Fu, J; Gao, Y; Ssebugere, P; Wang, Y; Jiang, G. (2013). Hexabromocyclododecane in alpine fish from the Tibetan Plateau, China. *Environ Pollut.* 181: 7-13. <http://dx.doi.org/10.1016/j.envpol.2013.05.050>.
- Zhu, N; Li, A; Wang, T; Wang, P; Qu, G; Ruan, T; Fu, J; Yuan, B; Zeng, L; Wang, Y; Jiang, G. (2012). Tris(2,3-dibromopropyl) isocyanurate, hexabromocyclododecanes, and polybrominated diphenyl ethers in mollusks from Chinese Bohai Sea. *Environ Sci Technol.* 46: 7174-7181. <http://dx.doi.org/10.1021/es300776f>.
- Zhu, N; Schramm, KW; Wang, T; Henkelmann, B; Fu, J; Gao, Y; Wang, Y; Jiang, G. (2015). Lichen, moss and soil in resolving the occurrence of semi-volatile organic compounds on the southeastern Tibetan Plateau, China. *Sci Total Environ.* 518-519: 328-336. <http://dx.doi.org/10.1016/j.scitotenv.2015.03.024>.
- Zhu, N; Schramm, KW; Wang, T; Henkelmann, B; Zheng, X; Fu, J; Gao, Y; Wang, Y; Jiang, G. (2014). Environmental fate and behavior of persistent organic pollutants in Shergyla Mountain, southeast of the Tibetan Plateau of China. *Environ Pollut.* 191: 166-174. <http://dx.doi.org/10.1016/j.envpol.2014.04.031>.
- Zhu, ZC; Chen, SJ; Zheng, J; Tian, M; Feng, AH; Luo, XJ; Mai, BX. (2014). Occurrence of brominated flame retardants (BFRs), organochlorine pesticides (OCPs), and polychlorinated biphenyls (PCBs) in agricultural soils in a BFR-manufacturing region of North China. *Sci Total Environ.* 481: 47-54. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.023>.
- Zlamalikova, J; Demnerova, K; Mackova, M; Hajslova, J; Pulkrabova, J; Hradkova, P; Napravnikova, M; Macek, T; Stiborova, H. (2009). Plant uptake of hexabromocyclododecane (HBCD). *FEBS J.* 276: 296-296.

Exposure Literature Search Results

Off Topic

- Abdallah, MA; Tilston, E; Harrad, S; Collins, C. (2012). In vitro assessment of the bioaccessibility of brominated flame retardants in indoor dust using a colon extended model of the human gastrointestinal tract. *J Environ Monit.* 14: 3276-3283. <http://dx.doi.org/10.1039/c2em30690e>.
- Abdallah, MA; Uchea, C; Chipman, JK; Harrad, S. (2014). Enantioselective biotransformation of hexabromocyclododecane by in vitro rat and trout hepatic sub-cellular fractions. *Environ Sci Technol.* 48: 2732-2740. <http://dx.doi.org/10.1021/es404644s>.
- Abdallah, MA; Zhang, J; Pawar, G; Viant, MR; Chipman, JK; D'Silva, K; Bromirski, M; Harrad, S. (2015). High-resolution mass spectrometry provides novel insights into products of human metabolism of organophosphate and brominated flame retardants. *Anal Bioanal Chem.* 407: 1871-1883. <http://dx.doi.org/10.1007/s00216-015-8466-z>.
- Abdallah, MAE; Harrad, S. (2014). Polybrominated diphenyl ethers in UK human milk: Implications for infant exposure and relationship to external exposure. *Environ Int.* 63: 130-136. <http://dx.doi.org/10.1016/j.envint.2013.11.009>.
- Abou-Elwafa Abdallah, M; Drage, D; Harrad, S. (2013). A one-step extraction/clean-up method for determination of PCBs, PBDEs and HBCDs in environmental solid matrices. *Environ Sci Process Impacts.* 15: 2279-2287. <http://dx.doi.org/10.1039/c3em00395g>.
- ACC. (2000). LETTER FROM AMER CHEM CNCL SUBMITTING FLOW-THROUGH BIOCONCENTRATION TEST W/RAINBOW TROUT and END-USER SURVEY-PHASE 1 STUDY OF BROMINATED FLAME RETARDANT, W/ATTCHMNTS and DATED 8/28/00. (TSCATS/446539). American Chemistry Council.
- ACC. (2002). INITIAL SUBMISSION: LTR FR ACC TO USEPA SUBMITTING ENVIRONMENTAL EFFECTS STUDIES WITH HEXABROMOCYCLODODECANE and DECA-BROMODIPHENYL OXIDE, W/ATTACHMENTS and DATED 121101. (TSCATS/454513). WILDLIFE INTERNATIONAL LTD.
- ACC. (2002). SUPPORT: LTR FR AMER CHEM COUNCIL TO USEPA SUBMITTING 2 ENV EFFCTS STDIES ON TETRABROMOBISPHENOL A and AN ADDENDUM TO A 90-DAY TOX STDY ON HBCD IN RATS, W/ATTCHMNTS and DTD 072502. (TSCATS/454846). WILDLIFE INTERNATIONAL LTD.

Exposure Literature Search Results

Off Topic

- Akiyama, E, ma; Kakutani, H; Nakao, T; Motomura, Y; Takano, Y; Sorakubo, R; Mizuno, A; Aozasa, O; Tachibana, K; Doi, T; Ohta, S. (2015). Facilitation of adipocyte differentiation of 3T3-L1 cells by debrominated tetrabromobisphenol A compounds detected in Japanese breast milk. *Environ Res.* 140: 157-164. <http://dx.doi.org/10.1016/j.envres.2015.03.035>.
- Albemarle. (2000). Saytex ® HP-900 Flame Retardant [Fact Sheet]. Baton Rouge, LA. http://www.albemarle.com/_filelib/FileCabinet/Products/Fire_Safety/SAYTEX_PURshield_online.pdf.
- Alcock, RE; Busby, J. (2006). Risk migration and scientific advance: The case of flame-retardant compounds. *Risk Anal.* 26: 369-381. <http://dx.doi.org/10.1111/j.1539-6924.2006.00739.x>.
- Almroth, BC; Sturve, J; Berglund, A; Forlin, L. (2005). Oxidative damage in eelpout (*Zoarces viviparus*), measured as protein carbonyls and TBARS, as biomarkers. *Aquat Toxicol.* 73: 171-180. <http://dx.doi.org/10.1016/j.aquatox.2005.03.007>.
- Almughamsi, H; Whalen, M. (2015). Hexabromocyclododecane and tetrabromobisphenol A alter secretion of interferon gamma (IFN gamma) from human immune cells [Abstract]. *FASEB J.* 29: 726.724.
- Al-Omran, LS; Harrad, S. (2016). Distribution pattern of legacy and "novel" brominated flame retardants in different particle size fractions of indoor dust in Birmingham, United Kingdom. *Chemosphere.* 157: 124-131. <http://dx.doi.org/10.1016/j.chemosphere.2016.05.041>.
- AMERIBROM INC. (1990). LETTER FROM AMERIBROM INC TO US EPA REGARDING 8D SUBMISSION FOR HEXABROMOCYCLODODECANE WITH ATTACHMENTS. (TSCATS/410157).
- An, J; Guo, P; Shang, Y; Zhong, Y; Zhang, X; Yu, Y; Yu, Z. (2016). The "adaptive responses" of low concentrations of HBCD in L02 cells and the underlying molecular mechanisms. *Chemosphere.* 145: 68-76. <http://dx.doi.org/10.1016/j.chemosphere.2015.11.071>.
- An, J; Wang, X; Guo, P; Zhong, Y; Zhang, X; Yu, Z. (2014). Hexabromocyclododecane and polychlorinated biphenyls increase resistance of hepatocellular carcinoma cells to cisplatin through the phosphatidylinositol 3-kinase/protein kinase B pathway. *Toxicol Lett.* 229: 265-272. <http://dx.doi.org/10.1016/j.toxlet.2014.06.025>.
- An, J; Zou, W; Chen, C; Zhong, FY; Yu, QZ; Wang, QJ. (2013). The cytological effects of HBCDs on human hepatocyte L02 and the potential molecular mechanism. *J Environ Sci Health A Tox Hazard Subst Environ Eng.* 48: 1333-1342. <http://dx.doi.org/10.1080/10934529.2013.781875>.
- Andersen, S; Pedersen, KM; Bruun, NH; Laurberg, P. (2002). Narrow individual variations in serum T4 and T3 in normal subjects: a clue to the understanding of subclinical thyroid disease. *J Clin Endocrinol Metab.* 87: 1068-1072. <http://dx.doi.org/10.1210/jcem.87.3.8165>.
- Andersson, PL; Oberg, K; Orn, U. (2006). Chemical characterization of brominated flame retardants and identification of structurally representative compounds. *Environ Toxicol Chem.* 25: 1275-1282. <http://dx.doi.org/10.1897/05-342R.1>.
- Anon. (1996). Hexabromocyclododecan (Aug 1995). (RISKLINE/1999030020). Anonymous.
- Anon. (1997). LETTER FROM CHEM MFGS ASSOC TO USEPA REGARDING: TOXICITY STUDIES ON HEXABROMOCYCLODODECANE, PENTABROMODIPHENYL OXIDE, AND OCTABROMODIPHENYL OXIDE WITH ATTACHMENTS, DATED 11/26/1996. (TSCATS/452961).
- ANON. (1998). HEXABROMOCYCLODODECANE (HBCD): A FLOW-THROUGH LIFE-CYCLE TOXICITY TEST WITH THE CLADOCERAN (DAPHNIA MAGNA), WITH COVER LETTER DATED 5/18/1998. (TSCATS/445631). WILDLIFE INTERNATIONAL LTD.
- Anselmo, HMR; Koerting, L; Devito, S; van den Berg, JHJ; Dubbeldam, M; Kwadijk, C; Murk, AJ. (2011). Early life developmental effects of marine persistent organic pollutants on the sea urchin *Psammechinus miliaris*. *Ecotoxicol Environ Saf.* 74: 2182-2192. <http://dx.doi.org/10.1016/j.ecoenv.2011.07.037>.
- Arsenault, G; Chittim, B; Mcalees, A; Mccrindle, R. (2007). Nuclear magnetic resonance spectral characterization and semi-empirical calculations of conformations of alpha- and gamma-1,2,5,6,9,10-hexabromocyclododecane. *Chemosphere.* 67: 1684-1694. <http://dx.doi.org/10.1016/j.chemosphere.2006.05.122>.
- Arsenault, G; Konstantinov, A; Marvin, CH; Macinnis, G; Mcalees, A; Mccrindle, R; Riddell, N; Tomy, GT; Yeo, B. (2007). Synthesis of the two minor isomers, delta- and epsilon-1,2,5,6,9,10-hexabromocyclododecane, present in commercial hexabromocyclododecane. *Chemosphere.* 68: 887-892. <http://dx.doi.org/10.1016/j.chemosphere.2007.02.005>.
- Asnake, S; Pradhan, A; Banjop-Kharlyngdoh, J; Modig, C; Olsson, P. (2014). 1,2-dibromo-4-(1,2 dibromoethyl) cyclohexane (TBECH)-mediated steroid hormone receptor activation and gene regulation in chicken LMH cells. *Environ Toxicol Chem.* 33: 891-899. <http://dx.doi.org/10.1002/etc.2509>.
- Aurell, M; Cramér, K. (1966). Serum lipids and lipoproteins in human pregnancy. *Clin Chim Acta.* 13: 278-284. [http://dx.doi.org/10.1016/0009-8981\(66\)90206-3](http://dx.doi.org/10.1016/0009-8981(66)90206-3).
- Ausó, E; Lavado-Autric, R; Cuevas, E; Del Rey, FE; Morreale De Escobar, G; Berbel, P. (2004). A moderate and transient deficiency of maternal thyroid function at the beginning of fetal neocortico-genesis alters neuronal migration. *Endocrinology.* 145: 4037-4047. <http://dx.doi.org/10.1210/en.2004-0274>.
- Badea, SL; Niculescu, VC; Ionete, RE; Eljarrat, E. (2016). Advances in enantioselective analysis of chiral brominated flame retardants. Current status, limitations and future perspectives [Review]. *Sci Total Environ.* 566-567: 1120-1130. <http://dx.doi.org/10.1016/j.scitotenv.2016.05.148>.
- Bailey, SA; Zidell, RH; Perry, RW. (2004). Relationships between organ weight and body/brain weight in the rat: What is the best analytical endpoint? *Toxicol Pathol.* 32: 448-466. <http://dx.doi.org/10.1080/01926230490465874>.
- Balch, GC; Vélez-Espino, LA; Sweet, C; Alae, M; Metcalfe, CD. (2006). Inhibition of metamorphosis in tadpoles of *Xenopus laevis* exposed to polybrominated diphenyl ethers (PBDEs). *Chemosphere.* 64: 328-338. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.019>.
- Barker, DJP. (2007). The origins of the developmental origins theory. *J Intern Med.* 261: 412-417. <http://dx.doi.org/10.1111/j.1365-2796.2007.01809.x>.
- Barontini, F; Cozzani, V; Cuzzola, A; Petarca, L. (2001). Investigation of hexabromocyclododecane thermal degradation pathways by gas chromatography/mass spectrometry. *Rapid Commun Mass Spectrom.* 15: 690-698. <http://dx.doi.org/10.1002/rcm.281>.

Exposure Literature Search Results

Off Topic

- Barontini, F; Cozzani, V; Petarca, L. (2001). Thermal stability and decomposition products of hexabromocyclododecane. *Ind Eng Chem Res.* 40: 3270-3280.
- BASF. (1990). Determination of the acute toxicity of hexabromid S to the waterflea *Daphnia magna* straus with cover letter dated 040590. (EPA/OTS Doc #86-90000392). Wyandotte, MI.
- BASF CORP. (1990). ALGAL GROWTH INHIBITION TEST WITH COVER LETTER DATED 031290. (TSCATS/406648).
- BASF CORP. (1990). OXYGEN CONSUMPTION TEST (USING PSEUDOMONAS PUTIDA BY THE TEST METHOD OF ROBRA) WITH COVER LETTER DATED 031290. (TSCATS/406650).
- Beach, MW; Vozar, SE; Filipi, SZ; Shmakov, AG; Shvartsberg, VM; Korobeinichev, OP; Morgan, TA; Hu, TI; Sick, V. (2009). Screening approaches for gas-phase activity of flame retardants. *Proc Combust Inst.* 32: 2625-2632. <http://dx.doi.org/10.1016/j.proci.2008.07.039>.
- Becher, G. (2005). The stereochemistry of 1,2,5,6,9,10-hexabromocyclododecane and its graphic representation. *Chemosphere.* 58: 989-991. <http://dx.doi.org/10.1016/j.chemosphere.2004.09.071>.
- Behall, KM; Scholfield, DJ; Hallfrisch, JG; Kelsay, JL; Reiser, S. (1984). Seasonal variation in plasma glucose and hormone levels in adult men and women. *Am J Clin Nutr.* 40: 1352-1356.
- Bennett, DH; Moran, RE; Wu, XM; Tulve, NS; Clifton, MS; Colón, M; Weathers, W; Sjödin, A; Jones, R; Hertz-Picciotto, I. (2014). Polybrominated diphenyl ether (PBDE) concentrations and resulting exposure in homes in California: relationships among passive air, surface wipe and dust concentrations, and temporal variability. *Indoor Air.* 25: 220-229. <http://dx.doi.org/10.1111/ina.12130>.
- Berger, RD; Kasper, EK; Baughman, KL; Marban, E; Calkins, H; Tomaselli, GF. (1997). Beat-to-beat QT interval variability: novel evidence for repolarization lability in ischemic and nonischemic dilated cardiomyopathy. *Circulation.* 96: 1557-1565.
- Berger, RG; Lefèvre, PL; Ernest, SR; Wade, MG; Ma, YQ; Rawn, DF; Gaertner, DW; Robaire, B; Hales, BF. (2014). Exposure to an environmentally relevant mixture of brominated flame retardants affects fetal development in Sprague-Dawley rats. *Toxicology.* 320: 56-66. <http://dx.doi.org/10.1016/j.tox.2014.03.005>.
- Bernheim, M; Otto, P. (1990). DEGRADATION OF PYROVATEX-TREATED FABRICS DURING STORAGE - REPLY. *Text Res J.* 60: 616-616.
- Berntssen, MH; Valdersnes, S; Rosenlund, G; Torstensen, BE; Zeilmaker, MJ; van Eijkeren, JC. (2011). Toxicokinetics and carry-over model of α -hexabromocyclododecane (HBCD) from feed to consumption-sized Atlantic salmon (*Salmo salar*). *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 28: 1274-1286. <http://dx.doi.org/10.1080/19440049.2011.587029>.
- Besis, A; Katsoyiannis, A; Botsaropoulou, E; Samara, C. (2014). Concentrations of polybrominated diphenyl ethers (PBDEs) in central air-conditioner filter dust and relevance of non-dietary exposure in occupational indoor environments in Greece. *Environ Pollut.* 188: 64-70. <http://dx.doi.org/10.1016/j.envpol.2014.01.021>.
- Bester, K; Vorkamp, K. (2013). A two-dimensional HPLC separation for the enantioselective determination of hexabromocyclododecane (HBCD) isomers in biota samples. *Anal Bioanal Chem.* 405: 6519-6527. <http://dx.doi.org/10.1007/s00216-013-7100-1>.
- Betts, K. (2003). More flame-proofed fish. *Environ Sci Technol.* 37: 380A-382A.
- Betts, K. (2005). More clues to HBCD isomer mystery. *Environ Sci Technol.* 39: 146A-147A.
- Betts, K. (2008). More flame retardants found in house dust [Comment]. *Environ Sci Technol.* 42: 337.
- Bezares-Cruz, J; Jafvert, CT; Hua, I. (2004). Solar photodecomposition of decabromodiphenyl ether: products and quantum yield. *Environ Sci Technol.* 38: 4149-4156. <http://dx.doi.org/10.1021/es0498608o>.
- Bjorklund, JA; Thuresson, K, aj; Cousins, AP; Sellstrom, U; Emenius, G; de Wit, CA. (2012). Indoor Air Is a Significant Source of Tri-decabrominated Diphenyl Ethers to Outdoor Air via Ventilation Systems. *Environ Sci Technol.* 46: 5876-5884. <http://dx.doi.org/10.1021/es204122v>.
- Boerescu, I. (1991). Interrelationships between the metabolism of thyroid hormones and the liver. Part one [Review]. 28: 123-132.
- Bogdal, C; Naef, M; Schmid, P; Kohler, M; Zennegg, M; Bernet, D; Scherlinger, M; Hungerbühler, K. (2009). Unexplained gonad alterations in whitefish (*Coregonus* spp.) from Lake Thun, Switzerland: levels of persistent organic pollutants in different morphs. *Chemosphere.* 74: 434-440. <http://dx.doi.org/10.1016/j.chemosphere.2008.09.058>.
- Bongers-Schokking, JJ; Koot, HM; Wiersma, D; Verkerk, PH; de Muinck Keizer-Schrama, SM. (2000). Influence of timing and dose of thyroid hormone replacement on development in infants with congenital hypothyroidism. *J Pediatr.* 136: 292-297. <http://dx.doi.org/10.1067/mpd.2000.103351>.
- Brabant, G; Prank, K; Hoang-Vu, C; Hesch, RD; von Zur Mühlen, A. (1991). Hypothalamic regulation of pulsatile thyrotropin secretion. *J Clin Endocrinol Metab.* 72: 145-150. <http://dx.doi.org/10.1210/jcem-72-1-145>.
- Bradley, PW; Wan, Y, i; Jones, PD; Wiseman, S; Chang, H; Lam, MHW; Long, DT; Giesy, JP. (2011). PBDES AND METHOXYLATED ANALOGUES IN SEDIMENT CORES FROM TWO MICHIGAN, USA, INLAND LAKES. *Environ Toxicol Chem.* 30: 1236-1242. <http://dx.doi.org/10.1002/etc.500>.
- Bradshaw, C; Näslund, J; Hansen, J; Kozlowsky-Suzuki, B; Sundström, B; Gustafsson, K. (2015). Hexabromocyclododecane affects benthic-pelagic coupling in an experimental ecosystem. *Environ Pollut.* 206: 306-314. <http://dx.doi.org/10.1016/j.envpol.2015.07.012>.
- Bradshaw, C; Strid, A; von Stedingk, H; Gustafsson, K. (2015). Effects of benthos, temperature, and dose on the fate of hexabromocyclododecane in experimental coastal ecosystems. *Environ Toxicol Chem.* 34: 1246-1257. <http://dx.doi.org/10.1002/etc.2947>.
- Branchi, I; Alleva, E; Costa, LG. (2002). Effects of perinatal exposure to a polybrominated diphenyl ether (PBDE 99) on mouse neurobehavioural development. *Neurotoxicology.* 23: 375-384. [http://dx.doi.org/10.1016/S0161-813X\(02\)00078-5](http://dx.doi.org/10.1016/S0161-813X(02)00078-5).
- Bu, D, an; Zhuang, H; Zhou, X; Yang, G. (2014). A heterogeneous biotin-streptavidin-amplified enzyme-linked immunosorbent assay for detecting tris(2,3-dibromopropyl) isocyanurate in natural samples. *Anal Biochem.* 462: 51-59. <http://dx.doi.org/10.1016/j.ab.2014.06.003>.
- Budakowski, W; Tomy, G. (2003). Congener-specific analysis of hexabromocyclododecane by high-performance liquid chromatography/electrospray tandem mass spectrometry. *Rapid Commun Mass Spectrom.* 17: 1399-1404. <http://dx.doi.org/10.1002/rcm.1066>.

Exposure Literature Search Results

Off Topic

- Butt, CM; Miranda, ML; Stapleton, HM. (2016). Development of an analytical method to quantify PBDEs, OH-BDEs, HBCDs, 2,4,6-TBP, EH-TBB, and BEH-TEBP in human serum. *Anal Bioanal Chem.* 408: 2449-2459. <http://dx.doi.org/10.1007/s00216-016-9340-3>.
- Canbaz, D; Hamers, T; Logiantara, A; van Ree, R; van Rijt, L. (2012). Indoor pollutant hexabromocyclododecane promotes interleukin-17A production in a mouse model for house dust mite driven allergic asthma. *Allergy.* 67: 598-598.
- Canbaz, D; Logiantara, A; Hamers, T; van Ree, R; van Rijt, LS. (2016). Indoor Pollutant Hexabromocyclododecane Has a Modest Immunomodulatory Effect on House Dust Mite Induced Allergic Asthma in Mice. *Environ Sci Technol.* 50: 405-411. <http://dx.doi.org/10.1021/acs.est.5b05348>.
- Canton, RF; Bovee, T; Daamen, F; van Duursen, M; van Den Berg, M. (2007). In Vitro antiandrogenicity of PBDEs, HBCD, TBP and hydroxylated and methoxylated PBDEs based on a yeast bioassay. *Chem Biol Interact.* 169: 133-133. <http://dx.doi.org/10.1016/j.cbi.2007.06.007>.
- Canton, RF; Sanderson, T; Letcher, R; Bergman, A; Berg, M. (2004). Effects Of Brominated Flame Retardants On The Activity Of The Steroidogenic Enzyme Aromatase (CYP19) In H295R Human Adrenocortical Carcinoma Cells In Culture. *Toxicologist.* 78.
- Cariou, R; Antignac, JP; Marchand, P; Berrebi, A; Zalko, D; Andre, F; Le Bizec, B. (2005). New multiresidue analytical method dedicated to trace level measurement of brominated flame retardants in human biological matrices. *J Chromatogr A.* 1100: 144-152. <http://dx.doi.org/10.1016/j.chroma.2005.09.040>.
- Chandra, S; Gupta, LK. (2004). Spectroscopic characterization of tetradentate macrocyclic ligand: its transition metal complexes. *Spectrochim Acta A Mol Biomol Spectrosc.* 60: 2767-2774. <http://dx.doi.org/10.1016/j.saa.2004.01.015>.
- Chen, C; Staudinger, JL; Klaassen, CD. (2003). Nuclear receptor, pregnane X receptor, is required for induction of UDP-glucuronosyltransferases in mouse liver by pregnenolone-16 alpha-carbonitrile. *Drug Metab Dispos.* 31: 908-915. <http://dx.doi.org/10.1124/dmd.31.7.908>.
- Chen, D; La Guardia, MJ; Harvey, E; Amaral, M; Wohlfort, K; Hale, RC. (2008). Polybrominated diphenyl ethers in peregrine falcon (*Falco peregrinus*) eggs from the northeastern U.S. *Environ Sci Technol.* 42: 7594-7600. <http://dx.doi.org/10.1021/es8010749>.
- Chen, D; Letcher, RJ; Gauthier, LT; Chu, S. (2013). Tetradecabromodiphenoxybenzene flame retardant undergoes photolytic debromination. *Environ Sci Technol.* 47: 1373-1380. <http://dx.doi.org/10.1021/es3042252>.
- Chen, D; Letcher, RJ; Gauthier, LT; Chu, S; Mccrindle, R; Potter, D. (2011). Novel methoxylated polybrominated diphenoxybenzene congeners and possible sources in herring gull eggs from the Laurentian Great Lakes of North America. *Environ Sci Technol.* 45: 9523-9530. <http://dx.doi.org/10.1021/es201325g>.
- Chen, D; Mai, B; Song, J; Sun, Q; Luo, Y; Luo, X; Zeng, EY; Hale, RC. (2007). Polybrominated diphenyl ethers in birds of prey from Northern China. *Environ Sci Technol.* 41: 1828-1833. <http://dx.doi.org/10.1021/es062045r>.
- Chen, LG; Mai, BX; Bi, XH; Chen, SJ; Wang, XM; Ran, Y; Luo, XJ; Sheng, GY; Fu, JM; Zeng, EY. (2006). Concentration levels, compositional profiles, and gas-particle partitioning of polybrominated diphenyl ethers in the atmosphere of an urban city in South China. *Environ Sci Technol.* 40: 1190-1196. <http://dx.doi.org/10.1021/es052123v>.
- Chen, MYY; Tang, ASP; Ho, YY; Xiao, Y. (2010). Dietary exposure of secondary school students in Hong Kong to polybrominated diphenyl ethers from foods of animal origin. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 27: 521-529. <http://dx.doi.org/10.1080/19440040903419723>.
- Chen, Y; Hu, Y; Liu, S; Zheng, H; Wu, X; Huang, Z; Li, H; Peng, B; Long, J; Pan, B; Huang, C; Dong, Q. (2016). Whole-body aerosol exposure of cadmium chloride (CdCl₂) and tetrabromobisphenol A (TBBPA) induced hepatic changes in CD-1 male mice. *J Hazard Mater.* 318: 109-116. <http://dx.doi.org/10.1016/j.jhazmat.2016.06.054>.
- Chen, Y; Sun, B; Zhang, H; Zhou, X. (2016). Synthesis and application of a sulfur-containing phosphoric amide flame retardant for nylon fabric. *Fire and Materials.* 40: 959-972. <http://dx.doi.org/10.1002/fam.2354>.
- Choi, SS; Danielewska-Nikiel, B; Ohdan, K; Kojima, I; Takata, H; Kuriki, T. (2009). Safety evaluation of highly-branched cyclic dextrin and a 1,4-alpha-glucan branching enzyme from *Bacillus stearothermophilus*. *Regul Toxicol Pharmacol.* 55: 281-290. <http://dx.doi.org/10.1016/j.yrtph.2009.07.011>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2012). Optimization and Simultaneous Determination of Alkyl Phenol Ethoxylates and Brominated Flame Retardants in Water after SPE and Heptafluorobutyric Anhydride Derivatization followed by GC/MS. *Chromatographia.* 75: 1165-1176. <http://dx.doi.org/10.1007/s10337-012-2293-6>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2014). Improved derivatization protocol for simultaneous determination of alkylphenol ethoxylates and brominated flame retardants followed by gas chromatography-mass spectrometry analyses. *Water Sci Technol.* 69: 2389-2396. <http://dx.doi.org/10.2166/wst.2014.144>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2015). Improved derivatization protocol for simultaneous determination of alkylphenol ethoxylates and brominated flame retardants followed by gas chromatography-mass spectrometry analyses. *Water SA.* 41: 189-193. <http://dx.doi.org/10.4314/wsa.v41i2.03>.
- Chou, S; Wu, CJ. (1995). EFFECT OF BROMINATED FLAME RETARDANTS ON THE PROPERTIES OF ACRYLONITRILE/VINYL ACETATE COPOLYMER FIBERS. *Text Res J.* 65: 533-539.
- Christen, V; Crettaz, P; Oberli-Schrämmli, A; Fent, K. (2010). Some flame retardants and the antimicrobials triclosan and triclocarban enhance the androgenic activity in vitro. *Chemosphere.* 81: 1245-1252. <http://dx.doi.org/10.1016/j.chemosphere.2010.09.031>.
- Christensen, JH; Platz, J. (2001). Screening of polybrominated diphenyl ethers in blue mussels, marine and freshwater sediments in Denmark. *J Environ Monit.* 3: 543-547.
- Chu, S; Gauthier, LT; Letcher, RJ. (2012). Alpha and Beta Isomers of Tetrabromoethylcyclohexane (TBECH) Flame Retardant: Depletion and Metabolite Formation In Vitro Using a Model Rat Microsomal Assay. *Environ Sci Technol.* 46: 10263-10270. <http://dx.doi.org/10.1021/es301546h>.
- Connell, DW; Schueuermann, G. (1988). EVALUATION OF VARIOUS MOLECULAR PARAMETERS AS PREDICTORS OF BIOCONCENTRATION IN FISH. *Ecotoxicol Environ Saf.* 15: 324-335.

Exposure Literature Search Results

Off Topic

- Cooper, G; Lunn, R; Agerstrand, M; Glenn, B; Kraft, A; Luke, A; Ratcliffe, J. (2016). Study sensitivity: Evaluating the ability to detect effects in systematic reviews of chemical exposures. *Environ Int.* 92-93: 605-610. <http://dx.doi.org/10.1016/j.envint.2016.03.017>.
- Cousins, AP; Holmgren, T; Remberger, M. (2014). Emissions of two phthalate esters and BDE 209 to indoor air and their impact on urban air quality. *Sci Total Environ.* 470-471: 527-535. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.023>.
- Covaci, A; Abdallah, M; Roosens, L; Harrad, S. (2010). Hexabromocyclododecane (HBCD) complex chemistry: Detection and analytical methods. *Toxicol Lett.* 196: S33-S33. <http://dx.doi.org/10.1016/j.toxlet.2010.03.149>.
- Covaci, A; Harrad, S; Abdallah, MA; Ali, N; Law, RJ; Herzke, D; de Wit, CA. (2011). Novel brominated flame retardants: a review of their analysis, environmental fate and behaviour [Review]. *Environ Int.* 37: 532-556. <http://dx.doi.org/10.1016/j.envint.2010.11.007>.
- Covaci, A; Losada, S; Roosens, L; Vetter, W; Santos, FJ; Neels, H; Storelli, A; Storelli, MM. (2008). Anthropogenic and naturally occurring organobrominated compounds in two deep-sea fish species from the Mediterranean Sea. *Environ Sci Technol.* 42: 8654-8660. <http://dx.doi.org/10.1021/es8016528>.
- Covaci, A; Voorspoels, S; de Boer, J. (2003). Determination of brominated flame retardants, with emphasis on polybrominated diphenyl ethers (PBDEs) in environmental and human samples--a review [Review]. *Environ Int.* 29: 735-756. [http://dx.doi.org/10.1016/S0160-4120\(03\)00114-4](http://dx.doi.org/10.1016/S0160-4120(03)00114-4).
- Crump, D; Chiu, S; Kennedy, SW. (2012). Effects of tris(1,3-dichloro-2-propyl) phosphate and tris(1-chloropropyl) phosphate on cytotoxicity and mRNA expression in primary cultures of avian hepatocytes and neuronal cells. *Toxicol Sci.* 126: 140-148. <http://dx.doi.org/10.1093/toxsci/kfs015>.
- Daniels, JL; Pan, I; Jones, R; Anderson, S; Patterson, DG, Jr; Needham, LL; Sjodin, A. (2010). Individual characteristics associated with PBDE levels in us human milk samples. *Environ Health Perspect.* 118: 155-160. <http://dx.doi.org/10.1289/ehp.0900759>.
- Darnerud, PO. (2003). Toxic effects of brominated flame retardants in man and in wildlife [Review]. *Environ Int.* 29: 841-853. [http://dx.doi.org/10.1016/S0160-4120\(03\)00107-7](http://dx.doi.org/10.1016/S0160-4120(03)00107-7).
- Darnerud, PO; Aune, M; Larsson, L; Hallgren, S. (2007). Plasma PBDE and thyroxine levels in rats exposed to Bromkal or BDE-47. *Chemosphere.* 67: S386-S392. <http://dx.doi.org/10.1016/j.chemosphere.2006.05.133>.
- Davis, JW; Gonsior, S; Marty, G; Ariano, J. (2005). The transformation of hexabromocyclododecane in aerobic and anaerobic soils and aquatic sediments. *Water Res.* 39: 1075-1084. <http://dx.doi.org/10.1016/j.watres.2004.11.024>.
- Davis, JW; Gonsior, SJ; Markham, DA; Friederich, U; Hunziker, RW; Ariano, JM. (2006). Biodegradation and product identification of [14C]hexabromocyclododecane in wastewater sludge and freshwater aquatic sediment. *Environ Sci Technol.* 40: 5395-5401. <http://dx.doi.org/10.1021/es060009m>.
- de Ceaurriz, J; Ban, M. (1990). Role of gamma-glutamyltranspeptidase and beta-lyase in the nephrotoxicity of hexachloro-1,3-butadiene and methyl mercury in mice. *Toxicol Lett.* 50: 249-256.
- De Vito, P; Balducci, V; Leone, S; Percario, Z; Mangino, G; Davis, PJ; Davis, FB; Affabris, E; Luly, P; Pedersen, JZ; Incerpi, S. (2012). Nongenomic effects of thyroid hormones on the immune system cells: New targets, old players [Review]. *Steroids.* 77: 988-995. <http://dx.doi.org/10.1016/j.steroids.2012.02.018>.
- De Vito, P; Incerpi, S; Pedersen, JZ; Luly, P; Davis, FB; Davis, PJ. (2011). Thyroid hormones as modulators of immune activities at the cellular level [Review]. *Thyroid.* 21: 879-890. <http://dx.doi.org/10.1089/thy.2010.0429>.
- Debenest, T; Gagné, F; Petit, AN; André, C; Kohli, M; Blaise, C. (2010). Ecotoxicity of a brominated flame retardant (tetrabromobisphenol A) and its derivatives to aquatic organisms. *Comp Biochem Physiol C Toxicol Pharmacol.* 152: 407-412. <http://dx.doi.org/10.1016/j.cbpc.2010.06.009>.
- Deng, J; Yu, L; Liu, C; Yu, K; Shi, X; Yeung, LW; Lam, PK; Wu, RS; Zhou, B. (2009). Hexabromocyclododecane-induced developmental toxicity and apoptosis in zebrafish embryos. *Aquat Toxicol.* 93: 29-36. <http://dx.doi.org/10.1016/j.aquatox.2009.03.001>.
- Deshpande, AD; Dockum, BW. (2013). Polybrominated diphenyl ether congeners in the young-of-the-year bluefish, *Pomatomus saltatrix*, from several nursery habitats along the US Atlantic coastline. *Mar Pollut Bull.* 77: 237-250. <http://dx.doi.org/10.1016/j.marpolbul.2013.09.051>.
- Desmet, K; Schelfaut, M; Sandra, P. (2005). Determination of bromophenols as dioxin precursors in combustion gases of fire retarded extruded polystyrene by sorptive sampling-capillary gas chromatography-mass spectrometry. *J Chromatogr A.* 1071: 125-129.
- Dodder, NG; Maruya, KA; Lee Ferguson, P; Grace, R; Klosterhaus, S; La Guardia, MJ; Lauenstein, GG; Ramirez, J. (2014). Occurrence of contaminants of emerging concern in mussels (*Mytilus* spp.) along the California coast and the influence of land use, storm water discharge, and treated wastewater effluent. *Mar Pollut Bull.* 81: 340-346. <http://dx.doi.org/10.1016/j.marpolbul.2013.06.041>.
- Dodder, NG; Peck, AM; Kucklick, JR; Sander, LC. (2006). Analysis of hexabromocyclododecane diastereomers and enantiomers by liquid chromatography/tandem mass spectrometry: chromatographic selectivity and ionization matrix effects. *J Chromatogr A.* 1135: 36-42. <http://dx.doi.org/10.1016/j.chroma.2006.09.024>.
- Dominguez-Romero, E; Cariou, R; Omer, E; Marchand, P; Dervilly-Pinel, G; Le Bizec, B; Travel, A; Jondreville, C. (2016). Tissue Distribution and Transfer to Eggs of Ingested α -Hexabromocyclododecane (α -HBCDD) in Laying Hens (*Gallus domesticus*). *J Agric Food Chem.* 64: 2112-2119. <http://dx.doi.org/10.1021/acs.jafc.5b05574>.
- Dong, Z; Hu, Z; Zhu, H; Li, N; Zhao, H; Mi, W, ei; Jiang, W; Hu, X; Ye, L. (2015). Tris-(2,3-dibromopropyl) isocyanurate induces depression-like behaviors and neurotoxicity by oxidative damage and cell apoptosis in vitro and in vivo. *J Toxicol Sci.* 40: 701-709.
- Dorosh, A; Ded, L; Elzeinova, F; Peknicova, J. (2009). Hexabromocyclododecane but not tetrabromobisphenol A promotes MCF-7 proliferation and TFF1 gene upregulation. *J Reprod Immunol.* 81: 153-153. <http://dx.doi.org/10.1016/j.jri.2009.06.212>.
- Drohmann, D. (2006). HBCD: facts and insinuations [Letter]. *Environ Sci Technol.* 40: 1; author reply 2.
- Drottar, KR; Krueger, HO. (2000). Hexabromocyclododecane (HBCD): A flow-through bioconcentration test with the rainbow trout (*Oncorhynchus mykiss*). Easton, MD: Wildlife International Ltd.

Exposure Literature Search Results

Off Topic

- Du, M; Fang, C; Qiu, L; Dong, S; Zhang, X; Yan, C. (2015). Diastereoisomer-specific effects of hexabromocyclododecanes on hepatic aryl hydrocarbon receptors and cytochrome P450s in zebrafish (*Danio rerio*). *Chemosphere*. 132: 24-31. <http://dx.doi.org/10.1016/j.chemosphere.2015.02.049>.
- Du, M; Lin, L; Yan, C; Wang, C; Zhang, X. (2013). Enantiomer-specific bioaccumulation and depuration of hexabromocyclododecanes in zebrafish (*Danio rerio*). *J Hazard Mater*. 248-249: 167-171. <http://dx.doi.org/10.1016/j.jhazmat.2012.12.046>.
- Du, M; Lin, L; Yan, C; Zhang, X. (2012). Diastereoisomer- and enantiomer-specific accumulation, depuration, and bioisomerization of hexabromocyclododecanes in zebrafish (*Danio rerio*). *Environ Sci Technol*. 46: 11040-11046. <http://dx.doi.org/10.1021/es302166p>.
- Du, M; Zhang, D; Yan, C; Zhang, X. (2012). Developmental toxicity evaluation of three hexabromocyclododecane diastereoisomers on zebrafish embryos. *Aquat Toxicol*. 112-113: 1-10. <http://dx.doi.org/10.1016/j.aquatox.2012.01.013>.
- Dufour, DR; Lott, JA; Nolte, FS; Gretch, DR; Koff, RS; Seeff, LB. (2000). Diagnosis and monitoring of hepatic injury. I. Performance characteristics of laboratory tests [Review]. *Clin Chem*. 46: 2027-2049.
- Dumler, R; Thoma, H; Lenoir, D; Hutzinger, O. (1989). PBDF and PBDD from the Combustion of Bromine Containing Flame Retarded Polymers: A Survey. *Chemosphere*. 19: 2023-2031.
- Durmaz, V; Schmidt, S; Sabri, P; Piechotta, C; Weber, M. (2013). Hands-off Linear Interaction Energy Approach to Binding Mode and Affinity Estimation of Estrogens. *J Chem Inf Model*. 53: 2681-2688. <http://dx.doi.org/10.1021/ci400392p>.
- Durmaz, V; Weber, M; Becker, R. (2012). How to simulate affinities for host-guest systems lacking binding mode information: application to the liquid chromatographic separation of hexabromocyclododecane stereoisomers. *J Mol Model*. 18: 2399-2408. <http://dx.doi.org/10.1007/s00894-011-1239-5>.
- Earnshaw, MR; Jones, KC; Sweetman, AJ. (2013). Estimating European historical production, consumption and atmospheric emissions of decabromodiphenyl ether. *Sci Total Environ*. 447: 133-142. <http://dx.doi.org/10.1016/j.scitotenv.2012.12.049>.
- EC. (1990). PRIMARY EYE IRRITATION TEST EPA/82 WITH ATTACHMENTS AND COVER LETTER DATED 030890. (TSCATS/405819). PHARMACKON RESEARCH INTL INC.
- EFSA. (2011). Scientific opinion on hexabromocyclododecanes (HBCDDs) in food. *EFSA J*. 9: 2296. <http://dx.doi.org/10.2903/j.efsa.2011.2296>.
- Eljarrat, E; Labandeira, A; Marsh, G; Raldúa, D; Barceló, D. (2007). Decabrominated diphenyl ether in river fish and sediment samples collected downstream an industrial park. *Chemosphere*. 69: 1278-1286. <http://dx.doi.org/10.1016/j.chemosphere.2007.05.052>.
- Elliott, JE; Wilson, LK; Wakeford, B. (2005). Polybrominated diphenyl ether trends in eggs of marine and freshwater birds from British Columbia, Canada, 1979-2002. *Environ Sci Technol*. 39: 5584-5591. <http://dx.doi.org/10.1021/es050496q>.
- EMEA. (2008). Non-clinical guideline on drug induced hepatotoxicity. (Doc. Ref. EMEA/CHMP/SWP/150115/2006). London, UK. http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2009/09/WC500003355.pdf.
- Environment Canada. (2010). Draft screening assessment: Cyclododecane, 1,2,5,6,9,10-hexabromo-: Chemical abstracts service registry number 3194-55-6. Ottawa, Canada: Environment Canada, Health Canada. http://www.ec.gc.ca/lcpe-cepa/documents/substances/hbcd/draft_screening_assessment_hbcd-eng.pdf.
- Environment Canada. (2011). Proposed risk management approach for hexabromocyclododecane (HBCD) Chemical Abstracts Service Registry Number 3194-55-6. Environment Canada, Health Canada.
- Environment Canada. (2012). Consultation document. Proposed risk management measure for hexabromocyclododecane (HBCD). Chemical abstracts service registry number (CAS RN): 3194-55-6. Gatineau, QC, Canada. <http://ec.gc.ca/ese-ees/default.asp?lang=En&n=6668F8BC-1>.
- Eriksson, P; Fischer, C; Wallin, M; Jakobsson, E; Fredriksson, A. (2006). Impaired behaviour, learning and memory, in adult mice neonatally exposed to hexabromocyclododecane (HBCDD). *Environ Toxicol Pharmacol*. 21: 317-322. <http://dx.doi.org/10.1016/j.etap.2005.10.001>.
- Eriksson, P; Jakobsson, E; Fredriksson, A. (2001). Brominated flame retardants: a novel class of developmental neurotoxicants in our environment. *Environ Health Perspect*. 109: 903-908.
- Ernest, SR; Wade, MG; Lalancette, C; Ma, YQ; Berger, RG; Robaire, B; Hales, BF. (2012). Effects of chronic exposure to an environmentally relevant mixture of brominated flame retardants on the reproductive and thyroid system in adult male rats. *Toxicol Sci*. 127: 496-507. <http://dx.doi.org/10.1093/toxsci/kfs098>.
- Erratico, C; Zheng, X; van den Eede, N; Tomy, G; Covaci, A. (2016). Stereoselective Metabolism of α -, β -, and γ -Hexabromocyclododecanes (HBCDs) by Human Liver Microsomes and CYP3A4. *Environ Sci Technol*. 50: 8263-8273. <http://dx.doi.org/10.1021/acs.est.6b01059>.
- Eshraghian, A; Jahromi, AH. (2014). Non-alcoholic fatty liver disease and thyroid dysfunction: A systematic review. *World J Gastroenterol*. 20: 8102-8109. <http://dx.doi.org/10.3748/wjg.v20.i25.8102>.
- Esslinger, S; Becker, R; Maul, R; Nehls, I. (2011). Hexabromocyclododecane enantiomers: microsomal degradation and patterns of hydroxylated metabolites. *Environ Sci Technol*. 45: 3938-3944. <http://dx.doi.org/10.1021/es1039584>.
- Esslinger, S; Becker, R; Müller-Belecke, A; Bremser, W; Jung, C; Nehls, I. (2010). HBCD stereoisomer pattern in mirror carps following dietary exposure to pure gamma-HBCD enantiomers. *J Agric Food Chem*. 58: 9705-9710. <http://dx.doi.org/10.1021/jf101469q>.
- Fång, J; Nyberg, E; Winnberg, U; Bignert, A; Bergman, Å. (2015). Spatial and temporal trends of the Stockholm Convention POPs in mothers' milk - a global review. *Environ Sci Pollut Res Int*. 22: 8989-9041. <http://dx.doi.org/10.1007/s11356-015-4080-z>.
- Fangstrom, B; Athanasiadou, M; Athanasiadis, I; Bignert, A; Grandjean, P; Weihe, P; Bergman, A. (2005). Polybrominated diphenyl ethers and traditional organochlorine pollutants in fulmars (*Fulmarus glacialis*) from the Faroe Islands. *Chemosphere*. 60: 836-843. <http://dx.doi.org/10.1016/j.chemosphere.2005.01.065>.
- Feng, J; Shi, Z; Wu, Y; Li, J; Zhao, Y. (2009). DIETARY EXPOSURE ASSESSMENT OF CHINESE ADULTS AND NURSING INFANTS TO TETRABROMOBISPHENOL-A AND HEXABROMOCYCLODODECANES: OCCURRENCE MEASUREMENTS IN FOODS AND HUMAN MILK. *Ann Nutr Metab*. 55: 523-523.

Exposure Literature Search Results

Off Topic

- Feng, J; Wang, Y; Ruan, T; Qu, G; Jiang, G. (2010). Simultaneous determination of hexabromocyclododecanes and tris (2,3-dibromopropyl) isocyanurate using LC-APCI-MS/MS. *Talanta*. 82: 1929-1934. <http://dx.doi.org/10.1016/j.talanta.2010.08.014>.
- Feng, M; Li, Y; Qu, R; Wang, L; Wang, Z. (2013). Oxidative stress biomarkers in freshwater fish *Carassius auratus* exposed to decabromodiphenyl ether and ethane, or their mixture. *Ecotoxicology*. 22: 1101-1110. <http://dx.doi.org/10.1007/s10646-013-1097-2>.
- Feng, M; Qu, R; Li, Y; Wei, Z; Wang, Z. (2014). Biochemical Biomarkers in Liver and Gill Tissues of Freshwater Fish *Carassius auratus* Following In Vivo Exposure to Hexabromobenzene. *Environ Toxicol*. 29: 1460-1470. <http://dx.doi.org/10.1002/tox.21876>.
- Feng, M; Qu, R; Wang, C; Wang, L; Wang, Z. (2013). Comparative antioxidant status in freshwater fish *Carassius auratus* exposed to six current-use brominated flame retardants: A combined experimental and theoretical study. *Aquat Toxicol*. 140-141: 314-323. <http://dx.doi.org/10.1016/j.aquatox.2013.07.001>.
- Fernandez Canton, R; Sanderson, T; Nijmeijer, S; Bergman, A; Van Den Berg, M. (2005). In vitro effects of brominated flame retardants on the adrenocortical enzyme CYP17. A novel endocrine mechanism of action? [Abstract]. *Toxicologist*. 84: 356.
- Fernie, KJ; Martenson, SC; Bird, DM; Ritchie, IJ; Letcher, RJ. (2011). Reproductive changes in American kestrels (*Falco sparverius*) in relation to exposure to technical hexabromocyclododecane flame retardant. *Environ Toxicol Chem*. 30: 2570-2575. <http://dx.doi.org/10.1002/etc.652>.
- Fernie, KJ; Shutt, JL; Letcher, RJ; Ritchie, IJ; Bird, DM. (2009). Environmentally relevant concentrations of DE-71 and HBCD alter eggshell thickness and reproductive success of American kestrels. *Environ Sci Technol*. 43: 2124-2130. <http://dx.doi.org/10.1021/es8027346>.
- Finken, MJ; van Eijsden, M; Loomans, EM; Vrijkotte, TG; Rotteveel, J. (2013). Maternal hypothyroxinemia in early pregnancy predicts reduced performance in reaction time tests in 5- to 6-year-old offspring. *J Clin Endocrinol Metab*. 98: 1417-1426. <http://dx.doi.org/10.1210/jc.2012-3389>.
- Fisher, DA; Nelson, JC. (2012). Application of TSH and free thyroxine measurements to thyroid diagnosis: Laboratory support of diagnosis and management. Fisher, DA; Nelson, JC. http://www.questdiagnostics.com/testcenter/testguide.action?dc=WP_AppTSH.
- Foekema, EM; Lopez Parron, M; Mergia, MT; Carolus, ER; Vd Berg, JH; Kwadijk, C; Dao, Q; Murk, AJ. (2014). Internal effect concentrations of organic substances for early life development of egg-exposed fish. *Ecotoxicol Environ Saf*. 101: 14-22. <http://dx.doi.org/10.1016/j.ecoenv.2013.12.006>.
- Forhead, AJ; Fowden, AL. (2014). Thyroid hormones in fetal growth and prepartum maturation [Review]. *J Endocrinol*. 221: R87-R103. <http://dx.doi.org/10.1530/JOE-14-0025>.
- François, A; Técher, R; Houde, M; Spear, P; Verreault, J. (2016). Relationships between polybrominated diphenyl ethers and transcription and activity of type 1 deiodinase in a gull highly exposed to flame retardants. *Environ Toxicol Chem*. 35: 2215-2222. <http://dx.doi.org/10.1002/etc.3372>.
- Frith, SD; Eales, JG. (1996). Thyroid hormone deiodination pathways in brain and liver of rainbow trout, *Oncorhynchus mykiss*. *Gen Comp Endocrinol*. 101: 323-332. <http://dx.doi.org/10.1006/gcen.1996.0035>.
- Fu, J; Suuberg, EM. (2012). Vapor pressure of three brominated flame retardants determined by using the Knudsen effusion method. *Environ Toxicol Chem*. 31: 574-578. <http://dx.doi.org/10.1002/etc.1736>.
- Fujimoto, H; Woo, G, yeH; Inoue, K; Igarashi, K; Kanno, J, un; Hirose, M; Nishikawa, A; Shibutani, M. (2012). Increased cellular distribution of vimentin and Ret in the cingulum induced by developmental hypothyroidism in rat offspring maternally exposed to anti-thyroid agents. *Reprod Toxicol*. 34: 93-100. <http://dx.doi.org/10.1016/j.reprotox.2012.03.005>.
- Fujimoto, H; Woo, G, yeH; Inoue, K; Igarashi, K; Kanno, J, un; Hirose, M; Nishikawa, A; Shibutani, M. (2012). Increased cellular distribution of vimentin and Ret in the cingulum induced by developmental hypothyroidism in rat offspring maternally exposed to anti-thyroid agents : Supplemental materials [Review]. *Reprod Toxicol*. 34: 93-100.
- Furlow, JD; Yang, HY; Hsu, M; Lim, W; Ermio, DJ; Chiellini, G; Scanlan, TS. (2004). Induction of larval tissue resorption in *Xenopus laevis* tadpoles by the thyroid hormone receptor agonist GC-1. *J Biol Chem*. 279: 26555-26562. <http://dx.doi.org/10.1074/jbc.M402847200>.
- Furuyashiki, T; Tanimoto, H; Yokoyama, Y; Kitaura, Y; Kuriki, T; Shimomura, Y. (2014). Effects of ingesting highly branched cyclic dextrin during endurance exercise on rating of perceived exertion and blood components associated with energy metabolism. *Biosci Biotechnol Biochem*. 78: 2117-2119. <http://dx.doi.org/10.1080/09168451.2014.943654>.
- Galantino-Homer, HL; Zeng, WX; Megee, SO; Dallmeyer, M; Voelkl, D; Dobrinski, I. (2006). Effects of 2-hydroxypropyl-beta-cyclodextrin and cholesterol on porcine sperm viability and capacitation status following cold shock or incubation. *Mol Reprod Dev*. 73: 638-650. <http://dx.doi.org/10.1002/mrd.20437>.
- Galbraith, WM; Voytek, P; Ryon, MS. (1983). *Advances in Modern Environmental Toxicology Assessment of risks to human reproduction and development of the human conceptus from exposure to environmental substances*. Princeton, NJ: Princeton Scientific Publishing.
- Galindo-Iranzo, P; Quintanilla-López, JE; Lebrón-Aguilar, R; Gómara, B. (2009). Improving the sensitivity of liquid chromatography-tandem mass spectrometry analysis of hexabromocyclododecanes by chlorine adduct generation. *J Chromatogr A*. 1216: 3919-3926. <http://dx.doi.org/10.1016/j.chroma.2009.02.086>.
- Gallen, C; Drage, D; Kaserzon, S; Baduel, C; Gallen, M; Banks, A; Broomhall, S; Mueller, JF. (2016). Occurrence and distribution of brominated flame retardants and perfluoroalkyl substances in Australian landfill leachate and biosolids. *J Hazard Mater*. 312: 55-64. <http://dx.doi.org/10.1016/j.jhazmat.2016.03.031>.
- García-Alcega, S; Rauert, C; Harrad, S; Collins, CD. (2016). Does the source migration pathway of HBCDs to household dust influence their bio-accessibility? *Sci Total Environ*. 569-570: 244-251. <http://dx.doi.org/10.1016/j.scitotenv.2016.04.178>.
- Gard, MN; Reiter, RC; Stevenson, CD. (2004). Anion radicals of di-trans-[12]annulene and heptalene in a one-pot synthesis from a common fire retardant. *Org Lett*. 6: 393-396. <http://dx.doi.org/10.1021/ol0362921>.

Exposure Literature Search Results

Off Topic

- Gauthier, LT; Hebert, CE; Weseloh, DVC; Letcher, RJ. (2008). Dramatic changes in the temporal trends of polybrominated diphenyl ethers (PBDEs) in herring gull eggs from the Laurentian Great Lakes: 1982-2006. *Environ Sci Technol.* 42: 1524-1530. <http://dx.doi.org/10.1021/es702382k>.
- Gereben, B; Zeöld, A; Dentice, M; Salvatore, D; Bianco, AC. (2008). Activation and inactivation of thyroid hormone by deiodinases: local action with general consequences [Review]. *Cell Mol Life Sci.* 65: 570-590. <http://dx.doi.org/10.1007/s00018-007-7396-0>.
- Gerecke, AC; Giger, W; Hartmann, PC; Heeb, NV; Kohler, HP; Schmid, P; Zennegg, M; Kohler, M. (2006). Anaerobic degradation of brominated flame retardants in sewage sludge. *Chemosphere.* 64: 311-317. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.016>.
- Gerecke, AC; Hartmann, PC; Heeb, NV; Kohler, HPE; Giger, W; Schmid, P; Zennegg, M; Kohler, M. (2005). Anaerobic degradation of decabromodiphenyl ether. *Environ Sci Technol.* 39: 1078-1083. <http://dx.doi.org/10.1021/es048634j>.
- Germer, S; van der Ven, L; Piersma, AH; Schrenk, D. (2005). Effect of hexabromocyclododecane (HBCDD), a flame retardant, on expression of cytochrome P450 enzymes in rat liver [Abstract]. *Naunyn Schmiedeberg Arch Pharmacol.* 371: R109-R109.
- Gevao, B; Al-Bahloul, M; Al-Ghadban, AN; Ali, L; Al-Omair, A; Helaleh, M; Al-Matrouk, K; Zafar, J. (2006). Polybrominated diphenyl ethers in indoor air in Kuwait: Implications for human exposure. *Atmos Environ.* 40: 1419-1426. <http://dx.doi.org/10.1016/j.atmosenv.2005.10.053>.
- Gevao, B; Beg, MU; Al-Ghadban, AN; Al-Omair, A; Helaleh, M; Zafar, J. (2006). Spatial distribution of polybrominated diphenyl ethers in coastal marine sediments receiving industrial and municipal effluents in Kuwait. *Chemosphere.* 62: 1078-1086. <http://dx.doi.org/10.1016/j.chemosphere.2005.05.030>.
- Ghanem, R; Baker, H. (2009). Determination of decabromodiphenyl ether in backcoated textile preparation. *J Hazard Mater.* 162: 249-253. <http://dx.doi.org/10.1016/j.jhazmat.2008.05.071>.
- Ghanem, R; Delmani, FA. (2012). Kinetics of thermal and photolytic degradation of decabromodiphenyl ether (BDE 209) in backcoated textile samples. *J Anal Appl Pyrol.* 98: 79-85. <http://dx.doi.org/10.1016/j.jaap.2012.09.001>.
- Gilbert, ME. (2011). Impact of low-level thyroid hormone disruption induced by propylthiouracil on brain development and function. *Toxicol Sci.* 124: 432-445. <http://dx.doi.org/10.1093/toxsci/kfr244>.
- Gilbert, ME; Hedge, JM; Valentin-Blasini, L; Blount, BC; Kannan, K; Tietge, J; Zoeller, RT; Crofton, KM; Jarrett, JM; Fisher, JW. (2013). An animal model of marginal iodine deficiency during development: The thyroid axis and neurodevelopmental outcome. *Toxicol Sci.* 132: 177-195. <http://dx.doi.org/10.1093/toxsci/kfs335>.
- Gilbert, ME; Ramos, RL; McCloskey, DP; Goodman, JH. (2014). Subcortical band heterotopia in rat offspring following maternal hypothyroxinaemia: structural and functional characteristics. *J Neuroendocrinol.* 26: 528-541. <http://dx.doi.org/10.1111/jne.12169>.
- Gilbert, ME; Ramos, RL; McCloskey, DP; Goodman, JH. (2014). Subcortical band heterotopia in rat offspring following maternal hypothyroxinaemia: structural and functional characteristics : Supplemental material [Supplemental Data]. *J Neuroendocrinol.* 26: 528-541.
- Gilbert, ME; Rovet, J; Chen, Z; Koibuchi, N. (2012). Developmental thyroid hormone disruption: prevalence, environmental contaminants and neurodevelopmental consequences. *Neurotoxicology.* 33: 842-852. <http://dx.doi.org/10.1016/j.neuro.2011.11.005>.
- Gilbert, ME; Sanchez-Huerta, K; Wood, C. (2016). Mild thyroid hormone insufficiency during development compromises activity-dependent neuroplasticity in the hippocampus of adult male rats. *Endocrinology.* 157: 774-787. <http://dx.doi.org/10.1210/en.2015-1643>.
- Gilbert, ME; Sanchez-Huerta, K; Wood, C. (2016). Mild thyroid hormone insufficiency during development compromises activity-dependent neuroplasticity in the hippocampus of adult male rats : Supplemental data [Supplemental Data]. *Endocrinology.* 157: 774-787.
- Gilbert, ME; Zoeller, RT. (2010). Chapter 4. Thyroid hormones—Impact on the developing brain. In GJ Harry; HA Tilson (Eds.), *Target organ toxicology series* (3rd ed., pp. 79-111). New York, NY: CRC Press.
- GLCC. (1990). INTERNAL MEMO FROM MICHIGAN CHEMICAL CORPORATION REGARDING HBCD BIODEGRADATION STUDY WITH TEST DATA AND COVER LETTER. (TSCATS/407264). Great Lakes Chemical Corporation,.
- GLCC. (1994). INITIAL SUBMISSION: LETTER FROM GREAT LAKES CHEM CORP TO DYNAMAC CORP/USEPA SUBMITTING INFO RE HEXABROMOCYCLODODECANE AND BIS(TRIBROMOPHENOXY) ETHANE W/ATTCHMTS, DATED 2/13/89. (TSCATS/443687).
- Gnatta, E; Zaninotto, M; Epifani, MG; Padoan, A; Gjini, R; Plebani, M. (2014). A new sampling device for faecal immunochemical testing: haemoglobin stability is still an open issue. *Clin Chem Lab Med.* 52: 1203-1209. <http://dx.doi.org/10.1515/cclm-2013-1074>.
- Gómara, B; Lebrón-Aguilar, R; Quintanilla-López, JE; González, MJ. (2007). Development of a new method for the enantiomer specific determination of HBCD using an ion trap mass spectrometer. *Anal Chim Acta.* 605: 53-60. <http://dx.doi.org/10.1016/j.aca.2007.10.019>.
- Gonchikzhapov, MB; Paletsky, AA; Kuibida, LV; Shundrina, IK; Korobeinichev, OP. (2012). Reducing the flammability of ultra-high-molecular-weight polyethylene by triphenyl phosphate additives. *Combustion, Explosion, and Shock Waves.* 48: 579-589. <http://dx.doi.org/10.1134/S0010508212050097>.
- Gong, W; Zhu, L; Hao, Y. (2016). Lethal and Sublethal Toxicity Comparison of BFRs to Three Marine Planktonic Copepods: Effects on Survival, Metabolism and Ingestion. *PLoS ONE.* 11: e0147790. <http://dx.doi.org/10.1371/journal.pone.0147790>.
- Gorga, M; Martínez, E; Ginebreda, A; Eljarrat, E; Barceló, D. (2013). Determination of PBDEs, HBB, PBEB, DBDPE, HBCD, TBBPA and related compounds in sewage sludge from Catalonia (Spain). *Sci Total Environ.* 444: 51-59. <http://dx.doi.org/10.1016/j.scitotenv.2012.11.066>.
- Goss, K; aiUwe; Arp, HPH; Bronner, G; Niederer, C. (2008). Partition behavior of hexachlorocyclohexane isomers. *Journal of Chemical and Engineering Data.* 53: 750-754. <http://dx.doi.org/10.1021/jc700595y>.
- Gou, Y, anYou; Hsu, Y, iC; Chao, H, owRan; Que, DE; Tayo, LL; Lin, CH; Huang, SM; Tsai, CH; Shih, SI. (2016). Pollution Characteristics and Diurnal Variations in Polybrominated Diphenyl Ethers in Indoor and Outdoor Air from Vehicle Dismantler Factories in Southern Taiwan. *Aerosol Air Qual Res.* 16: 1931-1941. <http://dx.doi.org/10.4209/aaqr.2016.06.0249>.
- GREAT LAKES CHEM CORP. (1990). THE ACUTE TOXICITY OF HBCD LOT 990-17 TO THE BLUEGILL SUNFISH LEPOMIS MACROCHIRUS RAFINESQUE WITH TEST DATA AND COVER LETTER. (TSCATS/407260). UNION CARBIDE CORP.

Exposure Literature Search Results

Off Topic

- Great Lakes Chemical Corporation. (2007). CD-75P™ Halogenated flame retardant. Technical information. Middlebury, CT. <http://greatlakes.com/deployedfiles/ChemturaV8/GreatLakes/Flame%20Retardants/FR%20Products/CD-75P%20TDS.pdf>.
- Gregoraszczyk, EL; Milczarek, K; Wojtowicz, AK; Berg, V; Skaare, JU; Ropstad, E. (2008). Steroid secretion following exposure of ovarian follicular cells to three different natural mixtures of persistent organic pollutants (POPs). *Reprod Toxicol*. 25: 58-66. <http://dx.doi.org/10.1016/j.reprotox.2007.10.00>.
- Gronstal, A; Pearson, V; Kappler, A; Dooris, C; Anand, M; Poitrasson, F; Kee, TP; Cockell, CS. (2009). Laboratory experiments on the weathering of iron meteorites and carbonaceous chondrites by iron-oxidizing bacteria. *Meteoritics and Planetary Science*. 44: 233-247.
- GSRI. (1994). Initial submission: Letter from Ethyl Corp to USEPA re technical and toxicity data on brominated flame retardants including hexabromocyclododecane, * w/attchmts, dated 5/23/88 [TSCA Submission]. (FYIOTS07940947). Baton Rouge, LA: Ethyl Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0000947>.
- Guan, J, inP; Chen, G, uoQ. (2006). Flame retardancy finish with an organophosphorus retardant on silk fabrics. *Fire and Materials*. 30: 415-424. <http://dx.doi.org/10.1002/fam.920>.
- Guerra, P; de la Torre, A; Martínez, MA; Eljarrat, E; Barceló, D. (2008). Identification and trace level determination of brominated flame retardants by liquid chromatography/quadrupole linear ion trap mass spectrometry. *Rapid Commun Mass Spectrom*. 22: 916-924. <http://dx.doi.org/10.1002/rcm.3443>.
- Guerra, P; Eljarrat, E; Barceló, D. (2008). Enantiomeric specific determination of hexabromocyclododecane by liquid chromatography-quadrupole linear ion trap mass spectrometry in sediment samples. *J Chromatogr A*. 1203: 81-87. <http://dx.doi.org/10.1016/j.chroma.2008.07.027>.
- Gyalpo, T; Toms, LM; Mueller, JF; Harden, FA; Scheringer, M; Hungerbühler, K. (2015). Insights into PBDE Uptake, Body Burden, and Elimination Gained from Australian Age-Concentration Trends Observed Shortly after Peak Exposure. *Environ Health Perspect*. 123: 978-984. <http://dx.doi.org/10.1289/ehp.1408960>.
- Haddow, JE; Palomaki, GE; Allan, WC; Williams, J. R.; Knight, GJ; Gagnon, J; O'Heir, CE; Mitchell, ML; Hermos, RJ; Waisbren, SE; Faix, JD; Klein, RZ. (1999). Maternal thyroid deficiency during pregnancy and subsequent neuropsychological development of the child. *N Engl J Med*. 341: 549-555. <http://dx.doi.org/10.1056/NEJM199908193410801>.
- Hakk, H. (2010). Different HBCD stereoisomers are metabolized differently. *Toxicol Lett*. 196: S33-S34. <http://dx.doi.org/10.1016/j.toxlet.2010.03.151>.
- Hakk, H. (2016). Comparative Metabolism Studies of Hexabromocyclododecane (HBCD) Diastereomers in Male Rats Following a Single Oral Dose. *Environ Sci Technol*. 50: 89-96. <http://dx.doi.org/10.1021/acs.est.5b04510>.
- Hakk, H; Szabo, DT; Huwe, J; Diliberto, J; Birnbaum, LS. (2012). Novel and distinct metabolites identified following a single oral dose of α - or γ -hexabromocyclododecane in mice. *Environ Sci Technol*. 46: 13494-13503. <http://dx.doi.org/10.1021/es303209g>.
- Hall, AP; Elcombe, CR; Foster, JR; Harada, T; Kaufmann, W; Knippel, A; Küttler, K; Malarkey, DE; Maronpot, RR; Nishikawa, A; Nolte, T; Schulte, A; Strauss, V; York, MJ. (2012). Liver hypertrophy: a review of adaptive (adverse and non-adverse) changes--conclusions from the 3rd International ESTP Expert Workshop [Review]. *Toxicol Pathol*. 40: 971-994. <http://dx.doi.org/10.1177/0192623312448935>.
- Hallgren, S; Darnerud, PO. (2002). Polybrominated diphenyl ethers (PBDEs), polychlorinated biphenyls (PCBs) and chlorinated paraffins (CPs) in rats-testing interactions and mechanisms for thyroid hormone effects. *Toxicology*. 177: 227-243. [http://dx.doi.org/10.1016/S0300-483X\(02\)00222-6](http://dx.doi.org/10.1016/S0300-483X(02)00222-6).
- Ham, K; Jin, H; Al-Raoush, R; Xie, XG; Willson, CS; Byerly, GR; Simeral, LS; Rivers, ML; Kurtz, RL; Butler, LG. (2004). Three-dimensional chemical analysis with synchrotron tomography at multiple x-ray energies: Brominated aromatic flame retardant and antimony oxide in polystyrene. *Chem Mater*. 16: 4032-4042. <http://dx.doi.org/10.1021/cm0350333>.
- Hamdani-Devarenes, S; El Hage, R; Dumazert, L; Sonnier, R; Ferry, L; Lopez-Cuesta, JM; Bert, C. (2016). Water-based flame retardant coating using nano-boehmite for expanded polystyrene (EPS) foam. *Progr Org Coating*. 99: 32-46. <http://dx.doi.org/10.1016/j.porgcoat.2016.04.036>.
- Han, Q; Song, H; Gao, S; Zeng, X; Yu, Z; Yu, Y; Sheng, G; Fu, J. (2014). Determination of ten hexabromocyclododecane diastereoisomers using two coupled reversed-phase columns and liquid chromatography/tandem mass spectrometry. *Rapid Commun Mass Spectrom*. 28: 1473-1478. <http://dx.doi.org/10.1002/rcm.6922>.
- Hardy, ML. (1999). Regulatory status and environmental properties of brominated flame retardants undergoing risk assessment in the EU: DBDPO, OBDPO, PeBDPO and HBCD. *Polym Degrad Stabil*. 64: 545-556.
- Hardy, ML. (2004). A comparison of the fish bioconcentration factors for brominated flame retardants with their nonbrominated analogues. *Environ Toxicol Chem*. 23: 656-661.
- Hardy, ML; ASSOC, FRC. (1997). Status of regulatory activities on brominated flame retardants in Europe and the United States. 237-244.
- Harju, M; Hamers, T; Kamstra, JH; Sonneveld, E; Boon, JP; Tysklind, M; Andersson, PL. (2007). Quantitative structure-activity relationship modeling on in vitro endocrine effects and metabolic stability involving 26 selected brominated flame retardants. *Environ Toxicol Chem*. 26: 816-826. <http://dx.doi.org/10.1897/06-308R.1>.
- Harrad, S; Abdallah, MA. (2008). Calibration of two passive air sampler configurations for monitoring concentrations of hexabromocyclododecanes in indoor air. *J Environ Monit*. 10: 527-531. <http://dx.doi.org/10.1039/b719638e>.
- Harrad, S; Abdallah, MA; Rose, NL; Turner, SD; Davidson, TA. (2009). Current-use brominated flame retardants in water, sediment, and fish from English lakes. *Environ Sci Technol*. 43: 9077-9083. <http://dx.doi.org/10.1021/es902185u>.
- Harry, GJ; Tilson, HA. (2010). *Neurotoxicology*. In *Target organ toxicology series* (3rd ed.). New York, NY: CRC Press.
- Haskell Laboratories. (1990). LETTER FROM E I DUPONT DE NEMOURS AND CO TO USEPA CONCERNING ENCLOSED STUDIES ON DECABROMODIPHENYL ETHER, HEXABROMOCYCLODODECANE AND 4-VINYLCYCLOHEXANE WITH ATTACHMENTS (SANITIZED). (TSCATS/405773).

Exposure Literature Search Results

Off Topic

- Hattis, D; Goble, R; Russ, A; Chu, M; Ericson, J. (2004). Age-related differences in susceptibility to carcinogenesis: A quantitative analysis of empirical animal bioassay data. *Environ Health Perspect.* 112: 1152-1158. <http://dx.doi.org/10.1289/ehp.6871>.
- Haukås, M; Mariussen, E; Ruus, A; Tollefsen, KE. (2009). Accumulation and disposition of hexabromocyclododecane (HBCD) in juvenile rainbow trout (*Oncorhynchus mykiss*). *Aquat Toxicol.* 95: 144-151. <http://dx.doi.org/10.1016/j.aquatox.2009.08.010>.
- Haynes, WM. (2014). CRC handbook of chemistry and physics. In WM Haynes (Ed.), (95 ed.). Boca Raton, FL: CRC Press. <http://www.hbcnetbase.com/>.
- Hayward, SJ; Lei, YD; Wania, F. (2006). Comparative evaluation of three high-performance liquid chromatography-based Kow estimation methods for highly hydrophobic organic compounds: polybrominated diphenyl ethers and hexabromocyclododecane. *Environ Toxicol Chem.* 25: 2018-2027.
- He, Q, un; Wang, X; Sun, P; Wang, Z; Wang, L. (2015). Acute and chronic toxicity of tetrabromobisphenol A to three aquatic species under different pH conditions. *Aquat Toxicol.* 164: 145-154. <http://dx.doi.org/10.1016/j.aquatox.2015.05.005>.
- Hebeish, A; Elaref, A; Aboushousha, M; Zamzam, N. (1994). CHEMICAL FINISHING OF COTTON .2. COMBINED EASY-CARE FLAME RETARDANCY FINISHING OF COTTON. *Cellulose Chemistry and Technology.* 28: 299-314.
- Hebeish, A; Elaref, AT; Higazy, A; Zamzam, N. (1994). CHEMICAL FINISHING OF COTTON .3. MULTIFINISHING OF COTTON FABRIC IN A SINGLE-STAGE PROCESS. *Cellulose Chemistry and Technology.* 28: 315-327.
- Heeb, NV; Graf, H; Bernd Schweizer, W; Lienemann, P. (2010). Isobutoxypentabromocyclododecanes (iPBBCDs): a new class of polybrominated compounds. *Chemosphere.* 78: 950-957. <http://dx.doi.org/10.1016/j.chemosphere.2009.12.045>.
- Heeb, NV; Graf, H; Schweizer, WB; Heeb, M; Lienemann, P. (2011). Crystal structure of δ -isobutoxypentabromo-cyclododecanes, kinetics and selectivity of their isomerization during thermal treatment of flame-proofed polystyrenes. *Chemosphere.* 83: 1568-1574. <http://dx.doi.org/10.1016/j.chemosphere.2011.01.022>.
- Heeb, NV; Graf, H; Schweizer, WB; Lienemann, P. (2010). Thermally-induced transformation of hexabromocyclo dodecanes and isobutoxypenta bromocyclododecanes in flame-proofed polystyrene materials. *Chemosphere.* 80: 701-708. <http://dx.doi.org/10.1016/j.chemosphere.2010.05.034>.
- Heeb, NV; Schweizer, WB; Kohler, M; Gerecke, AC. (2005). Structure elucidation of hexabromocyclododecanes--a class of compounds with a complex stereochemistry. *Chemosphere.* 61: 65-73. <http://dx.doi.org/10.1016/j.chemosphere.2005.03.015>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Gerecke, AC; Kohler, M; Schmid, P; Zennegg, M; Wolfensberger, M. (2007). Solid-state conformations and absolute configurations of (+) and (-) alpha-, beta-, and gamma-hexabromocyclododecanes (HBCDs). *Chemosphere.* 68: 940-950. <http://dx.doi.org/10.1016/j.chemosphere.2007.01.032>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Gerecke, AC; Schmid, P; Zennegg, M; Vonmont, H. (2008). Regio- and stereoselective isomerization of hexabromocyclododecanes (HBCDs): kinetics and mechanism of gamma- to alpha-HBCD isomerization. *Chemosphere.* 73: 1201-1210. <http://dx.doi.org/10.1016/j.chemosphere.2008.07.045>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Kohler, M. (2007). Crystal structure analysis of enantiomerically pure (+) and (-) beta-hexabromocyclododecanes. *Chemosphere.* 66: 1590-1594. <http://dx.doi.org/10.1016/j.chemosphere.2006.09.051>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Kohler, M; Schmid, P; Zennegg, M; Wolfensberger, M. (2008). Regio- and stereoselective isomerization of hexabromocyclododecanes (HBCDs): kinetics and mechanism of beta-HBCD racemization. *Chemosphere.* 71: 1547-1556. <http://dx.doi.org/10.1016/j.chemosphere.2007.11.044>.
- Heeb, NV; Wyss, SA; Geueke, B; Fleischmann, T; Kohler, HP; Bernd Schweizer, W; Moor, H; Lienemann, P. (2015). Stereochemistry of enzymatic transformations of (+) β - and (-) β -HBCD with LinA2--a HCH-degrading bacterial enzyme of *Sphingobium indicum* B90A. *Chemosphere.* 122: 70-78. <http://dx.doi.org/10.1016/j.chemosphere.2014.11.008>.
- Heeb, NV; Wyss, SA; Geueke, B; Fleischmann, T; Kohler, HP; Lienemann, P. (2014). LinA2, a HCH-converting bacterial enzyme that dehydrohalogenates HBCDs. *Chemosphere.* 107: 194-202. <http://dx.doi.org/10.1016/j.chemosphere.2013.12.035>.
- Heeb, NV; Zindel, D; Bernd Schweizer, W; Lienemann, P. (2012). 2,5,6,9,10-Pentabromocyclododecanols (PBBCDOHs): A new class of HBCD transformation products. *Chemosphere.* 88: 655-662. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.052>.
- Heeb, NV; Zindel, D; Geueke, B; Kohler, HP; Lienemann, P. (2012). Biotransformation of Hexabromocyclododecanes (HBCDs) with LinB--an HCH-converting bacterial enzyme. *Environ Sci Technol.* 46: 6566-6574. <http://dx.doi.org/10.1021/es2046487>.
- Heeb, NV; Zindel, D; Graf, H; Azara, V; Schweizer, WB; Geueke, B; Kohler, HP; Lienemann, P. (2013). Stereochemistry of LinB-catalyzed biotransformation of δ -HBCD to 1R,2R,5S,6R,9R,10S-pentabromocyclododecanol. *Chemosphere.* 90: 1911-1919. <http://dx.doi.org/10.1016/j.chemosphere.2012.10.019>.
- Hites, RA. (2005). Brominated flame retardants in the environment. *J Environ Monit.* 7: 1033-1036.
- Hogue, C. (2016). Releases of HBCD tapped for reporting. *Chem Eng News.* 94: 17-17.
- Holm, G; Lundstrom, J; Andersson, T; Norrgren, L. (1994). Influences of halogenated organic substances on ovarian development and hepatic EROD activity in the three-spined stickleback, *Gasterosteus aculeatus*, and rainbow trout, *Oncorhynchus mykiss*. *Aquat Toxicol.* 29: 241-256. [http://dx.doi.org/10.1016/0166-445X\(94\)90071-X](http://dx.doi.org/10.1016/0166-445X(94)90071-X).
- Holm, G; Norrgren, L; Andersson, T; Thuren, A. (1993). EFFECTS OF EXPOSURE TO FOOD CONTAMINATED WITH PBDE, PCN OR PCB ON REPRODUCTION, LIVER MORPHOLOGY AND CYTOCHROME-P450 ACTIVITY IN THE 3-SPINED STICKLEBACK, *GASTEROSTEUS-ACULEATUS*. *Aquat Toxicol.* 27: 33-50. [http://dx.doi.org/10.1016/0166-445X\(93\)90045-3](http://dx.doi.org/10.1016/0166-445X(93)90045-3).
- Hong, H; Li, D; Shen, R; Wang, X; Shi, D. (2014). Mechanisms of hexabromocyclododecanes induced developmental toxicity in marine medaka (*Oryzias melastigma*) embryos. *Aquat Toxicol.* 152: 173-185. <http://dx.doi.org/10.1016/j.aquatox.2014.04.010>.
- Hong, H; Shen, R; Liu, W; Li, D; Huang, L; Shi, D. (2015). Developmental toxicity of three hexabromocyclododecane diastereoisomers in embryos of the marine medaka *Oryzias melastigma*. *Mar Pollut Bull.* 101: 110-118. <http://dx.doi.org/10.1016/j.marpolbul.2015.11.009>.
- Hu, F; Pan, L; Xiu, M; Jin, Q. (2015). Exposure of *Chlamys farreri* to tetrabromobisphenol A: accumulation and multibiomarker responses. *Environ Sci Pollut Res Int.* 22: 12224-12234. <http://dx.doi.org/10.1007/s11356-015-4487-6>.

Exposure Literature Search Results

Off Topic

- Hu, F; Pan, L; Xiu, M; Jin, Q; Wang, G; Wang, C. (2015). Bioaccumulation and detoxification responses in the scallop *Chlamys farreri* exposed to tetrabromobisphenol A (TBBPA). *Environ Toxicol Pharmacol*. 39: 997-1007. <http://dx.doi.org/10.1016/j.etap.2015.03.006>.
- Hu, J; Liang, Y; Chen, M; Wang, X. (2009). Assessing the toxicity of TBBPA and HBCD by zebrafish embryo toxicity assay and biomarker analysis. *Environ Toxicol*. 24: 334-342. <http://dx.doi.org/10.1002/tox.20436>.
- Hu, J, tao; Yao, Y, nan; Liu, X, iusen; Ao, Y, uhui; Zhang, H, uiX. (2009). The application of a novel flame retardant on viscose fiber. *Fire and Materials*. 33: 145-156. <http://dx.doi.org/10.1002/fam.990>.
- Huang, H; Zhang, S; Lv, J; Wen, B; Wang, S; Wu, T. (2016). Experimental and Theoretical Evidence for Diastereomer- and Enantiomer-Specific Accumulation and Biotransformation of HBCD in Maize Roots. *Environ Sci Technol*. 50: 12205-12213. <http://dx.doi.org/10.1021/acs.est.6b03223>.
- Huang, X; Chen, C; Shang, Y; Zhong, Y; Ren, G; Yu, Z; An, J. (2016). In vitro study on the biotransformation and cytotoxicity of three hexabromocyclododecane diastereoisomers in liver cells. *Chemosphere*. 161: 251-258. <http://dx.doi.org/10.1016/j.chemosphere.2016.07.001>.
- Hühnerfuss, H; Shah, MR. (2009). Enantioselective chromatography-a powerful tool for the discrimination of biotic and abiotic transformation processes of chiral environmental pollutants [Review]. *J Chromatogr A*. 1216: 481-502. <http://dx.doi.org/10.1016/j.chroma.2008.09.043>.
- Hung, W, eiHan; Liu, CW, ei; Liang, C, ij; Kang, SC. (2016). Strategies to accelerate the computation of erection paths for construction cranes. *Automation in Construction*. 62: 1-13. <http://dx.doi.org/10.1016/j.autcon.2015.10.008>.
- Hwang, IK; Kang, HH; Lee, IS; Oh, JE. (2012). Assessment of characteristic distribution of PCDD/Fs and BFRs in sludge generated at municipal and industrial wastewater treatment plants. *Chemosphere*. 88: 888-894. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.098>.
- Ibhazehiebo, K; Iwasaki, T; Shimokawa, N; Kimura-Kuroda, J; Koibuchi, N. (2010). Suppression of cerebellar Purkinje cell dendrite arborization by alpha-hexabromocyclododecane. *J Physiol Sci*. 60: S78-S78.
- IBT Labs. (1990). Mutagenicity of two lots of FM-100 lot 53 and residue of lot 3322 in the absence and presence of metabolic activation with test data and cover letter [TSCA Submission]. (TSCATS/407259. OTS0523259. Doc I.D. 8690000267). West Lafayette, IN: Great Lakes Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0523259>.
- Ji, XL; Liu, Y; Liu, F; Lu, Y; Zhong, GR. (2010). [Transthyretin-binding activity of hexabromocyclododecanes (HBCDs) and its thyroid hormone disrupting effects after developmental exposure]. *Huanjing Kexue*. 31: 2191-2195.
- Jiang, X; Chu, S; Chen, Y; Zhong, Y; Liu, Y, u; Shao, Z. (2017). LiNi_{0.29}Co_{0.33}Mn_{0.38}O₂ polyhedrons with reduced cation mixing as a high-performance cathode material for Li-ion batteries synthesized via a combined co-precipitation and molten salt heating technique. *J Alloy Comp*. 691: 206-214. <http://dx.doi.org/10.1016/j.jallcom.2016.08.139>.
- Jin, S; Cheng, Q; Wan, P; Liao, T, ao; Huang, Y, an; COMM, CO. (2010). Cytotoxic Effect Of Decabrominated Diphenyl Ether on RTG-2 cells. 346-350.
- Johnson, PI; Stapleton, HM; Sjodin, A; Meeker, JD. (2010). Relationships between polybrominated diphenyl ether concentrations in house dust and serum. *Environ Sci Technol*. 44: 5627-5632. <http://dx.doi.org/10.1021/es100697q>.
- Jung, J; Bale, S; Lee, L; Shin, JK; Choi, J; Lee, S. (2009). Rapid identification of brominated flame retardants by using direct exposure probe mass spectrometry. *Microchem J*. 91: 140-146. <http://dx.doi.org/10.1016/j.microc.2008.09.005>.
- Kadota, K; Nishimura, T; Hotta, D; Tozuka, Y. (2015). Preparation of composite particles of hydrophilic or hydrophobic drugs with highly branched cyclic dextrin via spray drying for dry powder inhalers. *Powder Technology*. 283: 16-23. <http://dx.doi.org/10.1016/j.powtec.2015.05.014>.
- Kadota, K; Senda, A; Ito, T; Tozuka, Y. (2015). Feasibility of highly branched cyclic dextrin as an excipient matrix in dry powder inhalers. *Eur J Pharm Sci*. 79: 79-86. <http://dx.doi.org/10.1016/j.ejps.2015.09.006>.
- Kajiwara, N; Noma, Y; Takigami, H. (2011). Brominated and organophosphate flame retardants in selected consumer products on the Japanese market in 2008. *J Hazard Mater*. 192: 1250-1259. <http://dx.doi.org/10.1016/j.jhazmat.2011.06.043>.
- Kajiwara, N; Sueoka, M; Ohiwa, T; Takigami, H. (2009). Determination of flame-retardant hexabromocyclododecane diastereomers in textiles. *Chemosphere*. 74: 1485-1489. <http://dx.doi.org/10.1016/j.chemosphere.2008.11.046>.
- Kapura, AA. (1994). CHEMISTRY OF FLAME RETARDANTS .2. NMR AND HPLC ANALYSIS OF PYROVATEX CP. *J Fire Sci*. 12: 3-13.
- Kapura, AA. (1996). Chemistry of flame retardants .3. Aging of N-methylol-3-dimethoxyphosphorylpropionamide and commercial flame retardants for fabrics containing this substance. *J Fire Sci*. 14: 169-185.
- Kefeni, KK; Okonkwo, JO; Botha, B. (2014). Concentrations of polybromobiphenyls and polybromodiphenyl ethers in home dust: Relevance to socio-economic status and human exposure rate. *Sci Total Environ*. 470: 1250-1256. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.078>.
- Kelly, GS. (2000). Peripheral metabolism of thyroid hormones: a review [Review]. *Altern Med Rev*. 5: 306-333.
- Kemmlin, S; Hahn, O; Jann, O. (2003). Emissions of organophosphate and brominated flame retardants from selected consumer products and building materials. *Atmos Environ*. 37: 5485-5493. <http://dx.doi.org/10.1016/j.atmosenv.2003.09.025>.
- Keune, H; Gutleb, AC; Zimmer, KE; Ravnum, S; Yang, A; Bartonova, A; Kraymer von Krauss, M; Ropstad, E; Eriksen, GS; Saunders, M; Magnanti, B; Forsberg, B. (2012). We're only in it for the knowledge? A problem solving turn in environment and health expert elicitation. *Environ Health*. 11 Suppl 1: S3. <http://dx.doi.org/10.1186/1476-069X-11-S1-S3>.
- Kierkegaard, A; Björklund, J; Fridén, U. (2004). Identification of the flame retardant decabromodiphenyl ethane in the environment. *Environ Sci Technol*. 38: 3247-3253.
- Klammer, H; Schlecht, C; Wuttke, W; Schmutzler, C; Gotthardt, I; Köhrle, J; Jarry, H. (2007). Effects of a 5-day treatment with the UV-filter octyl-methoxycinnamate (OMC) on the function of the hypothalamo-pituitary-thyroid function in rats. *Toxicology*. 238: 192-199. <http://dx.doi.org/10.1016/j.tox.2007.06.088>.

Exposure Literature Search Results

Off Topic

- Kling, P; Forlin, L. (2008). Proteomic studies in zebrafish River ceft suggest an interaction between the brominated flame retardants HBCD and TBBPA. *Mar Environ Res.* 66: 101-101.
- Kling, P; Förlin, L. (2009). Proteomic studies in zebrafish liver cells exposed to the brominated flame retardants HBCD and TBBPA. *Ecotoxicol Environ Saf.* 72: 1985-1993. <http://dx.doi.org/10.1016/j.ecoenv.2009.04.018>.
- Kobayashi, A; Kubo, T; Sato, T; Kitahara, Y; Amita, S; Mori, M; Suzuki, S; Otsuka, K; Hosoya, K, en. (2013). Efficient total analyses for bromine type flame retardants by simple NCI-GC/MS. *Analytical Methods.* 5: 866-873. <http://dx.doi.org/10.1039/c2ay25983d>.
- Koch, C; Dundua, A; Aragon-Gomez, J; Nachev, M; Stephan, S; Willach, S; Ulbricht, M; Schmitz, OJ; Schmidt, TC; Sures, B. (2016). Degradation of Polymeric Brominated Flame Retardants: Development of an Analytical Approach Using PolyFR and UV Irradiation. *Environ Sci Technol.* 50: 12912-12920. <http://dx.doi.org/10.1021/acs.est.6b04083>.
- Koch, C; Schmidt-Kötters, T; Rupp, R; Sures, B. (2015). Review of hexabromocyclododecane (HBCD) with a focus on legislation and recent publications concerning toxicokinetics and -dynamics [Review]. *Environ Pollut.* 199C: 26-34. <http://dx.doi.org/10.1016/j.envpol.2015.01.011>.
- Koci, V. (2012). Hexabromocyclododecane and environment [Review]. *Chem Listy.* 106: 1116-1121.
- Koeppe, R; Becker, R; Emmerling, F; Jung, C; Nehls, I. (2007). Enantioselective preparative HPLC separation of the HBCD-Stereoisomers from the technical product and their absolute structure elucidation using X-ray crystallography. *Chirality.* 19: 214-222. <http://dx.doi.org/10.1002/chir.20366>.
- Kohler, HPE; Angst, W; Giger, W; Kanz, C; Muller, S; Suter, MJF. (1997). Environmental fate of chiral pollutants – the necessity of considering stereochemistry. *Chimia.* 51: 947-951.
- Koibuchi, N; Chin, MW. (2000). Thyroid hormone action and brain development. *Trends Endocrinol Metab.* 11: 123-128. [http://dx.doi.org/10.1016/S1043-2760\(00\)00238-1](http://dx.doi.org/10.1016/S1043-2760(00)00238-1).
- Koike, E; Yanagisawa, R; Takigami, H; Takano, H. (2014). Penta- and octa-bromodiphenyl ethers promote proinflammatory protein expression in human bronchial epithelial cells in vitro. *Toxicol In Vitro.* 28: 327-333. <http://dx.doi.org/10.1016/j.tiv.2013.10.014>.
- Konstantinov, A; Chittim, B; Potter, D; Klein, J; Riddell, N; Mccrindle, R. (2011). Is BDE-175 an important enough component of commercial octabromodiphenyl ether mixtures to be listed in Annex A of the Stockholm Convention? *Chemosphere.* 82: 778-781. <http://dx.doi.org/10.1016/j.chemosphere.2010.11.016>.
- Köppen, R; Becker, R; Jung, C; Nehls, I. (2008). On the thermally induced isomerisation of hexabromocyclododecane stereoisomers. *Chemosphere.* 71: 656-662. <http://dx.doi.org/10.1016/j.chemosphere.2007.11.009>.
- Korc, W; Góralczyk, K; Struciński, P; Hernik, A; Łyczewska, M; Matuszak, M; Czaja, K; Minorczyk, M; Ludwicki, JK. (2016). Levels of polybrominated diphenyl ethers in house dust in central Poland. *Indoor Air.* 27: 128-135. <http://dx.doi.org/10.1111/ina.12293>.
- Korobeinichev, OP; Gonchikzhapov, MB; Paletsky, AA; Tereshchenko, AG; Shundrina, IK; Kuibida, LV; Shmakov, AG; Hu, Y. (2016). Counterflow flames of ultrahigh-molecular-weight polyethylene with and without triphenylphosphate. *Combust Flame.* 169: 261-271. <http://dx.doi.org/10.1016/j.combustflame.2016.04.019>.
- Korobeinichev, OP; Paletsky, AA; Kuibida, LV; Gonchikzhapov, MB; Shundrina, IK. (2013). Reduction of flammability of ultrahigh-molecular-weight polyethylene by using triphenyl phosphate additives. *Proc Combust Inst.* 34: 2699-2706. <http://dx.doi.org/10.1016/j.proci.2012.06.045>.
- Korytár, P; Covaci, A; Leonards, PE; de Boer, J; Brinkman, UA. (2005). Comprehensive two-dimensional gas chromatography of polybrominated diphenyl ethers. *J Chromatogr A.* 1100: 200-207. <http://dx.doi.org/10.1016/j.chroma.2005.09.038>.
- Kretschmer, XC; Baldwin, WS. (2005). CAR and PXR: xenosensors of endocrine disrupters? [Review]. *Chem Biol Interact.* 155: 111-128. <http://dx.doi.org/10.1016/j.cbi.2005.06.003>.
- Krivoshiev, BV; Dardenne, F; Blust, R; Covaci, A; Husson, SJ. (2015). Elucidating toxicological mechanisms of current flame retardants using a bacterial gene profiling assay. *Toxicol In Vitro.* 29: 2124-2132. <http://dx.doi.org/10.1016/j.tiv.2015.09.001>.
- Krol, S; Namiesnik, J; Zabiegała, B. (2014). Occurrence and levels of polybrominated diphenyl ethers (PBDEs) in house dust and hair samples from Northern Poland; an assessment of human exposure. *Chemosphere.* 110: 91-96. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.014>.
- Kubokawa, H; Takahashi, K; Nagatani, S; Hatakeyama, T. (1999). Thermal decomposition behavior of cotton/polyester blended yarn fabrics treated with flame retardants. *Sen'i Gakkaishi.* 55: 298-305.
- Kuiper, RV; Cantón, RF; Leonards, PE; Jenssen, BM; Dubbeldam, M; Wester, PW; van den Berg, M; Vos, JG; Vethaak, AD. (2007). Long-term exposure of European flounder (*Platichthys flesus*) to the flame-retardants tetrabromobisphenol A (TBBPA) and hexabromocyclododecane (HBCD). *Ecotoxicol Environ Saf.* 67: 349-360. <http://dx.doi.org/10.1016/j.ecoenv.2006.12.001>.
- Kukučka, P; Audy, O; Kohoutek, J; Holt, E; Kalábová, T; Holoubek, I; Klánová, J. (2015). Source identification, spatio-temporal distribution and ecological risk of persistent organic pollutants in sediments from the upper Danube catchment. *Chemosphere.* 138: 777-783. <http://dx.doi.org/10.1016/j.chemosphere.2015.08.001>.
- La Guardia, MJ; Hale, RC; Harvey, E. (2006). Detailed polybrominated diphenyl ether (PBDE) congener composition of the widely used penta-, octa-, and deca-PBDE technical flame-retardant mixtures. *Environ Sci Technol.* 40: 6247-6254. <http://dx.doi.org/10.1021/es060630m>.
- Labandeira, A; Eljarrat, E; Barceló, D. (2007). Congener distribution of polybrominated diphenyl ethers in feral carp (*Cyprinus carpio*) from the Llobregat River, Spain. *Environ Pollut.* 146: 188-195. <http://dx.doi.org/10.1016/j.envpol.2006.04.037>.
- Lam, YL; Kan, CW; Yuen, CWM. (2014). Objective Measurement of Hand Properties of Plasma Pre-treated Cotton Fabrics Subjected to Flame-Retardant Finishing Catalyzed by Zinc Oxide. *Fibers and Polymers.* 15: 1880-1886. <http://dx.doi.org/10.1007/s12221-014-1880-6>.
- Lanham, SA; Fowden, AL; Roberts, C; Cooper, C; Oreffo, ROC; Forhead, AJ. (2011). Effects of hypothyroidism on the structure and mechanical properties of bone in the ovine fetus. *J Endocrinol.* 210: 189-198. <http://dx.doi.org/10.1530/JOE-11-0138>.
- Lankova, D; Lacina, O; Pulkrabova, J; Hajslova, J. (2013). The determination of perfluoroalkyl substances, brominated flame retardants and their metabolites in human breast milk and infant formula. *Talanta.* 117: 318-325. <http://dx.doi.org/10.1016/j.talanta.2013.08.040>.

Exposure Literature Search Results

Off Topic

- Lankova, D; Svarcova, A; Kalachova, K; Lacina, O; Pulkrabova, J; Hajslova, J. (2015). Multi-analyte method for the analysis of various organohalogen compounds in house dust. *Anal Chim Acta*. 854: 61-69. <http://dx.doi.org/10.1016/j.aca.2014.11.007>.
- Lara, AB; Caballo, C; Sicilia, MD; Rubio, S. (2012). Enantiomer-specific determination of hexabromocyclododecane in fish by supramolecular solvent-based single-step sample treatment and liquid chromatography-tandem mass spectrometry. *Anal Chim Acta*. 752: 62-68. <http://dx.doi.org/10.1016/j.aca.2012.09.039>.
- Larsen, ER; Ecker, EL. (1988). THERMAL-STABILITY OF FIRE RETARDANTS .3. DECOMPOSITION OF PENTABROMOCHLOROCYCLOHEXANE AND HEXABROMOCYCLODODECANE UNDER PROCESSING CONDITIONS. *J Fire Sci*. 6: 139-159.
- Laven, JS; Mulders, AG; Visser, JA; Themmen, AP; De Jong, FH; Fauser, BC. (2004). Anti-Müllerian hormone serum concentrations in normoovulatory and anovulatory women of reproductive age. *J Clin Endocrinol Metab*. 89: 318-323. <http://dx.doi.org/10.1210/jc.2003-030932>.
- Law, K; Palace, VP; Halldorson, T; Danell, R; Wautier, K; Evans, B; Alae, M; Marvin, C; Tomy, GT. (2006). Dietary accumulation of hexabromocyclododecane diastereoisomers in juvenile rainbow trout (*Oncorhynchus mykiss*). I: Bioaccumulation parameters and evidence of bioisomerization. *Environ Toxicol Chem*. 25: 1757. <http://dx.doi.org/10.1897/05-445r.1>.
- Law, RJ, y; Barry, J, on; Bersuder, P; Barber, JL; Deaville, R, ob; Reid, RJ; Jepson, PD. (2010). Levels and Trends of Brominated Diphenyl Ethers in Blubber of Harbor Porpoises (*Phocoena phocoena*) from the UK, 1992-2008. *Environ Sci Technol*. 44: 4447-4451. <http://dx.doi.org/10.1021/es100140q>.
- Law, RJ; Bersuder, P; Barry, J, on; Deaville, R, ob; Reid, RJ; Jepson, PD. (2010). Chlorobiphenyls in the blubber of harbour porpoises (*Phocoena phocoena*) from the UK: Levels and trends 1991-2005. *Mar Pollut Bull*. 60: 470-473. <http://dx.doi.org/10.1016/j.marpolbul.2009.12.003>.
- Le, TT; Son, MH; Nam, IH; Yoon, H; Kang, YG; Chang, YS. (2017). Transformation of hexabromocyclododecane in contaminated soil in association with microbial diversity. *J Hazard Mater*. 325: 82-89. <http://dx.doi.org/10.1016/j.jhazmat.2016.11.058>.
- Leblanc, RB. (1989). DEGRADATION OF PYROVATEX-TREATED FABRICS DURING STORAGE. *Text Res J*. 59: 307-308.
- Lee, I, nS; Kim, K; Kim, S; Yoon, J; Choi, K; Choi, SD; Oh, J. (2012). Evaluation of mono- to deca-brominated diphenyl ethers in riverine sediment of Korea with special reference to the debromination of DeBDE209. *Sci Total Environ*. 432: 128-134. <http://dx.doi.org/10.1016/j.scitotenv.2012.05.053>.
- Lefèvre, PL; Berger, RG; Ernest, SR; Gaertner, DW; Rawn, DF; Wade, MG; Robaire, B; Hales, BF. (2016). Exposure of Female Rats to an Environmentally Relevant Mixture of Brominated Flame Retardants Targets the Ovary, Affecting Folliculogenesis and Steroidogenesis. *Biol Reprod*. 94: 9. <http://dx.doi.org/10.1095/biolreprod.115.134452>.
- Legler, J. (2008). New insights into the endocrine disrupting effects of brominated flame retardants [Review]. *Chemosphere*. 73: 216-222. <http://dx.doi.org/10.1016/j.chemosphere.2008.04.081>.
- Leijts, MM; ten Tusscher, GW; Olie, K; van Teunenbroek, T; van Aalderen, WMC; de Voogt, P; Vulsma, T; Bartonova, A; Kraymer von Krauss, M; Mosoiu, C; Riojas-Rodriguez, H; Calamandrei, G; Koppe, JG. (2012). Thyroid hormone metabolism and environmental chemical exposure. *Environ Health*. 11: S10. <http://dx.doi.org/10.1186/1476-069X-11-S1-S10>.
- Letcher, RJ; Mattioli, LC; Marteinson, SC; Bird, D; Ritchie, IJ; Fernie, KJ. (2015). Uptake, distribution, depletion, and in ovo transfer of isomers of hexabromocyclododecane flame retardant in diet-exposed American kestrels (*Falco sparverius*). *Environ Toxicol Chem*. 34: 1103-1112. <http://dx.doi.org/10.1002/etc.2903>.
- Lewis, AC; Palanker, AL. (1978). A dermal LD50 study in albino rabbits and an inhalation LC50 study in albino rats. Test material GLS-S6-41A [unpublished]. (Experiment Reference No. 78385-2). Fairfield, NJ: Consumer Product Testing.
- Lewis, AC; Palanker, AL. (1978). A primary dermal irritation study, a dermal corrosion study, and an ocular irritation study in albino rabbits and an oral LD50 study in albino rats: Test material GLS-S6-41A. (78385-1). Consumer Product Testing.
- Li, B; Yao, T; Sun, H; Zhang, Y; Yang, J. (2016). Diastereomer- and enantiomer-specific accumulation, depuration, bioisomerization, and metabolism of hexabromocyclododecanes (HBCDs) in two ecologically different species of earthworms. *Sci Total Environ*. 542: 427-434. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.100>.
- Li, D; Mao, Z; Zhong, Y; Huang, W; Wu, Y; Peng, P. (2016). Reductive transformation of tetrabromobisphenol A by sulfidated nano zerovalent iron. *Water Res*. 103: 1-9. <http://dx.doi.org/10.1016/j.watres.2016.07.003>.
- Li, D; Peng, P; Yu, Z; Huang, W; Zhong, Y. (2016). Reductive transformation of hexabromocyclododecane (HBCD) by FeS. *Water Res*. 101: 195-202. <http://dx.doi.org/10.1016/j.watres.2016.05.066>.
- Li, L; Weber, R; Liu, J; Hu, J. (2016). Long-term emissions of hexabromocyclododecane as a chemical of concern in products in China. *Environ Int*. 91: 291-300. <http://dx.doi.org/10.1016/j.envint.2016.03.007>.
- Li, P; Yang, CQ; Jin, J; Wang, Y; Liu, WZ; Ding, WW. (2014). [Correlations between HBCD and thyroid hormone concentrations in human serum from production source area]. *Huanjing Kexue*. 35: 3970-3976.
- Li, Y; Duan, YP; Huang, F; Yang, J; Xiang, N; Meng, XZ; Chen, L. (2014). Polybrominated diphenyl ethers in e-waste: level and transfer in a typical e-waste recycling site in Shanghai, Eastern China. *Waste Manag*. 34: 1059-1065. <http://dx.doi.org/10.1016/j.wasman.2013.09.006>.
- Liang, D; Wang, C; Sun, J; Li, SP. (2016). Photolytic degradation of tris-(2,3-dibromopropyl) isocyanurate (TBC) in aqueous systems. *Environ Technol*. 37: 2292-2297. <http://dx.doi.org/10.1080/09593330.2016.1148782>.
- Lilienthal; G., HH. (2010). Effect profiles of different brominated flame retardants in neurobehavioral and endocrine studies. In PB Merlani (Ed.), *Chemical Engineering Methods and Technology* (pp. 157-162). New York, NY: Nova Science Publishers. https://www.novapublishers.com/catalog/product_info.php?products_id=9937.
- Lilienthal, H; van Der Ven, L, eo; Hack, A; Roth-Harer, A; Piersma, A; Vos, J. (2009). Neurobehavioral Effects in Relation to Endocrine Alterations Caused by Exposure to Brominated Flame Retardants in Rats-Comparison to Polychlorinated Biphenyls. *Hum Ecol Risk Assess*. 15: 76-86. <http://dx.doi.org/10.1080/10807030802615253>.

Exposure Literature Search Results

Off Topic

- Lilienthal, H; van der Ven, L; Piersma, A; Vos, J. (2007). Auditory and neurobehavioral effects of exposure to brominated flame retardants in rats—Evaluation of benchmark doses [Abstract]. *Reprod Toxicol*. 24: 61. <http://dx.doi.org/10.1016/j.reprotox.2007.04.019>.
- Lin, L; Zhou, X; Xing, Z; Wu, Y. (2016). Synthesis of 2, 3-dibromo-succinic anhydride and application on cotton, polyester and polyester/cotton blended fabric. *Text Res J*. 86: 1585-1596. <http://dx.doi.org/10.1177/0040517515592807>.
- Liu, MJ; Li, SC; Wu, ZJ; Wang, Z; Li, JL. (2013). Modification of Liquid Oxygen Compatibility of Bisphenol F Epoxy Resin. *International Polymer Processing*. 28: 506-515. <http://dx.doi.org/10.3139/217.2764>.
- Lo, KW; Saha-Roy, SC; Jans, U. (2012). Investigation of the reaction of hexabromocyclododecane with polysulfide and bisulfide in methanol/water solutions. *Chemosphere*. 87: 158-162. <http://dx.doi.org/10.1016/j.chemosphere.2011.12.008>.
- López, P; Brandsma, SA; Leonards, PE; De Boer, J. (2009). Methods for the determination of phenolic brominated flame retardants, and by-products, formulation intermediates and decomposition products of brominated flame retardants in water. *J Chromatogr A*. 1216: 334-345. <http://dx.doi.org/10.1016/j.chroma.2008.08.043>.
- Losada, S; Roach, A; Roosens, L; Santos, FJ; Galceran, MT; Vetter, W; Neels, H; Covaci, A. (2009). Biomagnification of anthropogenic and naturally-produced organobrominated compounds in a marine food web from Sydney Harbour, Australia. *Environ Int*. 35: 1142-1149. <http://dx.doi.org/10.1016/j.envint.2009.07.008>.
- Lower, N; Moore, A. (2007). The impact of a brominated flame retardant on smoltification and olfactory function in Atlantic salmon (*Salmo salar* L.) smolts. *Mar Behav Physiol*. 40: 267-284. <http://dx.doi.org/10.1080/10236240701592104>.
- Luo, XJ; Ruan, W; Zeng, YH; Liu, HY; Chen, SJ; Wu, JP; Mai, BX. (2013). Trophic dynamics of hexabromocyclododecane diastereomers and enantiomers in fish in a laboratory feeding study. *Environ Toxicol Chem*. 32: 2565-2570. <http://dx.doi.org/10.1002/etc.2337>.
- Luo, Y; Luo, XJ; Lin, Z; Chen, SJ; Liu, J; Mai, BX; Yang, ZY. (2009). Polybrominated diphenyl ethers in road and farmland soils from an e-waste recycling region in Southern China: Concentrations, source profiles, and potential dispersion and deposition. *Sci Total Environ*. 407: 1105-1113. <http://dx.doi.org/10.1016/j.scitotenv.2008.10.044>.
- Luster, MI; Johnson, VJ; Yucesoy, B; Simeonova, PP. (2005). Biomarkers to assess potential developmental immunotoxicity in children. *Toxicol Appl Pharmacol*. 206: 229-236. <http://dx.doi.org/10.1016/j.taap.2005.02.010>.
- Ma, X; Zhang, H; Yao, Z; Zhao, X; Wang, L; Wang, Z; Chen, J; Chen, J. (2013). Bioaccumulation and trophic transfer of polybrominated diphenyl ethers (PBDEs) in a marine food web from Liaodong Bay, North China. *Mar Pollut Bull*. 74: 110-115. <http://dx.doi.org/10.1016/j.marpolbul.2013.07.020>.
- MacGregor, JA; Nixon, WB. (1997). Hexabromocyclododecane (HBCD): Determination of n-octanol/water partition coefficient with cover letter dated 06/27/1997. (TSCATS/453552. OTS0573665. 86970000802). Washington, DC: Wildlife International Limited. U.S. Environmental Protection Agency.
- MacGregor, JA; Nixon, WB. (2004). Determination of water solubility of hexabromocyclododecane (HBCD) using a generator column method. Easton, MD: Wildlife International Ltd.
- Mackenzie, PI; Gregory, PA; Gardner-Stephen, DA; Lewinsky, RH; Jorgensen, BR; Nishiyama, T; Xie, W; Radomska-Pandya, A. (2003). Regulation of UDP glucuronosyltransferase genes [Review]. *Curr Drug Metab*. 4: 249-257. <http://dx.doi.org/10.2174/1389200033489442#sthash.z8bvGH58.dpuf>.
- Maes, M; Mommen, K; Hendrickx, D; Peeters, D; D'hondt, P; Ranjan, R; De Meyer, F; Scharpe, S. (1997). Components of biological variation, including seasonality, in blood concentrations of TSH, TT3, FT4, PRL, cortisol and testosterone in healthy volunteers. *Clin Endocrinol*. 46: 587-598. <http://dx.doi.org/10.1046/j.1365-2265.1997.1881002.x>.
- Malarvannan, G; Belpaire, C; Geeraerts, C; Eulaers, I; Neels, H; Covaci, A. (2015). Organophosphorus flame retardants in the European eel in Flanders, Belgium: Occurrence, fate and human health risk. *Environ Res*. 140: 604-610. <http://dx.doi.org/10.1016/j.envres.2015.05.021>.
- Mankidy, R; Ranjan, B; Honaramooz, A; Giesy, JP. (2014). Effects of novel brominated flame retardants on steroidogenesis in primary porcine testicular cells. *Toxicol Lett*. 224: 141-146. <http://dx.doi.org/10.1016/j.toxlet.2013.10.018>.
- Mankidy, R; Ranjan, B; Honaramooz, A; Giesy, JP. (2014). Effects of novel brominated flame retardants on steroidogenesis in primary porcine testicular cells. *Toxicol Lett*. 224: 141-146. <http://dx.doi.org/10.1016/j.toxlet.2013.10.018>.
- Manna, RN; Dybala-Defratyka, A. (2014). A computational study of the dechlorination of β -hexachlorocyclohexane (β -HCH) catalyzed by the haloalkane dehalogenase LinB. *Arch Biochem Biophys*. 562: 43-50. <http://dx.doi.org/10.1016/j.abb.2014.07.028>.
- Mariussen, E; Fjeld, E; Breivik, K; Steinnes, E; Borgen, A; Kjellberg, G; Schlabach, M. (2008). Elevated levels of polybrominated diphenyl ethers (PBDEs) in fish from Lake Mjosa, Norway. *Sci Total Environ*. 390: 132-141. <http://dx.doi.org/10.1016/j.scitotenv.2007.09.032>.
- Mariussen, E; Haukås, M; Arp, HP; Goss, KU; Borgen, A; Sandanger, TM. (2010). Relevance of 1,2,5,6,9,10-hexabromocyclododecane diastereomer structure on partitioning properties, column-retention and clean-up procedures. *J Chromatogr A*. 1217: 1441-1446. <http://dx.doi.org/10.1016/j.chroma.2009.12.076>.
- Mariussen, E; Steinnes, E; Breivik, K; Nygård, T; Schlabach, M; Kålås, JA. (2008). Spatial patterns of polybrominated diphenyl ethers (PBDEs) in mosses, herbivores and a carnivore from the Norwegian terrestrial biota. *Sci Total Environ*. 404: 162-170. <http://dx.doi.org/10.1016/j.scitotenv.2008.06.005>.
- Mark, FE; Vehlow, J; Dresch, H; Dima, B; Grüttner, W; Horn, J. (2015). Destruction of the flame retardant hexabromocyclododecane in a full-scale municipal solid waste incinerator. *Waste Manag Res*. 33: 165-174. <http://dx.doi.org/10.1177/0734242X14565226>.
- Maron, DM; Ames, BN. (1983). Revised methods for salmonella mutagenicity test. *Mutat Res Environ Mutagen Relat Subj*. 113: 173-215. [http://dx.doi.org/10.1016/0165-1161\(83\)90010-9](http://dx.doi.org/10.1016/0165-1161(83)90010-9).
- Marsili, A; Zavacki, AM; Harney, JW; Larsen, PR. (2011). Physiological role and regulation of iodothyronine deiodinases: a 2011 update [Review]. *J Endocrinol Invest*. 34: 395-407. <http://dx.doi.org/10.1007/BF03347465>.

Exposure Literature Search Results

Off Topic

- Marteinson, SC; Bird, DM; Letcher, RJ; Sullivan, KM; Ritchie, IJ; Fernie, KJ. (2012). Dietary exposure to technical hexabromocyclododecane (HBCD) alters courtship, incubation and parental behaviors in American kestrels (*Falco sparverius*). *Chemosphere*. 89: 1077-1083. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.073>.
- Marteinson, SC; Bird, DM; Shutt, JL; Letcher, RJ; Ritchie, IJ; Fernie, KJ. (2010). Multi-generational effects of polybrominated diphenylethers exposure: embryonic exposure of male American kestrels (*Falco sparverius*) to DE-71 alters reproductive success and behaviors. *Environ Toxicol Chem*. 29: 1740-1747. <http://dx.doi.org/10.1002/etc.200>.
- Marteinson, SC; Eulaers, I; Jaspers, VL; Covaci, A; Eens, M; Letcher, RJ; Fernie, KJ. (2017). Transfer of hexabromocyclododecane flame retardant isomers from captive American kestrel eggs to feathers and their association with thyroid hormones and growth. *Environ Pollut*. 220: 441-451. <http://dx.doi.org/10.1016/j.envpol.2016.09.086>.
- Marteinson, SC; Kimmins, S; Letcher, RJ; Palace, VP; Bird, DM; Ritchie, IJ; Fernie, KJ. (2011). Diet exposure to technical hexabromocyclododecane (HBCD) affects testes and circulating testosterone and thyroxine levels in American kestrels (*Falco sparverius*). *Environ Res*. 111: 1116-1123. <http://dx.doi.org/10.1016/j.envres.2011.08.006>.
- Martín, J; Camacho-Muñoz, D; Santos, JL; Aparicio, I; Alonso, E. (2014). Determination of emerging and priority industrial pollutants in surface water and wastewater by liquid chromatography-negative electrospray ionization tandem mass spectrometry. *Anal Bioanal Chem*. 406: 3709-3716. <http://dx.doi.org/10.1007/s00216-014-7689-8>.
- Martín, J; Santos, JL; Aparicio, I; Alonso, E. (2015). Determination of hormones, a plasticizer, preservatives, perfluoroalkylated compounds, and a flame retardant in water samples by ultrasound-assisted dispersive liquid-liquid microextraction based on the solidification of a floating organic drop. *Talanta*. 143: 335-343. <http://dx.doi.org/10.1016/j.talanta.2015.04.089>.
- Marvin, CH; Macinnis, G; Alaei, M; Arsenault, G; Tomy, GT. (2007). Factors influencing enantiomeric fractions of hexabromocyclododecane measured using liquid chromatography/tandem mass spectrometry. *Rapid Commun Mass Spectrom*. 21: 1925-1930. <http://dx.doi.org/10.1002/rcm.3040>.
- Mascolo, G; Locaputo, V; Mininni, G. (2010). New perspective on the determination of flame retardants in sewage sludge by using ultrahigh pressure liquid chromatography-tandem mass spectrometry with different ion sources. *J Chromatogr A*. 1217: 4601-4611. <http://dx.doi.org/10.1016/j.chroma.2010.05.003>.
- Maurice, N; Olry, JC; Cariou, R; Dervilly-Pinel, G; Le Bizec, B; Travel, A; Jondreville, C; Schroeder, H. (2015). Short-term effects of a perinatal exposure to the HBCDD alpha-isomer in rats: Assessment of early motor and sensory development, spontaneous locomotor activity and anxiety in pups. *Neurotoxicol Teratol*. 52: 170-180. <http://dx.doi.org/10.1016/j.ntt.2015.08.005>.
- Maurice, N; Olry, JC; Cariou, R; Marchand, P; Dervilly-Pinel, G; Le Bizec, B; Travel, A; Jondreville, C; Schroeder, H. (2015). Assessment of the short-term neurobehavioral toxicity of a perinatal exposure to the hexabromocyclododecane (HBCDD) alpha-isomer in rats. *Neurotoxicol Teratol*. 49: 123-123. <http://dx.doi.org/10.1016/j.ntt.2015.04.078>.
- MCC. (1990). INTERNAL MEMO FROM MICHIGAN CHEMICAL CORPORATION REGARDING HBCD BIODEGRADATION STUDY WITH TEST DATA AND COVER SHEET. (TSCATS/407265). MICHIGAN CHEMICAL CORPORATION,.
- McDonnell, ME. (1972). Human patch test - 20 subjects. (Haskell Laboratory Report 185-72). Haskell Laboratory for Toxicology and Industrial Medicine, E.I. du Pont de Nemours and Company.
- Meeker, JD; Singh, NP; Hauser, R. (2008). Serum concentrations of estradiol and free T4 are inversely correlated with sperm DNA damage in men from an infertility clinic. *J Androl*. 29: 379-388. <http://dx.doi.org/10.2164/jandrol.107.004416>.
- Mehta, RD. (1976). PYROVATEX CP FLAME-RETARDANT ON CHEMICALLY MODIFIED COTTON. 65: 39-&.
- Melymuk, L; Goosey, E; Riddell, N; Diamond, ML. (2015). Interlaboratory study of novel halogenated flame retardants: INTERFLAB. *Anal Bioanal Chem*. 407: 6759-6769. <http://dx.doi.org/10.1007/s00216-015-8843-7>.
- Mercier, F; Gilles, E; Saramito, G; Glorennec, P; Le Bot, B. (2014). A multi-residue method for the simultaneous analysis in indoor dust of several classes of semi-volatile organic compounds by pressurized liquid extraction and gas chromatography/tandem mass spectrometry. *J Chromatogr A*. 1336: 101-111. <http://dx.doi.org/10.1016/j.chroma.2014.02.004>.
- Miller, LJ; Puma, BJ. (1979). Analytical characteristics of late-eluting halogenated flame retardants (pp. 1319-1326). (HEEP/80/08576). Miller, LJ; Puma, BJ.
- Miller, MD; Crofton, KM; Rice, DC; Zoeller, RT. (2009). Thyroid-disrupting chemicals: interpreting upstream biomarkers of adverse outcomes [Review]. *Environ Health Perspect*. 117: 1033-1041. <http://dx.doi.org/10.1289/ehp.0800247>.
- Mohsin, M; Ahmad, SW; Khatri, A; Zahid, B. (2013). Performance enhancement of fire retardant finish with environment friendly bio cross-linker for cotton. *J Clean Prod*. 51: 191-195. <http://dx.doi.org/10.1016/j.jclepro.2013.01.031>.
- Momma, J; Kaniwa, M; Sekiguchi, H; Ohno, K; Kawasaki, Y; Tsuda, M; Nakamura, A; Kurokawa, Y. (1993). [Dermatological evaluation of a flame retardant, hexabromocyclododecane (HBCD) on guinea pig by using the primary irritation, sensitization, phototoxicity and photosensitization of skin]. *Eisei Shikenjo Hokoku*18-24.
- Morf, L, eoS; Buser, AM; Taverna, R; Bader, HP; Scheidegger, R. (2008). Dynamic substance flow analysis as a valuable risk evaluation tool - A case study for brominated flame retardants as an example of potential endocrine disrupters. *Chimia*. 62: 424-431. <http://dx.doi.org/10.2533/chimia.2008.424>.
- Morf, LS; Tremp, J; Gloor, R; Huber, Y; Stengele, M; Zennegg, M. (2005). Brominated flame retardants in waste electrical and electronic equipment: substance flows in a recycling plant. *Environ Sci Technol*. 39: 8691-8699. <http://dx.doi.org/10.1021/es051170k>.
- Morreale de Escobar, G; Obregon, MJ; Escobar del Ray, F. (2000). Is neuropsychological development related to maternal hypothyroidism or to maternal hypothyroxinemia? [Review]. *J Clin Endocrinol Metab*. 85: 3975-3987. <http://dx.doi.org/10.1210/jc.85.11.3975>.
- Morris, CE; Segal, L. (1990). DEGRADATION OF PYROVATEX - TREATED FABRICS DURING STORAGE - COMMENT. *Text Res J*. 60: 431-431.
- Morse, DC; Groen, D; Veerman, M; van Amerongen, CJ; Koëter, HB; Smits van Prooije, AE; Visser, TJ; Koeman, JH; Brouwer, A. (1993). Interference of polychlorinated biphenyls in hepatic and brain thyroid hormone metabolism in fetal and neonatal rats. *Toxicol Appl Pharmacol*. 122: 27-33. <http://dx.doi.org/10.1006/taap.1993.1168>.

Exposure Literature Search Results

Off Topic

- Muir, DC; Backus, S; Derocher, AE; Dietz, R; Evans, TJ; Gabrielsen, GW; Nagy, J; Norstrom, RJ; Sonne, C; Stirling, I; Taylor, MK; Letcher, RJ. (2006). Brominated flame retardants in polar bears (*Ursus maritimus*) from Alaska, the Canadian Arctic, East Greenland, and Svalbard. *Environ Sci Technol.* 40: 449-455. <http://dx.doi.org/10.1021/es051707u>.
- Murai, T; Kawasaki, H; Kanoh, S. (1985). [Studies on the toxicity of insecticides and food additives in pregnant rats. 7. Fetal toxicity of hexabromocyclododecane]. *Oyo Yakuri.* 29: 981-986.
- Nakamura, A; Momma, J; Sekiguchi, H; Noda, T; Yamano, T; Kaniwa, M; Kojima, S; Tsuda, M; Kurokawa, Y. (1994). A new protocol and criteria for quantitative determination of sensitization potencies of chemicals by guinea pig maximization test. *Contact Derm.* 31: 72-85. <http://dx.doi.org/10.1111/j.1600-0536.1994.tb01921.x>.
- Nakao, T; Akiyama, E; ma, Kakutani, H; Mizuno, A; Aozasa, O; Akai, Y; Ohta, S. (2015). Levels of Tetrabromobisphenol A, Tribromobisphenol A, Dibromobisphenol A, Monobromobisphenol A, and Bisphenol A in Japanese Breast Milk. *Chem Res Toxicol.* 28: 722-728. <http://dx.doi.org/10.1021/tx500495j>.
- Nayak, NC; Sathar, SA; Mughal, S; Duttagupta, S; Mathur, M; Chopra, P. (1996). The nature and significance of liver cell vacuolation following hepatocellular injury--an analysis based on observations on rats rendered tolerant to hepatotoxic damage. *Virchows Arch.* 428: 353-365. <http://dx.doi.org/10.1007/BF00202202>.
- Neher, E; Sakaba, T. (2008). Multiple roles of calcium ions in the regulation of neurotransmitter release. *Neuron.* 59: 861-872. <http://dx.doi.org/10.1016/j.neuron.2008.08.019>.
- Newsome, SD; Park, J; Henry, BW; Holden, A; Fogel, ML; Linthicum, J; Chu, V; Hooper, K, im. (2010). Polybrominated Diphenyl Ether (PBDE) Levels in Peregrine Falcon (*Falco peregrinus*) Eggs from California Correlate with Diet and Human Population Density. *Environ Sci Technol.* 44: 5248-5255. <http://dx.doi.org/10.1021/es100658e>.
- Ni, HG; Lu, SY; Mo, T; Zeng, H. (2016). Brominated flame retardant emissions from the open burning of five plastic wastes and implications for environmental exposure in China. *Environ Pollut.* 214: 70-76. <http://dx.doi.org/10.1016/j.envpol.2016.03.049>.
- Ni, HG; Zeng, H. (2013). HBCD and TBBPA in particulate phase of indoor air in Shenzhen, China. *Sci Total Environ.* 458-460: 15-19. <http://dx.doi.org/10.1016/j.scitotenv.2013.04.003>.
- Nicolau, GY; Haus, E; Pflingã, L; Dumitriu, L; Lakatua, D; Popescu, M; Ungureanu, E; Sackett-Lundeen, L; Petrescu, E. (1992). Chronobiology of pituitary-thyroid functions. *Rom J Endocrinol.* 30: 125-148.
- Nie, Z; Yang, Z; Fang, Y; Yang, Y; Tang, Z; Wang, X; Die, Q; Gao, X; Zhang, F; Wang, Q; Huang, Q. (2015). Environmental risks of HBCDD from construction and demolition waste: a contemporary and future issue. *Environ Sci Pollut Res Int.* 22: 17249-17252. <http://dx.doi.org/10.1007/s11356-015-5487-2>.
- Ning, JG; Qiu, R. (1986). THERMOGRAVIMETRIC ANALYSIS AND PYROLYSIS KINETICS OF COTTON FABRICS FINISHED WITH PYROVATEX CP. *J Fire Sci.* 4: 355-362.
- NRC. (2009). *Science and decisions: Advancing risk assessment.* Washington, DC: The National Academies Press. <http://dx.doi.org/10.17226/12209>.
- NRC. (2011). *National Academies Press*
- Review of the Environmental Protection Agency's draft IRIS assessment of formaldehyde. Washington, DC: The National Academies Press. <http://dx.doi.org/10.17226/13142>.
- NTP. (1983). *Salmonella mutagenesis test results (pp. 5-6). (EMICBACK/51199).* Research Triangle Park, NC.
- Nyholm, JR; Norman, A; Norrgren, L; Haglund, P; Andersson, PL. (2008). Maternal transfer of brominated flame retardants in zebrafish (*Danio rerio*). *Chemosphere.* 73: 203-208. <http://dx.doi.org/10.1016/j.chemosphere.2008.04.033>.
- Nyholm, JR; Norman, A; Norrgren, L; Haglund, P; Andersson, PL. (2009). UPTAKE AND BIOTRANSFORMATION OF STRUCTURALLY DIVERSE BROMINATED FLAME RETARDANTS IN ZEBRAFISH (*DANIO RERIO*) AFTER DIETARY EXPOSURE. *Environ Toxicol Chem.* 28: 1035-1042. <http://dx.doi.org/10.1897/08-302.1>.
- Oberg, M; Westerholm, E; Fattore, E; Stern, N; Hanberg, A; Haglund, P; Wiberg, K; Bergendorff, A; Hakansson, H. (2010). Toxicity of Bromkal 70-5DE, a technical mixture of polybrominated diphenyl ethers, following 28 d of oral exposure in rats and impact of analysed impurities. *Chemosphere.* 80: 137-143. <http://dx.doi.org/10.1016/j.chemosphere.2010.04.006>.
- Omicinski, CJ; Vanden Heuvel, JP; Perdew, GH; Peters, JM. (2011). Xenobiotic metabolism, disposition, and regulation by receptors: from biochemical phenomenon to predictors of major toxicities [Review]. *Toxicol Sci.* 120: S49-S75. <http://dx.doi.org/10.1093/toxsci/kfq338>.
- Onogbolese, CO; Scrimshaw, MD. (2014). Hexabromocyclododecane and Hexachlorocyclohexane: How Lessons Learnt Have Led to Improved Regulation. *Crit Rev Environ Sci Tech.* 44: 1423-1442. <http://dx.doi.org/10.1080/10643389.2013.782172>.
- Oros, DR; Hoover, D; Rodigari, F; Crane, D; Sericano, J. (2005). Levels and distribution of polybrominated diphenyl ethers in water, surface sediments, and bivalves from the San Francisco Estuary. *Environ Sci Technol.* 39: 33-41. <http://dx.doi.org/10.1021/es048905q>.
- Paine, MRL; Rae, I; Blanksby, SJ. (2014). Direct detection of brominated flame retardants from plastic e-waste using liquid extraction surface analysis mass spectrometry. *Rapid Commun Mass Spectrom.* 28: 1203-1208. <http://dx.doi.org/10.1002/rcm.6889>.
- Palace, V; Park, B; Pleskach, K; Gemmill, B; Tomy, G. (2010). Altered thyroxine metabolism in rainbow trout (*Oncorhynchus mykiss*) exposed to hexabromocyclododecane (HBCD). *Chemosphere.* 80: 165-169. <http://dx.doi.org/10.1016/j.chemosphere.2010.03.016>.
- Palace, VP; Pleskach, K; Halldorson, T; Danell, R; Wautier, K; Evans, B; Alaea, M; Marvin, C; Tomy, GT. (2008). Biotransformation enzymes and thyroid axis disruption in juvenile rainbow trout (*Oncorhynchus mykiss*) exposed to hexabromocyclododecane diastereoisomers. *Environ Sci Technol.* 42: 1967-1972. <http://dx.doi.org/10.1021/es702565h>.
- Palm Cousins, A; Brorström-Lundén, E; Hedlund, B. (2012). Prioritizing organic chemicals for long-term air monitoring by using empirical monitoring data--application to data from the Swedish screening program. *Environ Monit Assess.* 184: 4647-4654. <http://dx.doi.org/10.1007/s10661-011-2292-3>.

Exposure Literature Search Results

Off Topic

- Papachlimitzou, A; Barber, JL; Losada, S; Bersuder, P; Law, RJ. (2012). A review of the analysis of novel brominated flame retardants [Review]. *J Chromatogr A*. 1219: 15-28. <http://dx.doi.org/10.1016/j.chroma.2011.11.029>.
- Partyka, A; Bonarska-Kujawa, D; Sporniak, M; Strojceki, M; Nizański, W. (2016). Modification of membrane cholesterol and its impact on frozen-thawed chicken sperm characteristics. *Zygote*. 24: 1-10. <http://dx.doi.org/10.1017/S0967199416000022>.
- Patel, J; Landers, K; Li, H; Mortimer, RH; Richard, K. (2011). Thyroid hormones and fetal neurological development. *J Endocrinol*. 209: 1-8. <http://dx.doi.org/10.1530/JOE-10-0444>.
- Paul, KB; Hedge, JM; Devito, MJ; Crofton, KM. (2010). Short-term exposure to triclosan decreases thyroxine in vivo via upregulation of hepatic catabolism in Young Long-Evans rats. *Toxicol Sci*. 113: 367-379. <http://dx.doi.org/10.1093/toxsci/kfp271>.
- Peled, M; Scharia, R; Sondack, D. (1995). Thermal rearrangement of hexabromo-cyclododecane (HBCD). In JR Desmurs; B Gérard; MJ Godstein (Eds.), (pp. 92-99). New York, NY: Elsevier. [http://dx.doi.org/10.1016/S0926-9614\(05\)80012-7](http://dx.doi.org/10.1016/S0926-9614(05)80012-7).
- Peng, X; Huang, X; Jing, F; Zhang, Z; Wei, D; Jia, X. (2015). Study of novel pure culture HBCD-1, effectively degrading Hexabromocyclododecane, isolated from an anaerobic reactor. *Bioresour Technol*. 185: 218-224. <http://dx.doi.org/10.1016/j.biortech.2015.02.093>.
- Peptu, C; Harabagiu, V. (2013). TANDEM MASS SPECTROMETRY CHARACTERIZATION OF ESTERIFIED CYCLODEXTRINS. *Digest Journal of Nanomaterials and Biostructures*. 8: 1551-1561.
- Pererira, DN; Procianoy, RS. (2003). Effect of perinatal asphyxia on thyroid-stimulating hormone and thyroid hormone levels. *Acta Paediatr*. 92: 339-345. <http://dx.doi.org/10.1111/j.1651-2227.2003.tb00556.x>.
- Pharmakon Research International. (1990). Acute exposure dermal toxicity test in rabbits (82 EPA/OECD) with attachments and cover letter dated 030890 [TSCA Submission]. (86-900000167). <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522238>.
- Pharmakon Research International. (1990). Primary dermal irritation study in rabbits with attachments and cover letter dated 030890 [TSCA Submission]. (86-900000168). <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522239>.
- Pierce, GJ; Santos, MB; Murphy, S; Learmonth, JA; Zuur, AF; Rogan, E; Bustamante, P; Caurant, F; Lahaye, V; Ridoux, V; Zegers, BN; Mets, A; Addink, M; Smeenk, C; Jauniaux, T; Law, RJ; Dabin, W; López, A; Alonso Farré, JM; González, AF; Guerra, A; García-Hartmann, M; Reid, RJ; Moffat, CF; Lockyer, C; Boon, JP. (2008). Bioaccumulation of persistent organic pollutants in female common dolphins (*Delphinus delphis*) and harbour porpoises (*Phocoena phocoena*) from western European seas: geographical trends, causal factors and effects on reproduction and mortality. *Environ Pollut*. 153: 401-415. <http://dx.doi.org/10.1016/j.envpol.2007.08.019>.
- Plasqui, G; Kester, AD; Westerterp, KR. (2003). Seasonal variation in sleeping metabolic rate, thyroid activity, and leptin. *Am J Physiol Endocrinol Metab*. 285: E338-E343. <http://dx.doi.org/10.1152/ajpendo.00488.2002>.
- Postmes, TJ; Van Hout, JC; Saat, G; Willems, P; Coenegracht, J. (1974). A radioimmunoassay study and comparison of seasonal variation in plasma triiodothyronine and thyroxine concentrations in normal healthy persons. *Clin Chim Acta*. 50: 189-195. [http://dx.doi.org/10.1016/0009-8981\(74\)90366-0](http://dx.doi.org/10.1016/0009-8981(74)90366-0).
- Prudente, MS; Malarvannan, G; Tanabe, S. (2007). Developments in Environmental Science Persistent Toxic Substances in the Philippine Environment. [http://dx.doi.org/10.1016/S1474-8177\(07\)07012-X](http://dx.doi.org/10.1016/S1474-8177(07)07012-X).
- Pucci, E; Chiovato, L; Pinchera, A. (2000). Thyroid and lipid metabolism. *Int J Obes (Lond)*. 24: S109-S112.
- Pursch, M; Buckenmaier, S. (2015). Loop-based multiple heart-cutting two-dimensional liquid chromatography for target analysis in complex matrices. *Anal Chem*. 87: 5310-5317. <http://dx.doi.org/10.1021/acs.analchem.5b00492>.
- Qiao, L; Zhang, Y; Chai, F; Tan, Y; Huo, C; Pan, Z. (2016). Chimeric virus-like particles containing a conserved region of the G protein in combination with a single peptide of the M2 protein confer protection against respiratory syncytial virus infection. *Antiviral Res*. 131: 131-140. <http://dx.doi.org/10.1016/j.antiviral.2016.05.001>.
- Rauert, C; Harrad, S; Stranger, M; Lazarov, B. (2014). Test chamber investigation of the volatilization from source materials of brominated flame retardants and their subsequent deposition to indoor dust. *Indoor Air*. 25: 393-404. <http://dx.doi.org/10.1111/ina.12151>.
- Rauert, C; Harrad, S; Suzuki, G; Takigami, H; Uchida, N; Takata, K. (2014). Test chamber and forensic microscopy investigation of the transfer of brominated flame retardants into indoor dust via abrasion of source materials. *Sci Total Environ*. 493: 639-648. <http://dx.doi.org/10.1016/j.scitotenv.2014.06.029>.
- Rauert, C; Kuribara, I; Kataoka, T; Wada, T; Kajiwara, N; Suzuki, G; Takigami, H; Harrad, S. (2016). Direct contact between dust and HBCD-treated fabrics is an important pathway of source-to-dust transfer. *Sci Total Environ*. 545: 77-83. <http://dx.doi.org/10.1016/j.scitotenv.2015.12.054>.
- Ravnum, S; Zimmer, KE; Keune, H; Gutleb, AC; Murk, AJ; Koppe, JG; Magnanti, B; Lyche, JL; Eriksen, GS; Ropstad, E; Skaare, JU; Kobernus, M; Yang, A; Bartonova, A; Kreyer von Krauss, M. (2012). Policy relevant results from an expert elicitation on the human health risks of decabromodiphenyl ether (decaBDE) and hexabromocyclododecane (HBCD). *Environ Health*. 11 Suppl 1: S7. <http://dx.doi.org/10.1186/1476-069X-11-S1-S7>.
- Rayne, S; Ikononou, MG. (2002). Reconstructing source polybrominated diphenyl ether congener patterns from semipermeable membrane devices in the Fraser River, British Columbia, Canada: Comparison to commercial mixtures. *Environ Toxicol Chem*. 21: 2292-2300. [http://dx.doi.org/10.1897/1551-5028\(2002\)021<2292:RSPDEC>2.0.CO;2](http://dx.doi.org/10.1897/1551-5028(2002)021<2292:RSPDEC>2.0.CO;2).
- Reyes, L; Mañalich, R. (2005). Long-term consequences of low birth weight [Review]. *Kidney Int Suppl*. 68: S107-S111. <http://dx.doi.org/10.1111/j.1523-1755.2005.09718.x>.
- Ribeiro, AR; Nunes, OC; Pereira, MF; Silva, AM. (2015). An overview on the advanced oxidation processes applied for the treatment of water pollutants defined in the recently launched Directive 2013/39/EU [Review]. *Environ Int*. 75: 33-51. <http://dx.doi.org/10.1016/j.envint.2014.10.027>.
- Riddell, N; Arsenaault, G; Klein, J; Lough, A; Marvin, CH; Mcalees, A; Mccrindle, R; Macinnis, G; Sverko, E; Tittlemier, S; Tomy, GT. (2009). Structural characterization and thermal stabilities of the isomers of the brominated flame retardant 1,2,5,6-tetrabromocyclooctane (TBCO). *Chemosphere*. 74: 1538-1543. <http://dx.doi.org/10.1016/j.chemosphere.2008.11.026>.

Exposure Literature Search Results

Off Topic

- Riddell, N; Becker, R; Chittim, B; Emmerling, F; Köppen, R; Lough, A; Mcalees, A; Mccrindle, R. (2011). Preparation and X-ray structural characterization of further stereoisomers of 1,2,5,6,9,10-hexabromocyclododecane. *Chemosphere*. 84: 900-907. <http://dx.doi.org/10.1016/j.chemosphere.2011.06.014>.
- Rodriguez, MJ; Adroer, R; de Yebra, L, luísa; Ramonet, D; Mahy, N. (2001). Calcium homeostasis in the central nervous system: Adaptation to neurodegeneration. *Contributions to Science*. 2: 43-61.
- Román, GC; Ghassabian, A; Bongers-Schokking, JJ; Jaddoe, VW; Hofman, A; de Rijke, YB; Verhulst, FC; Tiemeier, H. (2013). Association of gestational maternal hypothyroxinemia and increased autism risk. *Ann Neurol*. 74: 733-742. <http://dx.doi.org/10.1002/ana.23976>.
- Ronisiz, D; Finne, EF; Karlsson, H; Förlin, L. (2004). Effects of the brominated flame retardants hexabromocyclododecane (HBCDD), and tetrabromobisphenol A (TBBPA), on hepatic enzymes and other biomarkers in juvenile rainbow trout and feral eelpout. *Aquat Toxicol*. 69: 229-245. <http://dx.doi.org/10.1016/j.aquatox.2004.05.007>.
- Rosenberg, C; Hämeilä, M; Tornaesus, J; Säkkinen, K; Puttonen, K; Korpi, A; Kiilunen, M; Linnainmaa, M; Hesso, A. (2011). Exposure to flame retardants in electronics recycling sites. *Ann Occup Hyg*. 55: 658-665. <http://dx.doi.org/10.1093/annhyg/mer033>.
- Rosenfeld, JM; Vargas, R; Xie, W; Evans, RM. (2003). Genetic profiling defines the xenobiotic gene network controlled by the nuclear receptor pregnane X receptor. *Mol Endocrinol*. 17: 1268-1282. <http://dx.doi.org/10.1210/me.2002-0421>.
- Rosol, TJ; DeLellis, RA; Harvey, PW; Sutcliffe, C. (2013). Endocrine system. In W Haschek; C Rousseaux; M Wallig (Eds.), (3rd ed., pp. 2391–2492). Waltham, MA: Academic Press. <http://dx.doi.org/10.1016/B978-0-12-415759-0.00058-3>.
- Ross, MS; Wong, CS. (2010). Comparison of electrospray ionization, atmospheric pressure photoionization, and anion attachment atmospheric pressure photoionization for the analysis of hexabromocyclododecane enantiomers in environmental samples. *J Chromatogr A*. 1217: 7855-7863. <http://dx.doi.org/10.1016/j.chroma.2010.09.083>.
- Routti, H; Lille-Langøy, R; Berg, MK; Fink, T; Harju, M; Kristiansen, K; Rostkowski, P; Rusten, M; Sylte, I; Øygarden, L; Goksøyr, A. (2016). Environmental Chemicals Modulate Polar Bear (*Ursus maritimus*) Peroxisome Proliferator-Activated Receptor Gamma (PPARG) and Adipogenesis in Vitro. *Environ Sci Technol*. 50: 10708-10720. <http://dx.doi.org/10.1021/acs.est.6b03020>.
- Ruan, T; Wang, Y; Wang, C; Wang, P, u; Fu, J; Yin, Y; Qu, G; Wang, T; Jiang, G. (2009). Identification and Evaluation of a Novel Heterocyclic Brominated Flame Retardant Tris(2,3-dibromopropyl) Isocyanurate in Environmental Matrices near a Manufacturing Plant in Southern China. *Environ Sci Technol*. 43: 3080-3086. <http://dx.doi.org/10.1021/es803397x>.
- Ryoyama, K; Kidachi, Y; Yamaguchi, H; Kajiura, H; Takata, H. (2004). Anti-tumor activity of an enzymatically synthesized alpha-1,6 branched alpha-1,4-glucan, glycogen. *Biosci Biotechnol Biochem*. 68: 2332-2340.
- Sahlstrom, LMO; Sellstrom, U; de Wit, CA; Lignell, S; Darnerud, P. (2015). Feasibility Study of Feces for Noninvasive Biomonitoring of Brominated Flame Retardants in Toddlers. *Environ Sci Technol*. 49: 606-615. <http://dx.doi.org/10.1021/es504708c>.
- Saito, S; Tanoue, A; Matsuo, M. (1992). Applicability of the i/o-characters to a quantitative description of bioconcentration of organic chemicals in fish. *Chemosphere*. 24: 81-88.
- Sales, C; Portolés, T; Sancho, JV; Abad, E; Ábalos, M; Sauló, J; Fiedler, H; Gómara, B; Beltrán, J. (2016). Potential of gas chromatography-atmospheric pressure chemical ionization-tandem mass spectrometry for screening and quantification of hexabromocyclododecane. *Anal Bioanal Chem*. 408: 449-459. <http://dx.doi.org/10.1007/s00216-015-9146-8>.
- Saunders, DM; Podaima, M; Wiseman, S; Giesy, JP. (2015). Effects of the brominated flame retardant TBCO on fecundity and profiles of transcripts of the HPGL-axis in Japanese medaka. *Aquat Toxicol*. 160: 180-187. <http://dx.doi.org/10.1016/j.aquatox.2015.01.018>.
- Schantz, MM; Cleveland, D; Heckert, NA; Kucklick, JR; Leigh, SD; Long, SE; Lynch, JM; Murphy, KE; Olfaz, R; Pintar, AL; Porter, BJ; Rabb, SA; Pol, SSV; Wise, SA; Zeisler, R. (2016). Development of two fine particulate matter standard reference materials (< 4 µm and < 10 µm) for the determination of organic and inorganic constituents. *Anal Bioanal Chem*. 408: 4257-4266. <http://dx.doi.org/10.1007/s00216-016-9519-7>.
- Schisterman, EF; Whitcomb, BW; Louis, GM; Louis, TA. (2005). Lipid adjustment in the analysis of environmental contaminants and human health risks. *Environ Health Perspect*. 113: 853-857. <http://dx.doi.org/10.1289/ehp.7640>.
- Schlummer, M; Vogelsang, J; Fiedler, D; Gruber, L; Wolz, G. (2015). Rapid identification of polystyrene foam wastes containing hexabromocyclododecane or its alternative polymeric brominated flame retardant by X-ray fluorescence spectroscopy. *Waste Manag Res*. 33: 662-670. <http://dx.doi.org/10.1177/0734242X15589783>.
- Schriks, M; Roessig, JM; Murk, AJ; Furlow, JD. (2007). Thyroid hormone receptor isoform selectivity of thyroid hormone disrupting compounds quantified with an in vitro reporter gene assay. *Environ Toxicol Pharmacol*. 23: 302-307. <http://dx.doi.org/10.1016/j.etap.2006.11.007>.
- Schriks, M; Vrabie, CM; Gutleb, AC; Faassen, EJ; Rietjens, IM; Murk, AJ. (2006). T-screen to quantify functional potentiating, antagonistic and thyroid hormone-like activities of poly halogenated aromatic hydrocarbons (PHAHs). *Toxicol In Vitro*. 20: 490-498. <http://dx.doi.org/10.1016/j.tiv.2005.09.001>.
- Schriks, M; Zvinavashe, E; Furlow, JD; Murk, AJ. (2006). Disruption of thyroid hormone-mediated *Xenopus laevis* tadpole tail tip regression by hexabromocyclododecane (HBCD) and 2,2',3,3',4,4',5,5',6-nona brominated diphenyl ether (BDE206). *Chemosphere*. 65: 1904-1908. <http://dx.doi.org/10.1016/j.chemosphere.2006.07.077>.
- Schulze, T; Seiler, T, b; Streck, G; Braunbeck, T; Hollert, H. (2012). Comparison of different exhaustive and biomimetic extraction techniques for chemical and biological analysis of polycyclic aromatic compounds in river sediments. *Journal of Soils and Sediments*. 12: 1419. <http://dx.doi.org/10.1007/s11368-012-0574-1>.
- Schussler, GC. (2000). The thyroxine-binding proteins [Review]. *Thyroid*. 10: 141-149. <http://dx.doi.org/10.1089/thy.2000.10.141>.
- Scott, HM; Mason, JI; Sharpe, RM. (2009). Steroidogenesis in the fetal testis and its susceptibility to disruption by exogenous compounds [Review]. *Endocr Rev*. 30: 883-925. <http://dx.doi.org/10.1210/er.2009-0016>.
- Sedlak, D; Dumler-Gradl, R; Thoma, H; Vierle, O. (1998). Polyhalogenated dibenzo-p-dioxins and dibenzofurans in the exhaust air during textile processings. *Chemosphere*. 37: 9-12.

Exposure Literature Search Results

Off Topic

- Serrallach Mila, N; Franco Miranda, E; Riera Canals, L; Aguiló Lucía, F; López-Costeá, MA; Martínez Castela, A; Griñó Boira, JM; Gil-Vernet Cebrián, S; González Segura, YC. (1996). [Kidney transplantation with donors in heart block. Long-term results]. *Arch Esp Urol*. 49: 1021-1027.
- Shaffer, BM. (1963). The isolated *Xenopus laevis* tail: a preparation for studying the central nervous system and metamorphosis in culture. *J Embryol Exp Morphol*. 11: 77-90.
- Shaw, SD; Berger, ML; Brenner, D; Kannan, K; Päpke, NL. (2010). Response to Letter to the Editor re "Bioaccumulation of polybrominated diphenyl ethers and hexabromocyclododecane in the northwest Atlantic marine food web" [Letter]. *Sci Total Environ*. 408: 3717-3718. <http://dx.doi.org/10.1016/j.scitotenv.2010.04.044>.
- Shelby, MK; Cherrington, NJ; Vansell, NR; Klaassen, CD. (2003). Tissue mRNA expression of the rat UDP-glucuronosyltransferase gene family. *Drug Metab Dispos*. 31: 326-333. <http://dx.doi.org/10.1124/dmd.31.3.326>.
- SHELL OIL CO. (1982). FLAME RETARDANT POLYPROPYLENE - EVALUATION OF NEW ADDITIVES - TOXICITY AND ENVIRONMENTAL ASPECTS - WITH COVER LETTER. (TSCATS/017888).
- Shi, D; Lv, D; Liu, W; Shen, R; Li, D; Hong, H. (2017). Accumulation and developmental toxicity of hexabromocyclododecanes (HBCDs) on the marine copepod *Tigriopus japonicus*. *Chemosphere*. 167: 155-162. <http://dx.doi.org/10.1016/j.chemosphere.2016.09.160>.
- Shi, L, ei; Feng, H; Zhang, P; Zhou, L; Xie, D; An, D; Cai, Q. (2014). Synthesis of haptens and development of an indirect enzyme-linked immunosorbent assay for tris(2,3-dibromopropyl) isocyanurate. *Anal Biochem*. 447: 15-22. <http://dx.doi.org/10.1016/j.ab.2013.11.004>.
- Shi, YJ; Xu, XB; Zheng, XQ; Lu, YL. (2015). Responses of growth inhibition and antioxidant gene expression in earthworms (*Eisenia fetida*) exposed to tetrabromobisphenol A, hexabromocyclododecane and decabromodiphenyl ether. *Comp Biochem Physiol C Toxicol Pharmacol*. 174-175: 32-38. <http://dx.doi.org/10.1016/j.cbpc.2015.06.005>.
- Shi, Z; Feng, J; Li, J; Zhao, Y; Wu, Y. (2008). [Analysis of hexabromocyclododecane diastereoisomers in foods of animal origin using ultra performance liquid chromatography-mass spectrometry and isotope dilution]. *Sequ*. 26: 1-5.
- Shi, Z; Wang, Y; Niu, P; Wang, J; Sun, Z; Zhang, S; Wu, Y. (2013). Concurrent extraction, clean-up, and analysis of polybrominated diphenyl ethers, hexabromocyclododecane isomers, and tetrabromobisphenol A in human milk and serum. *J Sep Sci*. 36: 3402-3410. <http://dx.doi.org/10.1002/jssc.201300579>.
- Shields, BM; Knight, BA; Hill, A; Hattersley, AT; Vaidya, B. (2011). Fetal thyroid hormone level at birth is associated with fetal growth. *J Clin Endocrinol Metab*. 96: E934-E938. <http://dx.doi.org/10.1210/jc.2010-2814>.
- Shields, BM; Knight, BA; Hill, A; Hattersley, AT; Vaidya, B. (2011). Fetal thyroid hormone level at birth is associated with fetal growth : Supplemental materials [Supplemental Data]. *J Clin Endocrinol Metab*. 96: E934-E938.
- Shiota, G; Kanki, K. (2013). Retinoids and their target genes in liver functions and diseases [Review]. *J Gastroenterol Hepatol*. 28: 33-37. <http://dx.doi.org/10.1111/jgh.12031>.
- Shmakov, AG; Shvartsberg, VM; Korobeinichev, OP; Beach, MW; Hu, TI; Morgan, TA. (2007). Effect of the addition of triphenylphosphine oxide, hexabromocyclododecane, and ethyl bromide on a CH₄/O₂/N₂ flame at atmospheric pressure. *Combustion, Explosion, and Shock Waves*. 43: 501-508.
- Shmakov, AG; Shvartsberg, VM; Korobeinichev, OP; Beach, MW; Hu, TI; Morgan, TA. (2007). Structure of a freely propagation rich CH₄/air flame containing triphenylphosphine oxide and hexabromocyclododecane. *Combust Flame*. 149: 384-391. <http://dx.doi.org/10.1016/j.combustflame.2007.03.002>.
- Simoni, M; Velardo, A; Montanini, V; Faustini Fustini, M; Seghedoni, S; Marrama, P. (1990). Circannual rhythm of plasma thyrotropin in middle-aged and old euthyroid subjects. *Hormone research*. 33: 184-189.
- Sitarek, K; Berlińska, B; Barański, B. (1994). Assessment of the effect of n-butanol given to female rats in drinking water on fertility and prenatal development of their offspring. *Int J Occup Med Environ Health*. 7: 365-370.
- Skarman, E; Darnerud, PO; Ohrvik, H; Oskarsson, A. (2005). Reduced thyroxine levels in mice perinatally exposed to polybrominated diphenyl ethers. *Environ Toxicol Pharmacol*. 19: 273-281. <http://dx.doi.org/10.1016/j.etap.2004.08.001>.
- Skraština, D; Petrovskis, I; Petraityte, R; Sominskaya, I; Ose, V; Lieknina, I; Bogans, J; Sasnauskas, K; Pumpens, P. (2013). Chimeric derivatives of hepatitis B virus core particles carrying major epitopes of the rubella virus E1 glycoprotein. *Clinical and Vaccine Immunology (Online)*. 20: 1719-1728. <http://dx.doi.org/10.1128/CVI.00533-13>.
- Smith, K; Liu, CH; El-Hiti, GA; Kang, GS; Jones, E; Clement, SG; Checquer, AD; Howarth, OW; Hursthouse, MB; Coles, SJ. (2005). An extensive study of bromination of cis,trans,trans-1,5,9-cyclododecatriene: product structures and conformations. *Org Biomol Chem*. 3: 1880-1892. <http://dx.doi.org/10.1039/b417156j>.
- Smith, K; Liu, CH; El-Hiti, GA; Kang, GS; Jones, E; Clement, SG; Checquer, AD; Howarth, OW; Hursthouse, MB; Coles, SJ. (2005). An extensive study of bromination of cis,trans,trans-1,5,9-cyclododecatriene: product structures and conformations : Erratum. *Org Biomol Chem*. 3: 1880-1892.
- Smolarz, K; Berger, A. (2009). Long-term toxicity of hexabromocyclododecane (HBCDD) to the benthic clam *Macoma balthica* (L.) from the Baltic Sea. *Aquat Toxicol*. 95: 239-247. <http://dx.doi.org/10.1016/j.aquatox.2009.09.010>.
- Smoluch, M; Silberring, J; Reszke, E; Kuc, J; Grochowalski, A. (2014). Determination of hexabromocyclododecane by flowing atmospheric pressure afterglow mass spectrometry. *Talanta*. 128: 58-62. <http://dx.doi.org/10.1016/j.talanta.2014.04.042>.
- Somoano-Blanco, L; Rodriguez-Gonzalez, P; Centineo, G; Fonseca, SG; Garcia Alonso, JI. (2016). Simultaneous determination of α -, β - and γ -hexabromocyclododecane diastereoisomers in water samples by isotope dilution mass spectrometry using (81)Br-labeled analogs. *J Chromatogr A*. 1429: 230-237. <http://dx.doi.org/10.1016/j.chroma.2015.12.041>.
- Stapleton, HM; Kelly, SM; Allen, JG; Watkins, DJ; Heiger-Bernays, WJ; Mcclean, MD; Webster, TF; Konstantinov, A; Losterhaus, S. (2008). Response to Comment on "Alternate and New Brominated Flame Retardants Detected in US House Dust". *Environ Sci Technol*. 42: 9455-9456. <http://dx.doi.org/10.1021/es8026192>.

Exposure Literature Search Results

Off Topic

- Steinmaus, C; Miller, MD; Cushing, L; Blount, BC; Smith, AH. (2013). Combined effects of perchlorate, thiocyanate, and iodine on thyroid function in the National Health and Nutrition Examination Survey 2007-08. *Environ Res.* 123: 17-24. <http://dx.doi.org/10.1016/j.envres.2013.01.005>.
- Stenzel, A; Goss, KU; Endo, S. (2013). Determination of polyparameter linear free energy relationship (pp-LFER) substance descriptors for established and alternative flame retardants. *Environ Sci Technol.* 47: 1399-1406. <http://dx.doi.org/10.1021/es304780a>.
- Stenzel, JI; Nixon, WB. (1997). Hexabromocyclododecane (HBCD): Determination of the vapor pressure using a spinning rotor gauge with cover letter dated 08/15/1997 [TSCA Submission]. (TSCATS/453589. OTS0573702. Doc I.D. 86970000839). Arlington, VA: Wildlife International Ltd. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0573702>.
- Stiborova, H; Vrkoslavova, J; Pulkrabova, J; Poustka, J; Hajslova, J; Demnerova, K. (2015). Dynamics of brominated flame retardants removal in contaminated wastewater sewage sludge under anaerobic conditions. *Sci Total Environ.* 533: 439-445. <http://dx.doi.org/10.1016/j.scitotenv.2015.06.131>.
- Stieger, G; Scheringer, M; Ng, CA; Hungerbühler, K. (2014). Assessing the persistence, bioaccumulation potential and toxicity of brominated flame retardants: Data availability and quality for 36 alternative brominated flame retardants. *Chemosphere.* 116: 118-123. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.083>.
- Strid, A; Smedje, G; Athanassiadis, I; Lindgren, T; Lundgren, H; Jakobsson, K; Bergman, A. (2014). Brominated flame retardant exposure of aircraft personnel. *Chemosphere.* 116: 83-90. <http://dx.doi.org/10.1016/j.chemosphere.2014.03.073>.
- Stubbings, WA; Harrad, S. (2014). Extent and mechanisms of brominated flame retardant emissions from waste soft furnishings and fabrics: A critical review [Review]. *Environ Int.* 71: 164-175. <http://dx.doi.org/10.1016/j.envint.2014.06.007>.
- Stubbings, WA; Kajiwara, N; Takigami, H; Harrad, S. (2016). Leaching behaviour of hexabromocyclododecane from treated curtains. *Chemosphere.* 144: 2091-2096. <http://dx.doi.org/10.1016/j.chemosphere.2015.10.121>.
- Stump, DG. (1999). Prenatal developmental toxicity study of hexabromocyclododecane (HBCD) in rats. (WIL-186009). Ashland, OH: WIL Research Laboratories, Inc.
- Sullivan, KM; Bird, DM; Ritchie, JI; Shutt, JL; Letcher, RJ; Fernie, KJ. (2010). Changes in plasma retinol of American kestrels (*Falco sparverius*) in response to dietary or in ovo exposure to environmentally relevant concentrations of a penta-brominated diphenyl ether mixture, DE-71. *J Toxicol Environ Health A.* 73: 1645-1654. <http://dx.doi.org/10.1080/15287394.2010.501720>.
- Sullivan, KM; Martenson, SC; Letcher, RJ; Bird, DM; Ritchie, JI; Shutt, JL; Fernie, KJ. (2013). Changes in the incubation by American kestrels (*Falco sparverius*) during exposure to the polybrominated diphenyl ether (PBDE) mixture DE-71. *J Toxicol Environ Health A.* 76: 978-989. <http://dx.doi.org/10.1080/15287394.2013.829759>.
- Sun, J; Tang, S; Peng, H; Saunders, DM; Doering, JA; Hecker, M; Jones, PD; Giesy, JP; Wiseman, S. (2016). Combined Transcriptomic and Proteomic Approach to Identify Toxicity Pathways in Early Life Stages of Japanese Medaka (*Oryzias latipes*) Exposed to 1,2,5,6-Tetrabromocyclooctane (TBCO). *Environ Sci Technol.* 50: 7781-7790. <http://dx.doi.org/10.1021/acs.est.6b01249>.
- Suominen, K; Verta, M; Marttinen, S. (2014). Hazardous organic compounds in biogas plant end products-Soil burden and risk to food safety. *Sci Total Environ.* 491: 192-199. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.036>.
- Suzuki, K; Shiraishi, K; Yoshitani, K; Sugama, K; Kometani, T. (2014). Effect of a sports drink based on highly-branched cyclic dextrin on cytokine responses to exhaustive endurance exercise. *J Sports Med Phys Fitness.* 54: 622-630.
- Swaim, SF; Gillette, RL; Sartin, EA; Hinkle, SH; Coolman, SL. (2000). Effects of a hydrolyzed collagen dressing on the healing of open wounds in dogs. *Am J Vet Res.* 61: 1574-1578.
- Takata, H; Akiyama, T; Kajijura, H; Kakutani, R, yo; Furuyashiki, T; Tomioka, E; Kojima, I; Kuriki, T. (2010). Application of branching enzyme in starch processing. *Biocatalysis and Biotransformation.* 28: 60-63. <http://dx.doi.org/10.3109/10242420903408393>.
- Takigami, H; Watanabe, M; Kajiwara, N. (2014). Destruction behavior of hexabromocyclododecanes during incineration of solid waste containing expanded and extruded polystyrene insulation foams. *Chemosphere.* 116: 24-33. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.082>.
- Takii, H; Ishihara, K; Kometani, T; Okada, S; Fushiki, T. (1999). Enhancement of swimming endurance in mice by highly branched cyclic dextrin. *Biosci Biotechnol Biochem.* 63: 2045-2052.
- Takii, H; Takii Nagao, Y; Kometani, T; Nishimura, T; Nakae, T; Kuriki, T; Fushiki, T. (2005). Fluids containing a highly branched cyclic dextrin influence the gastric emptying rate. *Int J Sports Med.* 26: 314-319.
- Tang, C. (2010). Quantitative determination of the diastereoisomers of hexabromocyclododecane in human plasma using liquid chromatography coupled with electrospray ionization tandem mass spectrometry. *J Chromatogr B Analyt Technol Biomed Life Sci.* 878: 3317-3322. <http://dx.doi.org/10.1016/j.jchromb.2010.10.015>.
- Taylor, KW; Novak, RF; Anderson, HA; Birnbaum, LS; Blystone, C; Devito, M; Jacobs, D; Köhrle, J; Lee, DH; Rylander, L; Rignell-Hydbom, A; Tornero-Velez, R; Turyk, ME; Boyles, AL; Thayer, KA; Lind, L. (2013). Evaluation of the association between persistent organic pollutants (POPs) and diabetes in epidemiological studies: a national toxicology program workshop review [Review]. *Environ Health Perspect.* 121: 774-783. <http://dx.doi.org/10.1289/ehp.1205502>.
- Thomas, GO; Moss, SE; Asplund, L; Hall, AJ. (2005). Absorption of decabromodiphenyl ether and other organohalogen chemicals by grey seals (*Halichoerus grypus*). *Environ Pollut.* 133: 581-586. <http://dx.doi.org/10.1016/j.envpol.2004.06.011>.
- Thomsen, C; Haug, LS; Stigum, H; Frøshaug, M; Broadwell, SL; Becher, G. (2010). Changes in concentrations of perfluorinated compounds, polybrominated diphenyl ethers, and polychlorinated biphenyls in Norwegian breast-milk during twelve months of lactation. *Environ Sci Technol.* 44: 9550-9556. <http://dx.doi.org/10.1021/es102192z>.
- Thomsen, C; Molander, P; Daae, HL; Janák, K; Frøshaug, M; Liane, VH; Thorud, S; Becher, G; Dybing, E. (2007). Occupational exposure to hexabromocyclododecane at an industrial plant. *Environ Sci Technol.* 41: 5210-5216. <http://dx.doi.org/10.1021/es0702622>.
- Tobitsuka, K; Miura, M; Kobayashi, S. (2006). Retention of a European pear aroma model mixture using different types of saccharides. *J Agric Food Chem.* 54: 5069-5076. <http://dx.doi.org/10.1021/jf060309n>.

Exposure Literature Search Results

Off Topic

- Tomko, G; Mcdonald, KM. (2013). Environmental fate of hexabromocyclododecane from a new Canadian electronic recycling facility. *J Environ Manage.* 114: 324-327. <http://dx.doi.org/10.1016/j.jenvman.2012.10.024>.
- Tomy, GT; Halldorson, T; Danell, R; Law, K; Arsenaault, G; Alae, M; Macinnis, G; Marvin, CH. (2005). Refinements to the diastereoisomer-specific method for the analysis of hexabromocyclododecane. *Rapid Commun Mass Spectrom.* 19: 2819-2826. <http://dx.doi.org/10.1002/rcm.2129>.
- Tomy, GT; Palace, V; Marvin, C; Stapleton, HM; Covaci, A; Harrad, S. (2011). Biotransformation of HBCD in biological systems can confound temporal-trend studies. *Environ Sci Technol.* 45: 364-365. <http://dx.doi.org/10.1021/es1039369>.
- Tomy, GT; Pleskach, K; Ismail, N; Whittle, DM; Helm, PA; Sverko, E, d; Zaruk, D; Marvin, CH. (2007). Isomers of dechlorane plus in Lake Winnipeg and Lake Ontario food webs. *Environ Sci Technol.* 41: 2249-2254. <http://dx.doi.org/10.1021/es062781v>.
- Tomy, GT; Thomas, CR; Zidane, TM; Murison, KE; Pleskach, K; Hare, J; Arsenaault, G; Marvin, CH; Sverko, E, d. (2008). Examination of isomer specific bioaccumulation parameters and potential in vivo hepatic metabolites of syn- and anti-Dechlorane Plus isomers in juvenile rainbow trout (*Oncorhynchus mykiss*). *Environ Sci Technol.* 42: 5562-5567. <http://dx.doi.org/10.1021/es800220y>.
- Tonacchera, M; Pinchera, A; Dimida, A; Ferrarini, E; Agretti, P; Vitti, P; Santini, F; Crump, K; Gibbs, J. (2004). Relative potencies and additivity of perchlorate, thiocyanate, nitrate, and iodide on the inhibition of radioactive iodide uptake by the human sodium iodide symporter. *Thyroid.* 14: 1012-1019. <http://dx.doi.org/10.1089/thy.2004.14.1012>.
- TRL. (1987). Rat oral subchronic toxicity study: Compound: Normal butanol (Final). (TRL study #032-006). Research Triangle Park, NC: Research Triangle Institute.
- Tso, CP; Shih, YH. (2014). The transformation of hexabromocyclododecane using zerovalent iron nanoparticle aggregates. *J Hazard Mater.* 277: 76-83. <http://dx.doi.org/10.1016/j.jhazmat.2014.04.044>.
- Tung, EW; Yan, H; Lefèvre, PL; Berger, RG; Rawn, DF; Gaertner, DW; Kawata, A; Rigden, M; Robaire, B; Hales, BF; Wade, MG. (2016). Gestational and Early Postnatal Exposure to an Environmentally Relevant Mixture of Brominated Flame Retardants: General Toxicity and Skeletal Variations. *Birth Defects Res B Dev Reprod Toxicol.* 107: 157-168. <http://dx.doi.org/10.1002/bdrb.21180>.
- U.S. EPA. (2000). ECONOMIC ANALYSIS OF PROPOSED TEST RULE FOR FIVE BROMINATED FLAME RETARDANTS WITH COVER LETTER DATED 101690. (TSCATS/417953).
- U.S. EPA. (2000). RESPONSES OF UNICELLULAR MARINE ALGAE TO BROMINATED ORGANIC COMPOUND IN SIX GROWTH MEDIA WITH COVER LETTER DATED 121886. (TSCATS/412362).
- U.S. EPA; OTS. (1990). CATARACTOGENIC STUDY IN CHICKS WITH TEST DATA AND COVER LETTER. (TSCATS/407256). INTL RES and DEV CORP.
- U.S. EPA; OTS. (1990). PILOT CATARACTOGENIC STUDY IN CHICKS WITH TEST DATA AND COVER LETTER. (TSCATS/407255). INTL RES and DEV CORP.
- U.S. EPA; OTS. (1992). INITIAL SUBMISSION: ACUTE INHALATION TOXICITY STUDY WITH PYROLYTIC PRODUCTS OF HEXABROMOCYCLODODECANE IN RATS WITH COVER LETTER DATED 080592. (TSCATS/432775). INDUS BIO-TEST LABS.
- U.S. EPA. (1990). Acute toxicity studies in rabbits and rats with test data and cover letter dated 03-08-90. (86900000266).
- U.S. EPA. (1991). Guidelines for developmental toxicity risk assessment (pp. 1-71). (EPA/600/FR-91/001). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://cfpub.epa.gov/ncea/cfm/recorddisplay.cfm?deid=23162>.
- U.S. EPA. (1994). Methods for derivation of inhalation reference concentrations and application of inhalation dosimetry [EPA Report] (pp. 1-409). (EPA/600/8-90/066F). Research Triangle Park, NC: U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office. <https://cfpub.epa.gov/ncea/risk/recorddisplay.cfm?deid=71993&CFID=51174829&CFTOKEN=25006317>.
- U.S. EPA. (1996). Guidelines for reproductive toxicity risk assessment (pp. 1-143). (EPA/630/R-96/009). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum.
- Ueda, A; Hamadeh, HK; Webb, HK; Yamamoto, Y; Sueyoshi, T; Afshari, CA; Lehmann, JM; Negishi, M. (2002). Diverse roles of the nuclear orphan receptor CAR in regulating hepatic genes in response to phenobarbital. *Mol Pharmacol.* 61: 1-6. <http://dx.doi.org/10.1124/mol.61.1.1>.
- Ungherese, G; Cincinelli, A; Martellini, T; Ugolini, A. (2012). PBDEs in the supralittoral environment: the sandhopper *Talitrus saltator* (Montagu) as biomonitor? *Chemosphere.* 86: 223-227. <http://dx.doi.org/10.1016/j.chemosphere.2011.09.029>.
- Vagula, MC; Kubeldis, N; Nelatury, CF. (2011). Environmental Monitoring of Brominated Flame Retardants. *Proc SPIE.* 8029. <http://dx.doi.org/10.1117/12.887127>.
- van Beusekom, OC; Eljarrat, E; Barceló, D; Koelmans, AA. (2006). Dynamic modeling of food-chain accumulation of brominated flame retardants in fish from the Ebro River Basin, Spain. *Environ Toxicol Chem.* 25: 2553-2560.
- Van den Eede, N; Dirtu, AC; Ali, N; Neels, H; Covaci, A. (2012). Multi-residue method for the determination of brominated and organophosphate flame retardants in indoor dust. *Talanta.* 89: 292-300. <http://dx.doi.org/10.1016/j.talanta.2011.12.031>.
- Van der Ven, LT; van de Kuil, T; Leonards, PE; Slob, W; Cantón, RF; Germer, S; Visser, TJ; Litens, S; Håkansson, H; Schrenk, D; van den Berg, M; Piersma, AH; Vos, JG; Opperhuizen, A. (2008). A 28-day oral dose toxicity study in Wistar rats enhanced to detect endocrine effects of decabromodiphenyl ether (decaBDE). *Toxicol Lett.* 179: 6-14. <http://dx.doi.org/10.1016/j.toxlet.2008.03.003>.
- Van der Ven, LT; Van de Kuil, T; Verhoef, A; Verwer, CM; Lilienthal, H; Leonards, PE; Schauer, UM; Cantón, RF; Litens, S; De Jong, FH; Visser, TJ; Dekant, W; Stern, N; Håkansson, H; Slob, W; Van den Berg, M; Vos, JG; Piersma, AH. (2008). Endocrine effects of tetrabromobisphenol-A (TBBPA) in Wistar rats as tested in a one-generation reproduction study and a subacute toxicity study. *Toxicology.* 245: 76-89. <http://dx.doi.org/10.1016/j.tox.2007.12.009>.
- Vansell, NR; Klaassen, CD. (2002). Effect of microsomal enzyme inducers on the biliary excretion of triiodothyronine (T(3)) and its metabolites. *Toxicol Sci.* 65: 184-191. <http://dx.doi.org/10.1093/toxsci/65.2.184>.
- Velsicol Chem Corp. (1978). Industrial hygiene survey, Velsicol Chemical Corporation, El Dorado, Ark Plant, Fire Master 680 Unit and semi-works summary with attachments and cover letter dated 071978 [TSCA Submission]. (EPA/OTS Doc #88-7800228). Chicago, IL. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0200544>.

Exposure Literature Search Results

Off Topic

- Velsicol Chem Corp. (1990). INTERNAL MEMO FROM VELSICOL CHEMICAL CORPORATION REGARDING HYDROLYSIS OF FIREMASTER 100 WITH TEST DATA AND COVER LETTER. (TSCATS/407263).
- Velsicol Chem Corp. (1990). PARTITION COEFFICIENT OF DICAMBA, ENDRIN VEL 3510 AND SEVERAL INDUSTRIAL CHEMICALS AND FLAME RETARDANTS LABORATORY REPORT WITH TEST DATA AND COVER LETTER. (TSCATS/407261).
- Velsicol Chem Corp. (1990). Water solubility of several industrial chemicals flame retardants and a herbicide vel-3510 laboratory report with test data and cover letter. (TSCATS/407262. OTS0523262. Doc I.D. 8690000270). Washington, DC: U.S. Environmental Protection Agency.
- Verslycke, TA; Vethaak, AD; Arijs, K; Janssen, CR. (2005). Flame retardants, surfactants and organotins in sediment and mysid shrimp of the Scheldt estuary (The Netherlands). *Environ Pollut*. 136: 19-31. <http://dx.doi.org/10.1016/j.envpol.2004.12.008>.
- Viberg, H; Fredriksson, A; Eriksson, P. (2002). Neonatal exposure to the brominated flame retardant 2,2',4,4',5-pentabromodiphenyl ether causes altered susceptibility in the cholinergic transmitter system in the adult mouse. *Toxicol Sci*. 67: 104-107.
- Viberg, H; Fredriksson, A; Eriksson, P. (2003). Neonatal exposure to polybrominated diphenyl ether (PBDE 153) disrupts spontaneous behaviour, impairs learning and memory, and decreases hippocampal cholinergic receptors in adult mice. *Toxicol Appl Pharmacol*. 192: 95-106. [http://dx.doi.org/10.1016/S0041-008X\(03\)00217-5](http://dx.doi.org/10.1016/S0041-008X(03)00217-5).
- Viberg, H; Fredriksson, A; Eriksson, P. (2004). Investigations of strain and/or gender differences in developmental neurotoxic effects of polybrominated diphenyl ethers in mice. *Toxicol Sci*. 81: 344-353. <http://dx.doi.org/10.1093/toxsci/kfh215>.
- Vilaplana, F; Karlsson, P; Ribes-Greus, A; Ivarsson, P; Karlsson, S. (2008). Analysis of brominated flame retardants in styrenic polymers. Comparison of the extraction efficiency of ultrasonication, microwave-assisted extraction and pressurised liquid extraction. *J Chromatogr A*. 1196-1197: 139-146. <http://dx.doi.org/10.1016/j.chroma.2008.05.001>.
- Von der Recke, R; Vetter, W. (2007). Synthesis and characterization of 2,3-dibromopropyl-2,4,6-tribromophenyl ether (DPTE) and structurally related compounds evidenced in seal blubber and brain. *Environ Sci Technol*. 41: 1590-1595. <http://dx.doi.org/10.1021/es062383s>.
- Vorkamp, K; Thomsen, M; Frederiksen, M; Pedersen, M; Knudsen, LE. (2011). Polybrominated diphenyl ethers (PBDEs) in the indoor environment and associations with prenatal exposure. *Environ Int*. 37: 1-10. <http://dx.doi.org/10.1016/j.envint.2010.06.001>.
- Waaaijers, SL; Hartmann, J; Soeter, AM; Helmus, R; Kools, SA; de Voogt, P; Admiraal, W; Parsons, JR; Kraak, MH. (2013). Toxicity of new generation flame retardants to *Daphnia magna*. *Sci Total Environ*. 463-464: 1042-1048. <http://dx.doi.org/10.1016/j.scitotenv.2013.06.110>.
- Wäger, PA; Schlupe, M; Müller, E; Gloor, R. (2012). RoHS regulated substances in mixed plastics from waste electrical and electronic equipment. *Environ Sci Technol*. 46: 628-635. <http://dx.doi.org/10.1021/es202518n>.
- Waner, T; Nyska, A. (1991). The toxicological significance of decreased activities of blood alanine and aspartate aminotransferase [Review]. *Vet Res Commun*. 15: 73-78. <http://dx.doi.org/10.1007/BF00497793>.
- Wang, D; Zhang, P; Wang, X; Wang, Y; Zhou, Z; Zhu, W. (2016). NMR- and LC-MS/MS-based urine metabolomic investigation of the subacute effects of hexabromocyclododecane in mice. *Environ Sci Pollut Res Int*. 23: 8500-8507. <http://dx.doi.org/10.1007/s11356-015-5940-2>.
- Wang, F; Zhang, H; Geng, N; Zhang, B; Ren, X; Chen, J. (2016). New Insights into the Cytotoxic Mechanism of Hexabromocyclododecane from a Metabolomic Approach. *Environ Sci Technol*. 50: 3145-3153. <http://dx.doi.org/10.1021/acs.est.5b03678>.
- Wang, G; Wu, H; Zhang, X; Zhang, H; Yang, X; Tian, X; Li, J; Xiang, W; Li, X. (2013). *Aliidiomarina sanyensis* sp. nov., a hexabromocyclododecane assimilating bacterium from the pool of *Spirulina platensis* cultivation, Sanya, China. *Antonie Van Leeuwenhoek*. 104: 309-314. <http://dx.doi.org/10.1007/s10482-013-9949-6>.
- Wang, H; Xue, Q; Tao, L; Ye, X; Liang, S; Li, Y; Niu, Z. (2013). [Determination of hexabromocyclododecane in coatings by gas chromatography-mass spectrometry]. *Sepu*. 31: 791-794.
- Wang, J, ia; Bever, CRS; Majkova, Z; Dechant, JE; Yang, J, un; Gee, SJ; Xu, T; Hammock, BD. (2014). Heterologous Antigen Selection of Camelid Heavy Chain Single Domain Antibodies against Tetrabromobisphenol A. *Anal Chem*. 86: 8296-8302. <http://dx.doi.org/10.1021/ac5017437>.
- Wang, J; Jia, X; Gao, S; Zeng, X; Li, H; Zhou, Z; Sheng, G; Yu, Z. (2016). Levels and distributions of polybrominated diphenyl ethers, hexabromocyclododecane, and tetrabromobisphenol A in sediments from Taihu Lake, China. *Environ Sci Pollut Res Int*. 23: 10361-10370. <http://dx.doi.org/10.1007/s11356-015-5511-6>.
- Wang, L; Lee, W; Lee, W; Chang-Chien, G. (2010). Emission estimation and congener-specific characterization of polybrominated diphenyl ethers from various stationary and mobile sources. *Environ Pollut*. 158: 3108-3115. <http://dx.doi.org/10.1016/j.envpol.2010.06.041>.
- Wang, L; Zhao, Q; Zhao, Y; Lou, Y; Zheng, M; Yu, Y; Zhang, M. (2016). Determination of heterocyclic brominated flame retardants tris-(2, 3-dibromopropyl) isocyanurate and hexabromocyclododecane in sediment from Jiaozhou Bay wetland. *Mar Pollut Bull*. 113: 509-512. <http://dx.doi.org/10.1016/j.marpolbul.2016.08.013>.
- Wang, X; Lu, M; Pei, Y; Lu, X; Du, X. (2015). Two mesoporous cellular foams materials and their adsorption properties to brominated flame retardants. *Journal of Porous Materials*. 22: 83-90. <http://dx.doi.org/10.1007/s10934-014-9875-7>.
- Wang, XM; Ding, X; Mai, BX; Xie, ZQ; Xiang, CH; Sun, LG; Sheng, GY; Fu, JM; Zeng, EY. (2005). Polybrominated diphenyl ethers in airborne particulates collected during a research expedition from the Bohai Sea to the Arctic. *Environ Sci Technol*. 39: 7803-7809. <http://dx.doi.org/10.1021/es051088p>.
- Wang, YW; Liu, HX; Zhao, CY; Liu, HX; Cai, ZW; Jiang, GB. (2005). Quantitative structure-activity relationship models for prediction of the toxicity of polybrominated diphenyl ether congeners. *Environ Sci Technol*. 39: 4961-4966. <http://dx.doi.org/10.1021/es050017n>.
- Weathers, W; Colon, M; Hines, A; Ulrich, EM. (2014). Use of fluorinated polybrominated diphenyl ethers and simplified cleanup for the analysis of polybrominated diphenyl ethers in house dust. *J Chromatogr A*. 1356: 266-271. <http://dx.doi.org/10.1016/j.chroma.2014.06.054>.
- Weeke, J; Gundersen, HJ. (1978). Circadian and 30 minutes variations in serum TSH and thyroid hormones in normal subjects. *Acta Endocrinol*. 89: 659-672.
- Weil, ED; Levchik, SV. (2007). Flame retardants for polystyrenes in commercial use or development. *J Fire Sci*. 25: 241-265. <http://dx.doi.org/10.1177/0734904107071607>.

Exposure Literature Search Results

Off Topic

- Weil, ED; Levchik, SV. (2008). Flame retardants in commercial use or development for textiles. *J Fire Sci.* 26: 243-281. <http://dx.doi.org/10.1177/0734904108089485>.
- Wheater, PR; Burkitt, HG. (1996). *Wheater's basic histopathology: a colour atlas and text*. New York: Churchill Livingstone.
- Wichmann, H; Dettmer, FT; Bahadir, M. (2002). Thermal formation of PBDD/F from tetrabromobisphenol A--a comparison of polymer linked TBBP A with its additive incorporation in thermoplastics. *Chemosphere.* 47: 349-355.
- Wikoff, D; Thompson, C; Perry, C; White, M; Borghoff, S; Fitzgerald, L; Haws, LC. (2015). Development of toxicity values and exposure estimates for tetrabromobisphenol A: application in a margin of exposure assessment. *J Appl Toxicol.* 35: 1292-1308. <http://dx.doi.org/10.1002/jat.3132>.
- WILDLIFE INTERNATIONAL LTD. (1997). FINAL REPORT, HEXABROMOCYCLODODECANE (HBCD): A 96-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE RAINBOW TROUT (*ONCORHYNCHUS MYKISS*), WITH COVER LETTER DATED 6/27/1997. (TSCATS/445565). WILDLIFE INTERNATIONAL LTD.
- WILDLIFE INTERNATIONAL LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 48-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE CLADOCERAN (*DAPHNIA MAGNA*), WITH COVER LETTER DATED 6/20/97. (TSCATS/445050). WILDLIFE INTERNATIONAL LTD.
- Wildlife Intl LTD. (1996). HEXABROMOCYCLODODECANE (HBCD): CLOSED BOTTLE TEST WITH COVER LETTER DATED 12/12/1996. (TSCATS/453438).
- Wildlife Intl LTD. (1997). Hexabromocyclododecane (hbcdd): Determination of water solubility with cover letter dated 06/27/1997. (86970000798). Washington, DC: U.S. Environmental Protection Agency.
- Wilford, BH; Thomas, GO; Jones, KC; Davison, B; Hurst, DK. (2008). Decabromodiphenyl ether (deca-BDE) commercial mixture components, and other PBDEs, in airborne particles at a UK site. *Environ Int.* 34: 412-419. <http://dx.doi.org/10.1016/j.envint.2007.09.007>.
- Williams, AL; Desesso, JM. (2010). The potential of selected brominated flame retardants to affect neurological development [Review]. *J Toxicol Environ Health B Crit Rev.* 13: 411-448. <http://dx.doi.org/10.1080/10937401003751630>.
- Wong, F; Kurt-Karakus, P; Bidleman, TF. (2012). Fate of brominated flame retardants and organochlorine pesticides in urban soil: volatility and degradation. *Environ Sci Technol.* 46: 2668-2674. <http://dx.doi.org/10.1021/es203287x>.
- Wu, HH; Chen, HC; Ding, WH. (2009). Combining microwave-assisted extraction and liquid chromatography-ion-trap mass spectrometry for the analysis of hexabromocyclododecane diastereoisomers in marine sediments. *J Chromatogr A.* 1216: 7755-7760. <http://dx.doi.org/10.1016/j.chroma.2009.09.001>.
- Wu, M; Wu, D; Wang, C; Guo, Z; Li, B; Zuo, Z. (2016). Hexabromocyclododecane exposure induces cardiac hypertrophy and arrhythmia by inhibiting miR-1 expression via up-regulation of the homeobox gene *Nkx2.5*. *J Hazard Mater.* 302: 304-313. <http://dx.doi.org/10.1016/j.jhazmat.2015.10.004>.
- Wu, M; Zuo, Z; Li, B; Huang, L; Chen, M; Wang, C. (2013). Effects of low-level hexabromocyclododecane (HBCD) exposure on cardiac development in zebrafish embryos. *Ecotoxicology.* 22: 1200-1207. <http://dx.doi.org/10.1007/s10646-013-1107-4>.
- Wu, MH; Zhu, JY; Tang, L; Liu, N; Peng, BQ; Sun, R; Xu, G. (2014). Hexabromocyclododecanes in surface sediments from Shanghai, China: spatial distribution, seasonal variation and diastereoisomer-specific profiles. *Chemosphere.* 111: 304-311. <http://dx.doi.org/10.1016/j.chemosphere.2014.04.031>.
- Wu, T; Huang, H; Zhang, S. (2016). Accumulation and phytotoxicity of technical hexabromocyclododecane in maize. *J Environ Sci.* 42: 97-104. <http://dx.doi.org/10.1016/j.jes.2015.06.018>.
- Wu, T; Wang, S; Huang, H; Zhang, S. (2012). Diastereomer-Specific Uptake, Translocation, and Toxicity of Hexabromocyclododecane Diastereoisomers to Maize. *J Agric Food Chem.* 60: 8528-8534. <http://dx.doi.org/10.1021/jf302682p>.
- Xiang, N; Chen, L; Meng, XZ; Dai, X. (2014). Occurrence of hexabromocyclododecane (HBCD) in sewage sludge from Shanghai: Implications for source and environmental burden. *Chemosphere.* 118C: 207-212. <http://dx.doi.org/10.1016/j.chemosphere.2014.08.058>.
- Xiao, Z; Feng, J; Shi, Z; Li, J; Zhao, Y; Wu, Y. (2011). [Determination of three brominated flame retardants in human serum using solid-phase extraction coupled with ultra-performance liquid chromatography-tandem mass spectrometry and gas chromatography-mass spectrometry]. *Sepu.* 29: 1165-1172.
- Xu, C; Ou, J; Cui, Y; Wang, L; Lv, C; Liu, K; Wang, B; Xu, T; Li, QX; Liu, S. (2013). Development of a monoclonal antibody-based enzyme-linked immunosorbent assay for tetrabromobisphenol A. *Chemosphere.* 32: 113-118. <http://dx.doi.org/10.1089/mab.2012.0099>.
- Xu, D; Liu, X; Lu, R; Xue, P; Zhang, X; Zhou, H; Jia, J. (2011). New dendritic gelator bearing carbazole in each branching unit: selected response to fluoride ion in gel phase. *Org Biomol Chem.* 9: 1523-1528. <http://dx.doi.org/10.1039/c0ob00786b>.
- Xu, J; Zhang, Y; Guo, C; He, Y; Li, L; Meng, W. (2013). Levels and distribution of tetrabromobisphenol a and hexabromocyclododecane in Taihu Lake, China. *Environ Toxicol Chem.* 32: 2249-2255. <http://dx.doi.org/10.1002/etc.2318>.
- Xu, T; Wang, J; Liu, SZ; Lü, C; Shelver, WL; Li, QX; Li, J. (2012). A highly sensitive and selective immunoassay for the detection of tetrabromobisphenol A in soil and sediment. *Anal Chim Acta.* 751: 119-127. <http://dx.doi.org/10.1016/j.aca.2012.06.030>.
- Xu, Z; Juan, L; MinJie, C; Le, W; Chi, Z; Jie, Z; QunFang, Z; Yong, L. (2011). Toxicity of the brominated flame retardant tris-(2,3-dibromopropyl) isocyanurate in zebrafish (*Danio rerio*). *Chin Sci Bull.* 56: 1548-1555. <http://dx.doi.org/10.1007/s11434-011-4471-6>.
- Yanagisawa, R; Koike, E; Win-Shwe, TT; Yamamoto, M; Takano, H. (2014). Impaired lipid and glucose homeostasis in hexabromocyclododecane-exposed mice fed a high-fat diet. *Environ Health Perspect.* 122: 277-283. <http://dx.doi.org/10.1289/ehp.1307421>.
- Yang, C; Rose, NL; Turner, SD; Yang, H; Goldsmith, B; Losada, S; Barber, JL; Harrad, S. (2016). Hexabromocyclododecanes, polybrominated diphenyl ethers, and polychlorinated biphenyls in radiometrically dated sediment cores from English lakes, ~1950-present. *Sci Total Environ.* 541: 721-728. <http://dx.doi.org/10.1016/j.scitotenv.2015.09.102>.
- Yang, R; Wei, H; Guo, J; Li, A. (2012). Emerging brominated flame retardants in the sediment of the Great Lakes. *Environ Sci Technol.* 46: 3119-3126. <http://dx.doi.org/10.1021/es204141p>.
- Yu, D; Yang, J; Li, T; Feng, J; Xian, Q; Zhu, J. (2015). Levels and distribution of dechloranes in sediments of Lake Taihu, China. *Environ Sci Pollut Res Int.* 22: 6601-6609. <http://dx.doi.org/10.1007/s11356-014-3794-7>.

Exposure Literature Search Results

Off Topic

- Yu, L, i; Liu, L; Song, S; Kuang, H, ua; Xu, C. (2016). Development of an immunochromatographic test strip and ic-ELISA for tetrabromobisphenol: a detection in lake water and rice pudding samples. *Food and Agricultural Immunology*. 27: 460-470. <http://dx.doi.org/10.1080/09540105.2015.1126234>.
- Yu, Y; Zhou, D; Wu, F. (2015). Mechanism and products of the photolysis of hexabromocyclododecane in acetonitrile-water solutions under a UV-C lamp. *Chem Eng J*. 281: 892-899. <http://dx.doi.org/10.1016/j.cej.2015.07.031>.
- Zeller. (1962). Assessment of a possible irritating potential to the eye and to the eye mucosa. Letter from BASF to EPA. Zeller.
- Zeng, W; Terada, T. (2000). Freezability of boar spermatozoa is improved by exposure to 2-hydroxypropyl-beta-cyclodextrin. *Reprod Fertil Dev*. 12: 223-228.
- Zeng, WX; Terada, T. (2001). Protection of boar spermatozoa from cold shock damage by 2-hydroxypropyl-beta-cyclodextrin. *Theriogenology*. 55: 615-627.
- Zeng, Y; Luo, X; Chen, H; Wu, JP; Chen, S; Mai, B, iX. (2012). Separation of polybrominated diphenyl ethers in fish for compound-specific stable carbon isotope analysis. *Sci Total Environ*. 425: 208-213. <http://dx.doi.org/10.1016/j.scitotenv.2012.03.014>.
- Zhang, CC; Zhang, F, uS. (2014). Recovery of triphenyl phosphate from waste printed circuit boards by solvothermal process. *Chem Eng J*. 240: 10-15. <http://dx.doi.org/10.1016/j.cej.2013.11.048>.
- Zhang, H; Kuo, YY; Gerecke, AC; Wang, J. (2012). Co-release of hexabromocyclododecane (HBCD) and Nano- and microparticles from thermal cutting of polystyrene foams. *Environ Sci Technol*. 46: 10990-10996. <http://dx.doi.org/10.1021/es302559v>.
- Zhang, H; Pan, L; Tao, Y. (2014). Antioxidant responses in clam *Venerupis philippinarum* exposed to environmental pollutant hexabromocyclododecane. *Environ Sci Pollut Res Int*. 21: 8206-8215. <http://dx.doi.org/10.1007/s11356-014-2801-3>.
- Zhang, H, ui; Pan, L; Tao, Y; Tian, S; Hu, Y. (2013). Identification and expression of differentially expressed genes in clam *Venerupis philippinarum* in response to environmental pollutant hexabromocyclododecane (HBCD). *Exp Mar Bio Ecol*. 445: 166-173. <http://dx.doi.org/10.1016/j.jembe.2013.03.002>.
- Zhang, J; Abdallah, MA; Williams, TD; Harrad, S; Chipman, JK; Viant, MR. (2016). Gene expression and metabolic responses of HepG2/C3A cells exposed to flame retardants and dust extracts at concentrations relevant to indoor environmental exposures. *Chemosphere*. 144: 1996-2003. <http://dx.doi.org/10.1016/j.chemosphere.2015.10.014>.
- Zhang, K; Huang, J; Wang, H; Liu, K; Yu, G; Deng, S; Wang, B. (2014). Mechanochemical degradation of hexabromocyclododecane and approaches for the remediation of its contaminated soil. *Chemosphere*. 116: 40-45. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.006>.
- Zhang, X; Yang, F; Zhang, X; Xu, Y; Liao, T; Song, S; Wang, J. (2008). Induction of hepatic enzymes and oxidative stress in Chinese rare minnow (*Gobiocypris rarus*) exposed to waterborne hexabromocyclododecane (HBCDD). *Aquat Toxicol*. 86: 4-11. <http://dx.doi.org/10.1016/j.aquatox.2007.07.002>.
- Zhang, X; Zhang, D; Luo, Z; Lin, L; Yan, C. (2011). Diastereoisomer- and enantiomer-specific profiles of hexabromocyclododecane in the sediment of Dongjiang River, South China. *Environ Chem*. 8: 561-568. <http://dx.doi.org/10.1071/EN10136>.
- Zhang, Y; Ruan, Y; Sun, H; Zhao, L; Gan, Z. (2013). Hexabromocyclododecanes in surface sediments and a sediment core from Rivers and Harbor in the northern Chinese city of Tianjin. *Chemosphere*. 90: 1610-1616. <http://dx.doi.org/10.1016/j.chemosphere.2012.08.037>.
- Zhang, Y; Sun, H; Ruan, Y. (2014). Enantiomer-specific accumulation, depuration, metabolization and isomerization of hexabromocyclododecane (HBCD) diastereoisomers in mirror carp from water. *J Hazard Mater*. 264: 8-15. <http://dx.doi.org/10.1016/j.jhazmat.2013.10.062>.
- Zhang, Y; Wang, L; Sun, H; Yao, T; Zhu, H; Xu, J; Liu, X. (2016). Impacts of loach bioturbation on the selective bioaccumulation of HBCDD diastereoisomers and enantiomers by mirror carp in a microcosm. *Chemosphere*. 163: 471-479. <http://dx.doi.org/10.1016/j.chemosphere.2016.08.065>.
- Zhao, L; Yang, J; Zhan, S; Jiang, J; Yang, S. (2016). BIOREMEDIATION OF SEDIMENT CONTAMINATED WITH DECBROMODIPHENYL ETHER (BDE-209) BY COMPOSTING. *Fresen Environ Bull*. 25: 3700-3708.
- Zhao, YY; Zhang, XH; Sojiniu, OS. (2010). Thermodynamics and photochemical properties of alpha, beta, and gamma-hexabromocyclododecanes: a theoretical study. *Chemosphere*. 80: 150-156. <http://dx.doi.org/10.1016/j.chemosphere.2010.04.002>.
- Zheng, J; Wang, J; Luo, XJ; Tian, M; He, LY; Yuan, JG; Mai, BX; Yang, ZY. (2010). Dechlorane Plus in human hair from an e-waste recycling area in South China: comparison with dust. *Environ Sci Technol*. 44: 9298-9303. <http://dx.doi.org/10.1021/es103105x>.
- Zheng, X; Erratico, C; Abdallah, MA; Negreira, N; Luo, X; Mai, B; Covaci, A. (2015). In vitro metabolism of BDE-47, BDE-99, and alpha-, beta-, gamma-HBCD isomers by chicken liver microsomes. *Environ Res*. 143: 221-228. <http://dx.doi.org/10.1016/j.envres.2015.10.023>.
- Zheng, X; Erratico, C; Luo, X; Mai, B; Covaci, A. (2016). Oxidative metabolism of BDE-47, BDE-99, and HBCDs by cat liver microsomes: Implications of cats as sentinel species to monitor human exposure to environmental pollutants. *Chemosphere*. 151: 30-36. <http://dx.doi.org/10.1016/j.chemosphere.2016.02.054>.
- Zhong, Y; Peng, P; Yu, Z; Deng, H. (2010). Effects of metals on the transformation of hexabromocyclododecane (HBCD) in solvents: implications for solvent-based recycling of brominated flame retardants. *Chemosphere*. 81: 72-78. <http://dx.doi.org/10.1016/j.chemosphere.2010.06.061>.
- Zhou, D; Wu, Y; Feng, X; Chen, Y; Wang, Z; Tao, T; Wei, D. (2014). Photodegradation of hexabromocyclododecane (HBCD) by Fe(III) complexes/H₂O₂ under simulated sunlight. *Environ Sci Pollut Res Int*. 21: 6228-6233. <http://dx.doi.org/10.1007/s11356-014-2553-0>.
- Zhou, DN; Chen, L; Wu, F; Wang, J; Yang, F. (2012). DEBROMINATION OF HEXABROMOCYCLODODECANE IN AQUEOUS SOLUTIONS BY UV-C IRRADIATION. *Fresen Environ Bull*. 21: 107-111.
- Zhou, T; Ross, DG; DeVito, MJ; Crofton, KM. (2001). Effects of short-term in vivo exposure to polybrominated diphenyl ethers on thyroid hormones and hepatic enzyme activities in weanling rats. *Toxicol Sci*. 61: 76-82.
- Zhou, T; Taylor, MM; Devito, MJ; Crofton, KM. (2002). Developmental exposure to brominated diphenyl ethers results in thyroid hormone disruption. *Toxicol Sci*. 66: 105-116. <http://dx.doi.org/10.1093/toxsci/66.1.105>.

Exposure Literature Search Results

Off Topic

- Zhou, X; Guo, J, ie; Zhang, W, ei; Zhou, P; Deng, J; Lin, K. (2014). Tetrabromobisphenol A contamination and emission in printed circuit board production and implications for human exposure. *J Hazard Mater.* 273: 27-35. <http://dx.doi.org/10.1016/j.jhazmat.2014.03.003>.
- Zhu, J; Feng, YL; Shoeib, M. (2007). Detection of dechlorane plus in residential indoor dust in the city of Ottawa, Canada. *Environ Sci Technol.* 41: 7694-7698. <http://dx.doi.org/10.1021/es071716y>.
- Zhu, J; Hou, Y; Feng, YL; Shoeib, M; Harner, T. (2008). Identification and determination of hexachlorocyclopentadienyl-dibromocyclooctane (HCDBCO) in residential indoor air and dust: a previously unreported halogenated flame retardant in the environment. *Environ Sci Technol.* 42: 386-391. <http://dx.doi.org/10.1021/es702272s>.
- Zhu, LY; Hites, RA. (2005). Brominated flame retardants in sediment cores from Lakes Michigan and Erie.[erratum appears in *Environ Sci Technol.* 2005 Aug 1;39(15):5904]. *Environ Sci Technol.* 39: 3488-3494. <http://dx.doi.org/10.1021/es048240s>.
- Zieminska, E; Stafiej, A; Toczyłowska, B; Lazarewicz, JW. (2012). Acute Cytotoxicity Evoked by Tetrabromobisphenol A in Primary Cultures of Rat Cerebellar Granule Cells Outweighs the Effects of Polychlorinated Biphenyls. *Pol J Environ Stud.* 21: 1079-1087.
- Zimmer, KE; Montaña, M; Olsaker, I; Dahl, E; Berg, V; Karlsson, C; Murk, AJ; Skaare, JU; Ropstad, E; Verhaegen, S. (2011). In vitro steroidogenic effects of mixtures of persistent organic pollutants (POPs) extracted from burbot (*Lota lota*) caught in two Norwegian lakes. *Sci Total Environ.* 409: 2040-2048. <http://dx.doi.org/10.1016/j.scitotenv.2011.01.055>.
- Zitko, V. (1993). Expanded polystyrene as a source of contaminants. *Mar Pollut Bull.* 26: 584-585.
- Zitko, V. (1994). TLC DETECTION OF BROMINATED FLAME RETARDANTS IN STYROFOAM. *Chemosphere.* 28: 1211-1215.
- Zorrilla, LM; Gibson, EK; Jeffay, SC; Crofton, KM; Setzer, WR; Cooper, RL; Stoker, TE. (2009). The effects of triclosan on puberty and thyroid hormones in male Wistar rats. *Toxicol Sci.* 107: 56-64. <http://dx.doi.org/10.1093/toxsci/kfn225>.
- Zou, W; Chen, C; Zhong, Y; An, J; Zhang, X; Yu, Y; Yu, Z; Fu, J. (2013). PI3K/Akt pathway mediates Nrf2/ARE activation in human L02 hepatocytes exposed to low-concentration HBCDs. *Environ Sci Technol.* 47: 12434-12440. <http://dx.doi.org/10.1021/es401791s>.
- Zou, Y; Christensen, ER; Li, A, n. (2013). Characteristic pattern analysis of polybromodiphenyl ethers in Great Lakes sediments: a combination of eigenspace projection and positive matrix factorization analysis. *Environmetrics.* 24: 41-50. <http://dx.doi.org/10.1002/env.2188>.

Environmental Hazard Literature Search Results

On Topic

- Almroth, BCS, J. Berglund, A. Forlin, L. (2005). Oxidative damage in eelpout (*Zoarces viviparus*), measured as protein carbonyls and TBARS, as biomarkers. *Aquat Toxicol.* 73: 171-180. <http://dx.doi.org/10.1016/j.aquatox.2005.03.007>.
- Aniagu, SOW, T. D. Allen, Y. Katsiadaki, I. Chipman, J. K. (2008). Global genomic methylation levels in the liver and gonads of the three-spine stickleback (*Gasterosteus aculeatus*) after exposure to hexabromocyclododecane and 17-beta oestradiol. *Environ Int.* 34: 310-317. <http://dx.doi.org/10.1016/j.envint.2007.03.009>.
- Aniagu, SOW, T. D. Chipman, J. K. (2009). Changes in Gene Expression and Assessment of DNA Methylation in Primary Human Hepatocytes and HepG2 Cells Exposed to the Environmental Contaminants - Hexabromocyclododecane and 17-beta Oestradiol. 256: 143-151.
- Anselmo, HMRK, L. Devito, S. van den Berg, J. H. J. Dubbeldam, M. Kwadijk, C. Murk, A. J. (2011). Early life developmental effects of marine persistent organic pollutants on the sea urchin *Psammechinus miliaris*. *Ecotoxicol Environ Saf.* 74: 2182-2192. <http://dx.doi.org/10.1016/j.ecoenv.2011.07.037>.
- Association, CM. (1997). Letter from Chem Mfgs Assoc to USEPA Regarding: Toxicity Studies on Hexabromocyclododecane, Pentabromodiphenyl Oxide, and Octabromodiphenyl Oxide with Attachments, Dated 11/26/1996. 222 p.
- Bradshaw, CN, J. Hansen, J. Kozłowski-Suzuki, B. Sundström, B. Gustafsson, K. (2015). Hexabromocyclododecane affects benthic-pelagic coupling in an experimental ecosystem. *Environ Pollut.* 206: 306-314. <http://dx.doi.org/10.1016/j.envpol.2015.07.012>.
- Bradshaw, CS, A. von Stedingk, H. Gustafsson, K. (2015). Effects of benthos, temperature, and dose on the fate of hexabromocyclododecane in experimental coastal ecosystems. *Environ Toxicol Chem.* 34: 1246-1257. <http://dx.doi.org/10.1002/etc.2947>.
- Brandsma, SHVdV, L. T. De Boer, J. Leonards, P. E. (2009). Identification of hydroxylated metabolites of hexabromocyclododecane in wildlife and 28-days exposed Wistar rats. *Environ Sci Technol.* 43: 6058-6063. <http://dx.doi.org/10.1021/es900879k>.
- Bysse, SE. (1990). Bioconcentration Factor in Aquatic Organisms. 5: 5.1 - 5.30.
- Cantón, RFP, A. A. Hoogenboom, R. L. Piersma, A. H. van der Ven, L. T. van den Berg, M. Heneweer, M. (2008). Subacute effects of hexabromocyclododecane (HBCD) on hepatic gene expression profiles in rats. *Toxicol Appl Pharmacol.* 231: 267-272. <http://dx.doi.org/10.1016/j.taap.2008.04.013>.
- Co, SO. (1982). Flame Retardant Polypropylene - Evaluation of New Additives - Toxicity and Environmental Aspects - with Cover Letter. 29 p.
- Connell, DWS, G. (1988). EVALUATION OF VARIOUS MOLECULAR PARAMETERS AS PREDICTORS OF BIOCONCENTRATION IN FISH. *Ecotoxicol Environ Saf.* 15: 324-335.
- Corp, E. (1982). Hexachlorobutadiene/Baton Rouge Plant with Attachment & Cover Letter. 26 p.
- Corp, E. (1994). Initial Submission: Letter from Ethyl Corp to USEPA re Technical and Toxicity Data on Brominated Flame Retardants Including Hexabromocyclododecane, * w/Attchmts, Dated 5/23/88. 40 p.
- Corp, GLC. (1994). Initial Submission: Letter from Great Lakes Chem Corp to Corp/USEPA Submitting Info re Hexabromocyclododecane and bis(Tribromophenoxy) Ethane w/Attchmts, Dated 2/13/89. 203 p.
- Corp, UC. (1990). The Acute Toxicity of HBCD Lot 990-17 to the Bluegill Sunfish *Lepomis macrochirus rafinesque* with Test Data and Cover Letter.
- Crump, DE, C. Chiu, S. Letcher, R. J. Chu, S. Kennedy, S. W. (2010). Pipping success, isomer-specific accumulation, and hepatic mRNA expression in chicken embryos exposed to HBCD. *Toxicol Sci.* 115: 492-500. <http://dx.doi.org/10.1093/toxsci/kfq068>.
- Darnerud, PO. (2003). Toxic effects of brominated flame retardants in man and in wildlife [Review]. *Environ Int.* 29: 841-853. [http://dx.doi.org/10.1016/S0160-4120\(03\)00107-7](http://dx.doi.org/10.1016/S0160-4120(03)00107-7).

Environmental Hazard Literature Search Results

On Topic

- Deng, JY, L. Liu, C. Yu, K. Shi, X. Yeung, L. W. Lam, P. K. Wu, R. S. Zhou, B. (2009). Hexabromocyclododecane-induced developmental toxicity and apoptosis in zebrafish embryos. *Aquat Toxicol.* 93: 29-36. <http://dx.doi.org/10.1016/j.aquatox.2009.03.001>.
- Du, MF, C. Qiu, L. Dong, S. Zhang, X. Yan, C. (2015). Diastereoisomer-specific effects of hexabromocyclododecanes on hepatic aryl hydrocarbon receptors and cytochrome P450s in zebrafish (*Danio rerio*). *Chemosphere.* 132: 24-31. <http://dx.doi.org/10.1016/j.chemosphere.2015.02.049>.
- Du, ML, L. Yan, C. Zhang, X. (2012). Diastereoisomer- and enantiomer-specific accumulation, depuration, and bioisomerization of hexabromocyclododecanes in zebrafish (*Danio rerio*). *Environ Sci Technol.* 46: 11040-11046. <http://dx.doi.org/10.1021/es302166p>.
- Du, ML, L. Yan, C. Wang, C. Zhang, X. (2013). Enantiomer-specific bioaccumulation and depuration of hexabromocyclododecanes in zebrafish (*Danio rerio*). *J Hazard Mater.* 248-249: 167-171. <http://dx.doi.org/10.1016/j.jhazmat.2012.12.046>.
- Du, MZ, D. Yan, C. Zhang, X. (2012). Developmental toxicity evaluation of three hexabromocyclododecane diastereoisomers on zebrafish embryos. *Aquat Toxicol.* 112-113: 1-10. <http://dx.doi.org/10.1016/j.aquatox.2012.01.013>.
- Esslinger, SB, R. Müller-Belecke, A. Bremser, W. Jung, C. Nehls, I. (2010). HBCD stereoisomer pattern in mirror carps following dietary exposure to pure gamma-HBCD enantiomers. *J Agric Food Chem.* 58: 9705-9710. <http://dx.doi.org/10.1021/jf101469q>.
- Feng, MQ, R. Wang, C. Wang, L. Wang, Z. (2013). Comparative antioxidant status in freshwater fish *Carassius auratus* exposed to six current-use brominated flame retardants: A combined experimental and theoretical study. *Aquat Toxicol.* 140-141: 314-323. <http://dx.doi.org/10.1016/j.aquatox.2013.07.001>.
- Fernie, KJM, S. C. Bird, D. M. Ritchie, I. J. Letcher, R. J. (2011). Reproductive changes in American kestrels (*Falco sparverius*) in relation to exposure to technical hexabromocyclododecane flame retardant. *Environ Toxicol Chem.* 30: 2570-2575. <http://dx.doi.org/10.1002/etc.652>.
- Fernie, KJS, J. L. Letcher, R. J. Ritchie, I. J. Bird, D. M. (2009). Environmentally relevant concentrations of DE-71 and HBCD alter eggshell thickness and reproductive success of American kestrels. *Environ Sci Technol.* 43: 2124-2130. <http://dx.doi.org/10.1021/es8027346>.
- Foekema, EMLP, M. Mergia, M. T. Carolus, E. R. Vd Berg, J. H. Kwadijk, C. Dao, Q. Murk, A. J. (2014). Internal effect concentrations of organic substances for early life development of egg-exposed fish. *Ecotoxicol Environ Saf.* 101: 14-22. <http://dx.doi.org/10.1016/j.ecoenv.2013.12.006>.
- Fournier, AF, C. Marchand, P. Venisseau, A. Le Bizec, B. Sellier, N. Engel, E. Ratel, J. Travel, A. Jondreville, C. (2012). Kinetic Study of gamma-Hexabromocyclododecane Orally Given to Laying Hens (*Gallus domesticus*) "Transfer of HBCD in Laying Hens". 19: 440-447.
- Galantino-Homer, HLZ, W. X. Megee, S. O. Dallmeyer, M. Voelkl, D. Dobrinski, I. (2006). Effects of 2-hydroxypropyl-beta-cyclodextrin and cholesterol on porcine sperm viability and capacitation status following cold shock or incubation. *Mol Reprod Dev.* 73: 638-650. <http://dx.doi.org/10.1002/mrd.20437>.
- Germer, SP, A. H. van der Ven, L. Kamyschnikow, A. Fery, Y. Schmitz, H. J. Schrenk, D. (2006). Subacute effects of the brominated flame retardants hexabromocyclododecane and tetrabromobisphenol A on hepatic cytochrome P450 levels in rats. *Toxicology.* 218: 229-236. <http://dx.doi.org/10.1016/j.tox.2005.10.019>.
- Hakk, H. (2016). Comparative Metabolism Studies of Hexabromocyclododecane (HBCD) Diastereoisomers in Male Rats Following a Single Oral Dose. *Environ Sci Technol.* 50: 89-96. <http://dx.doi.org/10.1021/acs.est.5b04510>.
- Hakk, HS, D. T. Huwe, J. Diliberto, J. Birnbaum, L. S. (2012). Novel and Distinct Metabolites Identified Following a Single Oral Dose of alpha- or gamma-Hexabromocyclododecane in Mice. 46: 13494-13503.
- Hamers, TK, J. H. Sonneveld, E. Murk, A. J. Kester, M. H. Andersson, P. L. Legler, J. Brouwer, A. (2006). In vitro profiling of the endocrine-disrupting potency of brominated flame retardants. *Toxicol Sci.* 92: 157-173. <http://dx.doi.org/10.1093/toxsci/kfj187>.
- Hardy, ML. (2004). A comparison of the fish bioconcentration factors for brominated flame retardants with their nonbrominated analogues. *Environ Toxicol Chem.* 23: 656-661.
- Harju, MH, T. Kamstra, J. H. Sonneveld, E. Boon, J. P. Tysklind, M. Andersson, P. L. (2007). Quantitative structure-activity relationship modeling on in vitro endocrine effects and metabolic stability involving 26 selected brominated flame retardants. *Environ Toxicol Chem.* 26: 816-826. <http://dx.doi.org/10.1897/06-308R.1>.
- Haukås, MM, E. Ruus, A. Tollefsen, K. E. (2009). Accumulation and disposition of hexabromocyclododecane (HBCD) in juvenile rainbow trout (*Oncorhynchus mykiss*). *Aquat Toxicol.* 95: 144-151. <http://dx.doi.org/10.1016/j.aquatox.2009.08.010>.
- Haukås, MR, A. Hylland, K. Berge, J. A. Mariussen, E. (2010). Bioavailability of hexabromocyclododecane to the polychaete *Hediste diversicolor*: exposure through sediment and food from a contaminated fjord. *Environ Toxicol Chem.* 29: 1709-1715. <http://dx.doi.org/10.1002/etc.201>.
- Hong, HL, D. Shen, R. Wang, X. Shi, D. (2014). Mechanisms of hexabromocyclododecanes induced developmental toxicity in marine medaka (*Oryzias melastigma*) embryos. *Aquat Toxicol.* 152: 173-185. <http://dx.doi.org/10.1016/j.aquatox.2014.04.010>.
- Hong, HS, R. Liu, W. Li, D. Huang, L. Shi, D. (2015). Developmental toxicity of three hexabromocyclododecane diastereoisomers in embryos of the marine medaka *Oryzias melastigma*. *Mar Pollut Bull.* 101: 110-118. <http://dx.doi.org/10.1016/j.marpolbul.2015.11.009>.
- Hu, FP, L. Xiu, M. Jin, Q. Wang, G. Wang, C. (2015). Bioaccumulation and detoxification responses in the scallop *Chlamys farreri* exposed to tetrabromobisphenol A (TBBPA). *Environ Toxicol Pharmacol.* 39: 997-1007. <http://dx.doi.org/10.1016/j.etap.2015.03.006>.
- Hu, FP, L. Xiu, M. Jin, Q. (2015). Exposure of *Chlamys farreri* to tetrabromobisphenol A: accumulation and multibiomarker responses. *Environ Sci Pollut Res Int.* 22: 12224-12234. <http://dx.doi.org/10.1007/s11356-015-4487-6>.
- Hu, JL, Y. Chen, M. Wang, X. (2009). Assessing the toxicity of TBBPA and HBCD by zebrafish embryo toxicity assay and biomarker analysis. *Environ Toxicol.* 24: 334-342. <http://dx.doi.org/10.1002/tox.20436>.
- Ibhazehiebo, KI, T. Shimokawa, N. Koibuchi, N. (2011). 1,2,5,6,9,10-alphaHexabromocyclododecane (HBCD) Impairs Thyroid Hormone-Induced Dendrite Arborization of Purkinje Cells and Suppresses Thyroid Hormone Receptor-Mediated Transcription. 10: 22-31.
- Inc, A. (1990). Letter from Ameribrom Inc to US EPA Regarding 8d Submission for Hexabromocyclododecane with Attachments. 72 p.

Environmental Hazard Literature Search Results

On Topic

- Jang, MS, W. J. Han, G. M. Rani, M. Song, Y. K. Hong, S. H. (2016). Styrofoam Debris as a Source of Hazardous Additives for Marine Organisms. *Environ Sci Technol.* 50: 4951-4960. <http://dx.doi.org/10.1021/acs.est.5b05485>.
- Kuiper, RV. (2007). Toxicity of Brominated Flame Retardants in Fish, with Emphasis on Endocrine Effects and Reproduction. 139 p.
- Kuiper, RVC, R. F. Leonards, P. E. Janssen, B. M. Dubbeldam, M. Wester, P. W. van den Berg, M. Vos, J. G. Vethaak, A. D. (2007). Long-term exposure of European flounder (*Platichthys flesus*) to the flame-retardants tetrabromobisphenol A (TBBPA) and hexabromocyclododecane (HBCD). *Ecotoxicol Environ Saf.* 67: 349-360. <http://dx.doi.org/10.1016/j.ecoenv.2006.12.001>.
- Law, KP, V. P. Halldorson, T. Danell, R. Wautier, K. Evans, B. Alaee, M. Marvin, C. Tomy, G. T. (2006). Dietary accumulation of hexabromocyclododecane diastereoisomers in juvenile rainbow trout (*Oncorhynchus mykiss*). I: Bioaccumulation parameters and evidence of bioisomerization. *Environ Toxicol Chem.* 25: 1757. <http://dx.doi.org/10.1897/05-445r.1>.
- Letcher, RJM, L. C. Marteinson, S. C. Bird, D. Ritchie, I. J. Fernie, K. J. (2015). Uptake, distribution, depletion, and in ovo transfer of isomers of hexabromocyclododecane flame retardant in diet-exposed American kestrels (*Falco sparverius*). *Environ Toxicol Chem.* 34: 1103-1112. <http://dx.doi.org/10.1002/etc.2903>.
- Li, BY, T. Sun, H. Zhang, Y. Yang, J. (2016). Diastereomer- and enantiomer-specific accumulation, depuration, bioisomerization, and metabolism of hexabromocyclododecanes (HBCDs) in two ecologically different species of earthworms. *Sci Total Environ.* 542: 427-434. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.100>.
- Li, BZ, H. Sun, H. Xu, J. (2017). Effects of the Amendment of Biochars and Carbon Nanotubes on the Bioavailability of Hexabromocyclododecanes (HBCDs) in Soil to Ecologically Different Species of Earthworms. 222: 191-200.
- Li, YZ, Q. Wang, Y. Xie, X. (2011). Fate of tetrabromobisphenol A and hexabromocyclododecane brominated flame retardants in soil and uptake by plants. *Chemosphere.* 82: 204-209. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.021>.
- Lilienthal, HvdV, L. T. Piersma, A. H. Vos, J. G. (2009). Effects of the brominated flame retardant hexabromocyclododecane (HBCD) on dopamine-dependent behavior and brainstem auditory evoked potentials in a one-generation reproduction study in Wistar rats. *Toxicol Lett.* 185: 63-72. <http://dx.doi.org/10.1016/j.toxlet.2008.12.002>.
- Lower, N. (2008). The Effects of Contaminants on Various Life-Cycle Stages of Atlantic Salmon (*Salmo salar* L.). 350 p. (UMI#U492144).
- Lower, NM, A. (2007). The impact of a brominated flame retardant on smoltification and olfactory function in Atlantic salmon (*Salmo salar* L.) smolts. *Mar Behav Physiol.* 40: 267-284. <http://dx.doi.org/10.1080/10236240701592104>.
- Ltd, WI. (1997). Final report, hexabromocyclododecane (hbcd): a 96-hour flow-through acute toxicity test with the rainbow trout (*oncorhynchus mykiss*), with cover letter dated 6/27/1997.
- Ltd, WI. (1997). Hexabromocyclododecane (HBCD): A 48-Hour Flow-Through Acute Toxicity Test with the Cladoceran (*Daphnia magna*) with Cover Letter Dated 06/20/1997. (EPA/OTS 1097-1300).
- Ltd, WI. (1997). Letter from Chem Mfgs Assoc to USEPA Regarding: Toxicological Investigation of Hexabromocyclododecane (HBCD) with Attachments, Dated 06/27/1997. 328.
- Ltd, WI. (1998). Hexabromocyclododecane (HBCD): a Flow-Through Life-Cycle Toxicity Test with the Cladoceran (*Daphnia magna*), with Cover Letter Dated 5/18/1998.
- Ltd, WI. (1998). Initial Submission: Hexabromocyclododecane (HBCD) - A Flow-Through Life-Cycle Toxicity Test with the Cladoceran (*Daphnia magna*), Final Report, with Cover Letter Dated 5/18/1998. (EPA/OTS 0698-1333).
- Ltd, WI. (2000). Letter from amer chem cncl submitting flow-through bioconcentration test w/rainbow trout & end-user survey-phase 1 study of brominated flame retardant, w/attachmts & dated 8/28/00. 183 p. (NTIS/OTS0001392).
- Ltd, WI. (2001). Initial Submission: Ltr Fr Acc to USEPA Submitting Environmental Effects Studies with Hexabromocyclododecane & Decabromodiphenyl Oxide, W/Attachments & Dated 121101. 333 p. (NTIS/OTS 0574262).
- Luo, XJR, W. Zeng, Y. H. Liu, H. Y. Chen, S. J. Wu, J. P. Mai, B. X. (2013). Trophic dynamics of hexabromocyclododecane diastereomers and enantiomers in fish in a laboratory feeding study. *Environ Toxicol Chem.* 32: 2565-2570. <http://dx.doi.org/10.1002/etc.2337>.
- Mackay, D. (1982). Correlation of Bioconcentration Factors. 16: 274-278.
- Marteinson, SCB, D. M. Letcher, R. J. Sullivan, K. M. Ritchie, I. J. Fernie, K. J. (2012). Dietary exposure to technical hexabromocyclododecane (HBCD) alters courtship, incubation and parental behaviors in American kestrels (*Falco sparverius*). *Chemosphere.* 89: 1077-1083. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.073>.
- Marteinson, SCE, I. Jaspers, V. L. Covaci, A. Eens, M. Letcher, R. J. Fernie, K. J. (2017). Transfer of hexabromocyclododecane flame retardant isomers from captive American kestrel eggs to feathers and their association with thyroid hormones and growth. *Environ Pollut.* 220: 441-451. <http://dx.doi.org/10.1016/j.envpol.2016.09.086>.
- Marvin, CHT, G. T. Armitage, J. M. Arnot, J. A. McCarty, L. Covaci, A. Palace, V. (2011). Hexabromocyclododecane: current understanding of chemistry, environmental fate and toxicology and implications for global management. *Environ Sci Technol.* 45: 8613-8623. <http://dx.doi.org/10.1021/es201548c>.
- Miller-Rhodes, PP, M. Goetze, C. Tirabassi, T. Johnson, L. Markowski, V. P. (2014). Prenatal exposure to the brominated flame retardant hexabromocyclododecane (HBCD) impairs measures of sustained attention and increases age-related morbidity in the Long-Evans rat. *Neurotoxicol Teratol.* 45: 34-43. <http://dx.doi.org/10.1016/j.ntt.2014.06.009>.
- Myrback, THC, M. C. (2002). Effects of Antifungal Imidazoles on CYP1A and CYP3A in Rainbow Trout. 54: 303-318.
- Nyholm, JRN, A. Norrgren, L. Haglund, P. Andersson, P. L. (2008). Maternal transfer of brominated flame retardants in zebrafish (*Danio rerio*). *Chemosphere.* 73: 203-208. <http://dx.doi.org/10.1016/j.chemosphere.2008.04.033>.
- Olsen, KH. (2011). Effects of Pollutants on Olfactory Mediated Behaviors in Fish and Crustaceans. 507-529.
- Palace, VP, B. Pleskach, K. Gemmill, B. Tomy, G. (2010). Altered thyroxine metabolism in rainbow trout (*Oncorhynchus mykiss*) exposed to hexabromocyclododecane (HBCD). *Chemosphere.* 80: 165-169. <http://dx.doi.org/10.1016/j.chemosphere.2010.03.016>.

Environmental Hazard Literature Search Results

On Topic

- Palace, VPP, K. Halldorson, T. Danell, R. Wautier, K. Evans, B. Alaei, M. Marvin, C. Tomy, G. T. (2008). Biotransformation enzymes and thyroid axis disruption in juvenile rainbow trout (*Oncorhynchus mykiss*) exposed to hexabromocyclododecane diastereoisomers. *Environ Sci Technol.* 42: 1967-1972. <http://dx.doi.org/10.1021/es702565h>.
- Poirier, LAM, K. E. Helmes, C. T. (1977). Organo Bromides Iodides and Fluorides Class Study with Cover Letter Dated 07/01/81. (#40-8134106).
- Ronisz, DF, E. F. Karlsson, H. Förlin, L. (2004). Effects of the brominated flame retardants hexabromocyclododecane (HBCDD), and tetrabromobisphenol A (TBBPA), on hepatic enzymes and other biomarkers in juvenile rainbow trout and feral eelpout. *Aquat Toxicol.* 69: 229-245. <http://dx.doi.org/10.1016/j.aquatox.2004.05.007>.
- Sanders, JMK, G. A. Birnbaum, L. S. (2013). The Fate of beta-Hexabromocyclododecane in Female C57BL/6 Mice. 134: 251-257.
- Schriks, M. (2006). Novel In Vitro, Ex Vivo and In Vivo Assays Elucidating the Effects of Endocrine Disrupting Compounds (EDCs) on Thyroid Hormone Action. 159 p. (Publ In Part As #89674).
- Schriks, MZ, E. Furlow, J. D. Murk, A. J. (2006). Disruption of thyroid hormone-mediated *Xenopus laevis* tadpole tail tip regression by hexabromocyclododecane (HBCD) and 2,2',3,3',4,4',5,5',6-nona brominated diphenyl ether (BDE206). *Chemosphere.* 65: 1904-1908. <http://dx.doi.org/10.1016/j.chemosphere.2006.07.077>.
- Schuermann, GK, W. (1988). *Advances in Bioconcentration Prediction.* 17: 1551-1574.
- Shi, DL, D. Liu, W. Shen, R. Li, D. Hong, H. (2017). Accumulation and developmental toxicity of hexabromocyclododecanes (HBCDs) on the marine copepod *Tigriopus japonicus*. *Chemosphere.* 167: 155-162. <http://dx.doi.org/10.1016/j.chemosphere.2016.09.160>.
- Shi, YJX, X. B. Zheng, X. Q. Lu, Y. L. (2015). Responses of growth inhibition and antioxidant gene expression in earthworms (*Eisenia fetida*) exposed to tetrabromobisphenol A, hexabromocyclododecane and decabromodiphenyl ether. *Comp Biochem Physiol C Toxicol Pharmacol.* 174-175: 32-38. <http://dx.doi.org/10.1016/j.cbpc.2015.06.005>.
- Smith, PNC, G. P. Godard-Codding, C. Hoff, D. McMurry, S. T. Rainwater, T. R. Reynolds, K. D. (2007). Contaminant Exposure in Terrestrial Vertebrates. 150: 41-64.
- Smolarz, KB, A. (2009). Long-term toxicity of hexabromocyclododecane (HBCDD) to the benthic clam *Macoma balthica* (L.) from the Baltic Sea. *Aquat Toxicol.* 95: 239-247. <http://dx.doi.org/10.1016/j.aquatox.2009.09.010>.
- Station, RE. (2000). Comparison of heavy metal uptake by *Eisenia foetida* with that of other common earthworms (final report) with attachments.
- Sun, JT, S. Peng, H. Saunders, D. M. Doering, J. A. Hecker, M. Jones, P. D. Giesy, J. P. Wiseman, S. (2016). Combined Transcriptomic and Proteomic Approach to Identify Toxicity Pathways in Early Life Stages of Japanese Medaka (*Oryzias latipes*) Exposed to 1,2,5,6-Tetrabromocyclooctane (TBCO). *Environ Sci Technol.* 50: 7781-7790. <http://dx.doi.org/10.1021/acs.est.6b01249>.
- Szabo, DTD, J. J. Hakk, H. Huwe, J. K. Birnbaum, L. S. (2010). Toxicokinetics of the flame retardant hexabromocyclododecane gamma: effect of dose, timing, route, repeated exposure, and metabolism. *Toxicol Sci.* 117: 282-293. <http://dx.doi.org/10.1093/toxsci/kfq183>.
- Szabo, DTD, J. J. Hakk, H. Huwe, J. K. Birnbaum, L. S. (2011). Toxicokinetics of the flame retardant hexabromocyclododecane alpha: effect of dose, timing, route, repeated exposure, and metabolism. *Toxicol Sci.* 121: 234-244. <http://dx.doi.org/10.1093/toxsci/kfr059>.
- Thienpont, BT-S, A. Prats, E. Barata, C. Babin, P. J. Raldúa, D. (2011). Zebrafish eleutheroembryos provide a suitable vertebrate model for screening chemicals that impair thyroid hormone synthesis. *Environ Sci Technol.* 45: 7525-7532. <http://dx.doi.org/10.1021/es202248h>.
- U.S. EPA. (2000). Responses of Unicellular Marine Algae to Brominated Organic Compound in Six Growth Media with Cover Letter Dated 121886. 22 p. (NTIS/OTS0525468).
- U.S. EPA. (1990). DETERMINATION OF THE ACUTE TOXICITY OF HEXABROMIDES TO THE WATERFLEA DAPHNIA MAGNA STRAUS WITH COVER LETTER DATED 040590. (TSCATS/406649).
- van der Ven, LTMvdK, T. Leonards, P. E. G. Slob, W. Lilienthal, H. Litens, S. Herlin, M. Håkansson, H. Cantón, R. F. van den Berg, M. Visser, T. J. van Loveren, H. Vos, J. G. Piersma, A. H. (2009). Endocrine effects of hexabromocyclododecane (HBCD) in a one-generation reproduction study in Wistar rats. *Toxicol Lett.* 185: 51-62. <http://dx.doi.org/10.1016/j.toxlet.2008.12.003>.
- van der Ven, LTV, A. van de Kuil, T. Slob, W. Leonards, P. E. Visser, T. J. Hamers, T. Herlin, M. Håkansson, H. Olausson, H. Piersma, A. H. Vos, J. G. (2006). A 28-day oral dose toxicity study enhanced to detect endocrine effects of hexabromocyclododecane in Wistar rats. *Toxicol Sci.* 94: 281-292. <http://dx.doi.org/10.1093/toxsci/kfl113>.
- Veith, GDD, D. L. Bergstedt, B. V. (1979). Measuring and estimating the bioconcentration factor of chemicals in fish. *J Fish Res Board Can.* 36: 1040-1048. <http://dx.doi.org/10.1139/f79-146>.
- Walsh, GEY, M. J. McLaughlin, L. L. Lores, E. M. (1987). Responses of marine unicellular algae to brominated organic compounds in six growth media. *Ecotoxicol Environ Saf.* 14: 215-222.
- Wang, XJ, F. Cao, W. Chen, J. Zheng, L. Feng, L. (2013). Acute Toxic Effect of Hexabromocyclododecane and Tetrabromobisphenol A on Four Marine Microalgae. 32: 831-835.
- Wu, MZ, Z. Li, B. Huang, L. Chen, M. Wang, C. (2013). Effects of low-level hexabromocyclododecane (HBCD) exposure on cardiac development in zebrafish embryos. *Ecotoxicology.* 22: 1200-1207. <http://dx.doi.org/10.1007/s10646-013-1107-4>.
- Wu, TH, H. Zhang, S. (2016). Accumulation and phytotoxicity of technical hexabromocyclododecane in maize. *J Environ Sci.* 42: 97-104. <http://dx.doi.org/10.1016/j.jes.2015.06.018>.
- Wu, TW, S. Huang, H. Zhang, S. (2012). Diastereomer-Specific Uptake, Translocation, and Toxicity of Hexabromocyclododecane Diastereoisomers to Maize. *J Agric Food Chem.* 60: 8528-8534. <http://dx.doi.org/10.1021/jf302682p>.
- Zhang, HP, L. Tao, Y. (2014). Antioxidant responses in clam *Venerupis philippinarum* exposed to environmental pollutant hexabromocyclododecane. *Environ Sci Pollut Res Int.* 21: 8206-8215. <http://dx.doi.org/10.1007/s11356-014-2801-3>.
- Zhang, HuP, L. Tao, Y. Tian, S. Hu, Y. (2013). Identification and expression of differentially expressed genes in clam *Venerupis philippinarum* in response to environmental pollutant hexabromocyclododecane (HBCD). *Exp Mar Bio Ecol.* 445: 166-173. <http://dx.doi.org/10.1016/j.jembe.2013.03.002>.

Environmental Hazard Literature Search Results

On Topic

- Zhang, XY, F. Zhang, X. Xu, Y. Liao, T. Song, S. Wang, J. (2008). Induction of hepatic enzymes and oxidative stress in Chinese rare minnow (*Gobiocypris rarus*) exposed to waterborne hexabromocyclododecane (HBCDD). *Aquat Toxicol.* 86: 4-11. <http://dx.doi.org/10.1016/j.aquatox.2007.07.002>.
- Zhang, XY, F. Luo, C. Wen, S. Zhang, X. Xu, Y. (2009). Bioaccumulative characteristics of hexabromocyclododecanes in freshwater species from an electronic waste recycling area in China. *Chemosphere.* 76: 1572-1578. <http://dx.doi.org/10.1016/j.chemosphere.2009.05.031>.
- Zhang, YS, H. Zhu, H. Ruan, Y. Liu, F. Liu, X. (2014). Accumulation of hexabromocyclododecane diastereomers and enantiomers in two microalgae, *Spirulina subsalsa* and *Scenedesmus obliquus*. *Ecotoxicol Environ Saf.* 104: 136-142. <http://dx.doi.org/10.1016/j.ecoenv.2014.02.027>.
- Zhang, YS, H. Ruan, Y. (2014). Enantiomer-specific accumulation, depuration, metabolism and isomerization of hexabromocyclododecane (HBCDD) diastereomers in mirror carp from water. *J Hazard Mater.* 264: 8-15. <http://dx.doi.org/10.1016/j.jhazmat.2013.10.062>.
- Zhang, YW, L. Sun, H. Yao, T. Zhu, H. Xu, J. Liu, X. (2016). Impacts of loach bioturbation on the selective bioaccumulation of HBCDD diastereoisomers and enantiomers by mirror carp in a microcosm. *Chemosphere.* 163: 471-479. <http://dx.doi.org/10.1016/j.chemosphere.2016.08.065>.
- Zhu, HS, H. Zhang, Y. Xu, J. Li, B. Zhou, Q. (2016). Uptake Pathway, Translocation, and Isomerization of Hexabromocyclododecane Diastereoisomers by Wheat in Closed Chambers. *Environ Sci Technol.* 50: 2652-2659. <http://dx.doi.org/10.1021/acs.est.5b05118>.

Environmental Hazard Literature Search Results

Off Topic

- Abbasi, NAE, Igor Jaspers, Veerle Leontina Bernard Chaudhry, Muhammad Jamshed Iqbal Frantz, Adrien Ambus, Per Lennart Covaci, Adrian Malik, Riffat Naseem. (2017). The first exposure assessment of legacy and unrestricted brominated flame retardants in predatory birds of Pakistan. *Environ Pollut.* 220, Part B: 1208-1219.
- Abdallah, MA-EH, Stuart. (2009). Personal exposure to HBCDs and its degradation products via ingestion of indoor dust. *Environ Int.* 35: 870-876.
- Adams, RDB, E. M. Captain, B. Hungria, A. B. Midgley, P. A. Raja, R. Thomas, J. M. (2007). Bimetallic Ru-Sn nanoparticle catalysts for the solvent-free selective hydrogenation of 1,5,9-cyclododecatriene to cyclododecene. *Angewandte Chemie-International Edition.* 46: 8182-8185.
- Alaee, MA, P. Sjodin, A. Bergman, A. (2003). An overview of commercially used brominated flame retardants, their applications, their use patterns in different countries/regions and possible modes of release. *Environ Int.* 29: 683-689.
- Al-Odaini, NAS, Won Joon Han, Gi Myung Jang, Mi Hong, Sang Hee. (2015). Enrichment of hexabromocyclododecanes in coastal sediments near aquaculture areas and a wastewater treatment plant in a semi-enclosed bay in South Korea. *Sci Total Environ.* 505: 290-298.
- Al-Odaini, NAY, U. H. Kim, N. S. Shim, W. J. Hong, S. H. (2013). Isotopic dilution determination of emerging flame retardants in marine sediments by HPLC-APCI-MS/MS. *Analytical Methods.* 5: 1771-1778.
- Al-Omran, LSH, S. (2016). Distribution pattern of legacy and "novel" brominated flame retardants in different particle size fractions of indoor dust in Birmingham, United Kingdom. *Chemosphere.* 157: 124-131.
- An, JC, C. Wang, X. Zhong, Y. F. Zhang, X. Y. Yu, Y. X. Yu, Z. Q. (2014). Oligomeric proanthocyanidins alleviate hexabromocyclododecane-induced cytotoxicity in HepG2 cells through regulation on ROS formation and mitochondrial pathway. *Toxicol In Vitro.* 28: 319-326.
- An, JW, X. Guo, P. P. Zhong, Y. F. Zhang, X. Y. Yu, Z. Q. (2014). Hexabromocyclododecane and polychlorinated biphenyls increase resistance of hepatocellular carcinoma cells to cisplatin through the phosphatidylinositol 3-kinase/protein kinase B pathway. *Toxicol Lett.* 229: 265-272.
- Andersen, MSF, E. Konig, M. Lipasti, I. Pedersen, A. O. Polder, A. Yoccoz, N. G. Routti, H. (2015). Levels and temporal trends of persistent organic pollutants (POPs) in arctic foxes (*Vulpes lagopus*) from Svalbard in relation to dietary habits and food availability. *Sci Total Environ.* 511: 112-122.
- Andersson, PLO, K. Orn, U. (2006). Chemical characterization of brominated flame retardants and identification of structurally representative compounds. *Environ Toxicol Chem.* 25: 1275-1282.
- Arinaitwe, KM, D. C. G. Kiremire, B. T. Fellin, P. Li, H. Teixeira, C. (2014). Polybrominated Diphenyl Ethers and Alternative Flame Retardants in Air and Precipitation Samples from the Northern Lake Victoria Region, East Africa. *Environmental Science & Technology.* 48: 1458-1466.
- Arsenault, GC, B. McAlees, A. McCrindle, R. (2007). Nuclear magnetic resonance spectral characterization and semi-empirical calculations of conformations of alpha- and gamma-1,2,5,6,9,10-hexabromocyclododecane. *Chemosphere.* 67: 1684-1694.
- Arsenault, GK, Alexandre Marvin, Chris H. MacInnis, Gordia McAlees, Alan McCrindle, Robert Riddell, Nicole Tomy, Gregg T. Yeo, Brian. (2007). Synthesis of the two minor isomers, $\hat{\imath}$ - and $\hat{\mu}$ -1,2,5,6,9,10-hexabromocyclododecane, present in commercial hexabromocyclododecane. *Chemosphere.* 68: 887-892.
- Aznar-Aleman, ATn, L. Jacobs, S. Barbosa, V. L. Tejedor, M. F. Granby, K. Kwadijk, C. Cunha, S. C. Ferrari, F. Vandermeersch, G. Sioen, I. Verbeke, W. Vilavert, L. Domingo, J. L. ADoratory oatory of Toxicology Environmental Health, School of Medicine lispv Universitat Rovira i Virgili Sant Llorenç Reus Reus Catalonia Spain Electronic address joseluis domi cat Eljarrat, E. BarcelÀ, D. (2016). Occurrence of halogenated flame retardants in commercial seafood species available in European markets. *Food Chem Toxicol.* 24.
- Bachman, MJK, J. M. West, K. L. Jensen, B. A. (2014). Persistent organic pollutant concentrations in blubber of 16 species of cetaceans stranded in the Pacific Islands from 1997 through 2011. *The Science of the total environment* 488-489.
- Balch, GCV-E, L. A. Sweet, C. Alaee, M. Metcalfe, C. D. (2006). Inhibition of metamorphosis in tadpoles of *Xenopus laevis* exposed to polybrominated diphenyl ethers (PBDEs). *Chemosphere.* 64: 328-338.
- Baron, EB, C. Manez, M. Andreu, A. Sergio, F. Hiraldo, F. Eljarrat, E. Barcelo, D. (2015). Temporal trends in classical and alternative flame retardants in bird eggs from Donana Natural Space and surrounding areas (south-western Spain) between 1999 and 2013. *Chemosphere.* 138: 316-323.

Environmental Hazard Literature Search Results

Off Topic

- Basf, GLCC. (1990). Hexabromocyclododecane 28-day feeding trials with rats with test data and cover letter. Epa/Ots. 900000274: #86-900000274.
- Bellott, BJ. (2010). Synthesis, characterization, and reactivity of volatile compounds for materials applications. PhD, University of Illinois at Urbana-Champaign, Ann Arbor 195.
- Bergeson, LL. (2012). EPA Flexes Its TSCA Muscles. *Pollution Engineering*. 44: 12.
- Bernhard, AB, Marc H. G. Lundebye, Anne-Katrine R yberg Alveheim, Anita Secher Myrmel, Lene Fj re, Even Torstensen, Bente E. Kristiansen, Karsten Madsen, Lise Brattelid, Trond Rasinger, Josef D. (2016). Marine fatty acids aggravate hepatotoxicity of  -HBCD in juvenile female BALB/c mice. *Food Chem Toxicol*. 97: 411-423.
- Berntssen, MHGV, S. Rosenlund, G. Torstensen, B. E. Zeilmaker, M. J. van Eijkeren, J. C. H. (2011). Toxicokinetics and carry-over model of alpha-hexabromocyclododecane (HBCD) from feed to consumption-sized Atlantic salmon (*Salmo salar*). *Food Additives and Contaminants Part a-Chemistry Analysis Control Exposure & Risk Assessment*. 28: 1274-1286.
- Betts, K. (2003). More flame-proofed fish. *Environ Sci Technol*. 37: 380A-382A. [Environmental science & technology].
- Betts, K. (2008). More flame retardants found in house dust. *Environ Sci Technol*. 42: 337. [Environmental science & technology].
- Bezares-Cruz, JJ, C. T. Hua, I. (2004). Solar photodecomposition of decabromodiphenyl ether: Products and quantum yield. *Environmental Science & Technology*. 38: 4149-4156.
- Bjorklund, JAT, K. Cousins, A. P. Sellstrom, U. Emenius, G. de Wit, C. A. (2012). Indoor Air Is a Significant Source of Tri-decabrominated Diphenyl Ethers to Outdoor Air via Ventilation Systems. *Environmental Science & Technology*. 46: 5876-5884.
- Blais, NP, C. Lordkipanidze, M. Sia, Y. K. Merhi, Y. Diodati, J. G. (2009). Response to aspirin in healthy individuals Cross-comparison of light transmission aggregometry, VerifyNow system, platelet count drop, thromboelastography (TEG) and urinary 11-dehydrothromboxane B(2). *Thrombosis and Haemostasis*. 102: 404-411.
- Bogdal, CN, Michael Schmid, Peter Kohler, Martin Zennegg, Markus Bernet, Daniel Scheringer, Martin Hungerb hler, Konrad. (2009). Unexplained gonad alterations in whitefish (*Coregonus* spp.) from Lake Thun, Switzerland: Levels of persistent organic pollutants in different morphs. *Chemosphere*. 74: 434-440.
- Bogdal, CS, P. Kohler, M. M ller, C. E. - Empa, Swiss Federal Laboratories for Materials Testing and Research, Oberlandstrasse 59, CH-8600 D bendorf, Switzerland christian bogdal empa.ch lozza, S. Bucheli, T. D. Scheringer, M. Hungerb hler, D. E. S. Swiss Federal Laboratories for Materials Testing Research, Unterstrasse 59, CH-8600 D bendorf, Switzerland christian bogdal empa.ch. (2008). Sediment record and atmospheric deposition of brominated flame retardants and organochlorine compounds in Lake Thun, Switzerland: lessons from the past and evaluation of the present. *Environ Sci Technol*. 42: 68. [Environmental science & technology].
- Boyles, ET, Hongli Wu, Yan Nielsen, Clayton K. Shen, Li Reiner, Eric J. Chen, Da. (2017). Halogenated flame retardants in bobcats from the midwestern United States. *Environ Pollut*. 221: 191-198.
- Brandli, RCK, T. Bucheli, T. D. Zennegg, M. Huber, S. Ortelli, D. Muller, J. Schaffner, C. lozza, S. Schmid, P. Berger, U. Edder, P. Oehme, M. Stadelmann, F. X. Tarradellas, J. (2007). Organic pollutants in compost and digestate. Part 2. Polychlorinated dibenzo-p-dioxins, and -furans, dioxin-like polychlorinated biphenyls, brominated flame retardants, perfluorinated alkyl substances, pesticides, and other compounds. *J Environ Monit*. 9: 465-472.
- Brandsma, SHdB, Jacob van Velzen, Martin J. M. Leonards, Pim E. G. (2014). Organophosphorus flame retardants (PFRs) and plasticizers in house and car dust and the influence of electronic equipment. *Chemosphere*. 116: 3-9.
- Brandsma, SHL, P. E. Leslie, H. A. de Boer, J. (2015). Tracing organophosphorus and brominated flame retardants and plasticizers in an estuarine food web. *The Science of the total environment* 22-31.
- Braune, BML, R. J. Gaston, A. J. Mallory, M. L. (2015). Trends of polybrominated diphenyl ethers and hexabromocyclododecane in eggs of Canadian Arctic seabirds reflect changing use patterns. *Environ Res*. 142: 651-661.
- Braune, BMM, Mark L. Grant Gilchrist, H. Letcher, Robert J. Drouillard, Ken G. (2007). Levels and trends of organochlorines and brominated flame retardants in Ivory Gull eggs from the Canadian Arctic, 1976 to 2004. *Sci Total Environ*. 378: 403-417.
- Bustnes, JOB, K. Dempster, T. Lie, E. Nygard, T. Uglem, I. (2012). Latitudinal Distribution of Persistent Organic Pollutants in Pelagic and Demersal Marine Fish on the Norwegian Coast. *Environmental Science & Technology*. 46: 7836-7843.
- Bustnes, JOL, E. Herzke, D. Dempster, T. Bjorn, P. A. Nygard, T. Uglem, I. (2010). Salmon Farms as a Source of Organohalogenated Contaminants in Wild Fish. *Environmental Science & Technology*. 44: 8736-8743.
- Bustnes, JOY, N. G. Bangjord, G. Polder, A. Skaare, J. U. (2007). Temporal trends (1986-2004) of organochlorines and brominated flame retardants in tawny owl eggs from northern Europe. *Environmental Science & Technology*. 41: 8491-8497.
- Canbaz, DL, A. Hamers, T. van Ree, R. van Rijt, L. S. (2016). Indoor Pollutant Hexabromocyclododecane Has a Modest Immunomodulatory Effect on House Dust Mite Induced Allergic Asthma in Mice. *Environmental Science & Technology*. 50: 405-411.
- Carbone, AG, A. (2014). CD75: A B-cell marker which should not be forgotten in lymphocyte predominant Hodgkin lymphoma. *American Journal of Hematology*. 89: 449-449.
- Carere, MM, Roberto Cicero, Maria Rita. (2011). Potential effects of climate change on the chemical quality of aquatic biota. *Trends Analyt Chem*. 30: 1214-1221.
- Carulla, JE. (1994). Forage intake and nitrogen utilization by sheep as affected by condensed tannins. PhD, The University of Nebraska - Lincoln, Ann Arbor.
- Champoux, LR, J. F. Lavoie, R. A. (2017). Polychlorinated dibenzo-p-dioxins, dibenzofurans, and flame retardants in northern gannet (*Morus bassanus*) eggs from Bonaventure Island, Gulf of St. Lawrence, 1994-2014. *Environ Pollut*. 06.
- Cheaib, ZG, D. Kupper, T. de Alencastro, L. F. (2009). Brominated Flame Retardants in Fish of Lake Geneva (Switzerland). *Bull Environ Contam Toxicol*. 82: 522-527.

Environmental Hazard Literature Search Results

Off Topic

- Chen, DH, R. C. La Guardia, M. J. Luellen, D. Kim, S. Geisz, H. N. (2015). Hexabromocyclododecane flame retardant in Antarctica: Research stations as sources. *Environ Pollut.* 206: 611-618.
- Chen, DLG, M. J. Luellen, D. R. Harvey, E. Mainor, T. M. Hale, R. C. (2011). Do Temporal and Geographical Patterns of HBCD and PBDE Flame Retardants in US Fish Reflect Evolving Industrial Usage? *Environmental Science & Technology.* 45: 8254-8261.
- Chen, DM, B. X. Song, J. Sun, Q. H. Luo, Y. Luo, X. J. Zeng, E. Y. Hale, R. C. (2007). Polybrominated diphenyl ethers in birds of prey from Northern China. *Environmental Science & Technology.* 41: 1828-1833.
- Chen, HS, L. Zhang, L. Zhang, Z. Hu, Y. Cai, W. Jia, X. (2016). Effects of Short-Term Exposure to Hexabromocyclododecane(HBCD) on T3 and T4 of Liver and Brain in Juvenile Crimson Snapper (*Lutjanus erythropterus*). *Journal of Agro-Environment Science (Non-English).* 35.
- Chu, SGG, L. T. Letcher, R. J. (2012). Alpha and Beta Isomers of Tetrabromoethylcyclohexane (TBECH) Flame Retardant: Depletion and Metabolite Formation In Vitro Using a Model Rat Microsomal Assay. *Environmental Science & Technology.* 46: 10263-10270.
- Coelho, SnDS, Ana C. A. Isobe, Tomohiko Kunisue, Tatsuya Nogueira, Ant3nio J. A. Tanabe, Shinsuke. (2016). Brominated flame retardants and organochlorine compounds in duplicate diet samples from a Portuguese academic community. *Chemosphere.* 160: 89-94.
- corp, GLCCIRD. (1990). Acute toxicity studies in rabbits and rats with test data and cover letter dated 03-08-90. Epa/Ots. 900000266: #86-900000266.
- corp, GLCCIRD. (1990). Cataractogenic study in chicks with test data and cover letter. Epa/Ots. 900000264: #86-900000264.
- corp, GLCCMC. (1990). Internal memo from michigan chemical corporation regarding hbcd biodegradation study with test data and cover letter. Epa/Ots. 900000272: #86-900000272.
- corp, GLCCMC. (1990). Internal memo from michigan chemical corporation regarding hbcd biodegradation study with test data and cover sheet. Epa/Ots. 900000273: #86-900000273.
- corp, GLCCVC. (1990). Internal memo from velsicol chemical corporation regarding hydrolysis of firemaster 100 with test data and cover letter. Epa/Ots. 900000271: #86-900000271.
- corp, GLCCVC. (1990). Partition coefficient of dicamba, endrin vel 3510 and several industrial chemicals and flame retardants laboratory report with test data and cover letter. Epa/Ots. 900000269: #86-900000269.
- corp, GLCCIRD. (1990). Pilot cataractogenic study in chicks with test data and cover letter. Epa/Ots. 900000263: #86-900000263.
- corp, GLCCVC. (1990). Water solubility of several industrial chemicals flame retardants and a herbicide vel-3510 laboratory report with test data and cover letter. Epa/Ots. 900000270: #86-900000270.
- corp, VCCIRD. (1978). Acute inhalation toxicity study in rats with hexabromocyclododecane with attachments and cover letter dated 042478. Epa/Ots. 7800137: #88-7800137.
- Cousins, APH, T. Remberger, M. (2014). Emissions of two phthalate esters and BDE 209 to indoor air and their impact on urban air quality. *Sci Total Environ.* 470: 527-535.
- Covaci, AA, M. Roosens, L. Harrad, S. (2010). Hexabromocyclododecane (HBCD) complex chemistry: Detection and analytical methods. *Toxicol Lett.* 196, Supplement: S33.
- Covaci, AL, S. Roosens, L. Vetter, W. Santos, F. J. Neels, H. Storelli, A. Storelli, M. M. (2008). Anthropogenic and naturally occurring organobrominated compounds in two deep-sea fish species from the Mediterranean Sea. *Environ Sci Technol.* 42: 8654-8660. [Environmental science & technology].
- Covaci, AR, L. Dirtu, A. C. Waegeneers, N. Van Overmeire, I. Neels, H. Goeyens, L. (2009). Brominated flame retardants in Belgian home-produced eggs: Levels and contamination sources. *Sci Total Environ.* 407: 4387-4396.
- Crump, DC, S. Egloff, C. Kennedy, S. W. (2008). Effects of Hexabromocyclododecane and Polybrominated Diphenyl Ethers on mRNA Expression in Chicken (*Gallus domesticus*) Hepatocytes. *Toxicol Sci.* 106: 479-487.
- Crump, DC, S. Kennedy, S. W. (2012). Effects of Tris(1,3-dichloro-2-propyl) phosphate and Tris(1-chloropropyl) phosphate on Cytotoxicity and mRNA Expression in Primary Cultures of Avian Hepatocytes and Neuronal Cells. *Toxicol Sci.* 126: 140-148.
- De Boer, J. (2004). Brominated Flame Retardants in the Environment-The Price for our Convenience? *Environ Chem.* 1: 81-85.
- De Ceaurriz, JB, M. (1990). Role of gamma-glutamyl transpeptidase and beta-lyase in the nephrotoxicity of hexachloro-1,3-butadiene and methyl mercury in mice. *Toxicol Lett (Amst).* 50: 249-256.
- de Wit, CAH, D. Vorkamp, K. (2010). Brominated flame retardants in the Arctic environment - trends and new candidates. *Sci Total Environ.* 408: 2885-2918.
- Desborough, JE, Timothy M3ller, Jochen Harrad, Stuart. (2016). Polychlorinated biphenyls (PCBs), hexabromocyclododecanes (HBCDDs) and degradation products in topsoil from Australia and the United Kingdom. *Emerging Contaminants.* 2: 37-41.
- Di Costanzo Zaragoza, A. (1989). Within-herd variation of energetic efficiency in beef cows. PhD, University of Minnesota, Ann Arbor.
- Dietz, RRT, Frank F. Sonne, Christian Born, Erik W. Bechsh3ft, Thea McKinney, Melissa A. Drimmie, Robert J. Muir, Derek C. G. Letcher, Robert J. (2013). Three decades (198332010) of contaminant trends in East Greenland polar bears (*Ursus maritimus*). Part 2: Brominated flame retardants. *Environ Int.* 59: 494-500.
- Dingemans, MMLH, H. J. de Groot, A. Bergman, A. van den Berg, M. Westerink, R. H. S. (2009). Hexabromocyclododecane Inhibits Depolarization-Induced Increase in Intracellular Calcium Levels and Neurotransmitter Release in PC12 Cells. *Toxicol Sci.* 107: 490-497.
- Dodder, NGM, K. A. Ferguson, P. L. Grace, R. Kiosterhaus, S. La Guardia, M. J. Lauenstein, G. G. Ramirez, J. (2014). Occurrence of contaminants of emerging concern in mussels (*Mytilus* spp.) along the California coast and the influence of land use, storm water discharge, and treated wastewater effluent. *Mar Pollut Bull.* 81: 340-346.
- Dominguez-Romero, EC, R. Omer, E. Marchand, P. Dervilly-Pinel, G. Le Bizec, B. Travel, A. Jondreville, C. (2016). Tissue Distribution and Transfer to Eggs of Ingested alpha-Hexabromocyclododecane (alpha-HBCDD) in Laying Hens (*Gallus domesticus*). *J Agric Food Chem.* 64: 2112-2119.

Environmental Hazard Literature Search Results

Off Topic

- Drage, DM, J. F. Birch, G. Eaglesham, G. Hearn, L. K. Harrad, S. (2015). Historical trends of PBDEs and HBCDs in sediment cores from Sydney estuary, Australia. *Sci Total Environ.* 512: 177-184.
- Drage, DSN, S. de Wit, C. A. Harrad, S. (2016). Concentrations of legacy and emerging flame retardants in air and soil on a transect in the UK West Midlands. *Chemosphere*195-203.
- Driffield, MH, N. Bradley, E. Fernandes, A. R. Rose, M. Mortimer, D. Dicks, P. (2008). Determination of brominated flame retardants in food by LC-MS/MS: diastereoisomer-specific hexabromocyclododecane and tetrabromobisphenol A. *Food Additives and Contaminants Part a-Chemistry Analysis Control Exposure & Risk Assessment.* 25: 895-903.
- Drohmann, D. (2006). HBCD: facts and insinuations. *Environ Sci Technol.* 40: 1; author reply 2. [Environmental science & technology].
- Duan, HY, D. F. Zuo, J. Yang, B. Zhang, Y. K. Niu, Y. N. (2016). Characterization of brominated flame retardants in construction and demolition waste components: HBCD and PBDEs. *Sci Total Environ.* 572: 77-85.
- Earnshaw, MRJ, K. C. Sweetman, A. J. (2013). Estimating European historical production, consumption and atmospheric emissions of decabromodiphenyl ether. *Sci Total Environ.* 447: 133-142.
- Eguchi, AI, Tomohiko Ramu, Karri Tue, Nguyen Minh Sudaryanto, Agus Devanathan, Gnanasekaran Viet, Pham Hung Tana, Rouch Seang Takahashi, Shin Subramanian, Annamalai Tanabe, Shinsuke. (2013). Soil contamination by brominated flame retardants in open waste dumping sites in Asian developing countries. *Chemosphere.* 90: 2365-2371.
- Eljarrat, EDLC, A. Raldua, D. Duran, C. Barcelo, D. (2004). Occurrence and bioavailability of polybrominated diphenyl ethers and hexabromocyclododecane in sediment and fish from the Cinca River, a tributary of the Ebro River (Spain). *Environmental Science & Technology.* 38: 2603-2608.
- Eljarrat, EdC, A. Raldua, D. Duran, C. Barcelo, D. (2005). Brominated flame retardants in *Alburnus alburnus* from Cinca River Basin (Spain). *Environ Pollut.* 133: 501-508.
- Eljarrat, EG, M. Gasser, M. Diaz-Ferrero, J. Barcelo, D. (2014). Dietary Exposure Assessment of Spanish Citizens to Hexabromocyclododecane through the Diet. *J Agric Food Chem.* 62: 2462-2468.
- Eljarrat, EL, A. Marsh, G. Raldua, D. Barcelo, D. (2007). Decabrominated diphenyl ether in river fish and sediment samples collected downstream an industrial park. *Chemosphere.* 69: 1278-1286.
- Elliott, JEW, L. K. Wakeford, B. (2005). Polybrominated diphenyl ether trends in eggs of marine and freshwater birds from British Columbia, Canada, 1979-2002. *Environmental Science & Technology.* 39: 5584-5591.
- Eriksson, PF, C. Wallin, M. Jakobsson, E. Fredriksson, A. (2006). Impaired behaviour, learning and memory, in adult mice neonatally exposed to hexabromocyclododecane (HBCDD). *Environ Toxicol Pharmacol.* 21: 317-322.
- Ernest, SRW, M. G. Lalancette, C. Ma, Y. Q. Berger, R. G. Robaire, B. Hales, B. F. (2012). Effects of Chronic Exposure to an Environmentally Relevant Mixture of Brominated Flame Retardants on the Reproductive and Thyroid System in Adult Male Rats. *Toxicol Sci.* 127: 496-507.
- Esslinger, SB, R. Maul, R. Nehls, I. (2011). Hexabromocyclododecane Enantiomers: Microsomal Degradation and Patterns of Hydroxylated Metabolites. *Environmental Science & Technology.* 45: 3938-3944.
- Eulaers, IJ, V. L. B. Pinxten, R. Covaci, A. Eens, M. (2014). Legacy and current-use brominated flame retardants in the Barn Owl. *Sci Total Environ.* 472: 454-462.
- Evenset, AC, G. N. Carroll, J. Zaborska, A. Berger, U. HerzD - Akvaplan-niva, Polar Environmental Cental Centre N. TromsÅ- Norway ae akvaplan niva no Gregor, D. (2007). Historical trends in persistent organic pollutants and metals recorded in sediment from Lake EllasjÅ-en, Bj&rn&lash;rnÅ-ya, No gian Arctic. *Environ Pollut.* 146: 196-205. [Environmental pollution (Barking, Essex : 1987)].
- Feng, AHC, S. J. Chen, M. Y. He, M. J. Luo, X. J. Mai, B. X. (2012). Hexabromocyclododecane (HBCD) and tetrabromobisphenol A (TBBPA) in riverine and estuarine sediments of the Pearl River Delta in southern China, with emphasis on spatial variability in diastereoisomer- and enantiomer-specific distribution of HBCD. *Mar Pollut Bull.* 64: 919-925.
- Feng, MBL, Y. Qu, R. J. Wang, L. S. Wang, Z. Y. (2013). Oxidative stress biomarkers in freshwater fish *Carassius auratus* exposed to decabromodiphenyl ether and ethane, or their mixture. *Ecotoxicology.* 22: 1101-1110.
- Feng, MBQ, R. J. Li, Y. Wei, Z. B. Wang, Z. Y. (2014). Biochemical Biomarkers in Liver and Gill Tissues of Freshwater Fish *Carassius auratus* Following In Vivo Exposure to Hexabromobenzene. *Environ Toxicol.* 29: 1460-1470.
- Fernie, KJL, R. J. (2010). Historical Contaminants, Flame Retardants, and Halogenated Phenolic Compounds in Peregrine Falcon (*Falco peregrinus*) Nestlings in the Canadian Great Lakes Basin. *Environmental Science & Technology.* 44: 3520-3526.
- Fliedner, AL, N. Rudel, H. Teubner, D. Wellmitz, J. Koschorreck, J. (2016). Current levels and trends of selected EU Water Framework Directive priority substances in freshwater fish from the German environmental specimen bank. *Environ Pollut.* 216: 866-876.
- Franscois, AT, R. Houde, M. Spear, P. Verreault, J. (2016). RELATIONSHIPS BETWEEN POLYBROMINATED DIPHENYL ETHERS AND TRANSCRIPTION AND ACTIVITY OF TYPE 1 DEIODINASE IN A GULL HIGHLY EXPOSED TO FLAME RETARDANTS. *Environ Toxicol Chem.* 35: 2215-2222.
- Frederiksen, MV, K. Bossi, R. Riget, F. Dam, M. Svensmark, B. (2007). Method development for simultaneous analysis of HBCD, TBBPA, and dimethyl-TBBPA in marine biota from Greenland and the Faroe Islands. *Int J Environ Anal Chem.* 87: 1095-1109.
- Fromme, HH, B. Kopp, E. Miserok, M. VÄlkel, W. (2014). Polybrominated diphenyl ethers (PBDEs), hexabromocyclododecane (HBCD) and brominated flame retardants in house dust in Germany. *Environ Int.* 64: 61-68.
- Fu, JXS, E. M. (2012). Vapor pressure of three brominated flame retardants determined by using the Knudsen effusion method. *Environ Toxicol Chem.* 31: 574-578.
- Fujimoto, HW, G. H. Morita, R. Itahashi, M. Akane, H. Nishikawa, A. Shibutani, M. (2013). Increased cellular distribution of vimentin and ret in the cingulum of rat offspring after developmental exposure to decabromodiphenyl ether or 1,2,5,6,9,10-hexabromocyclododecane. *J Toxicol Pathol.* 26: 119-129. [Journal of toxicologic pathology].
- Gallen, CD, D. Kaserzon, S. Baduel, C. Gallen, M. Banks, A. Broomhall, S. Mueller, J. F. (2016). Occurrence and distribution of brominated flame retardants and perfluoroalkyl substances in Australian landfill leachate and biosolids. *J Hazard Mater.* 312: 55-64.

Environmental Hazard Literature Search Results

Off Topic

- Gao, SW, J. Yu, Z. Guo, Q. Sheng, G. Fu, J. (2011). Hexabromocyclododecanes in surface soils from E-waste recycling areas and industrial areas in South China: concentrations, diastereoisomer- and enantiomer-specific profiles, and inventory. *Environ Sci Technol.* 45: 2093-2099. [Environmental science & technology].
- García-Valcárcel, AIT, José Luis. (2009). Determination of hexabromocyclododecane isomers in sewage sludge by LC-MS/MS. *J Sep Sci.* 32: 3890-3897.
- Gauthier, LTH, Craig E. Weseloh, DVChip Letcher, Robert J. (2007). Current-Use Flame Retardants in the Eggs of Herring Gulls (*Larus argentatus*) from the Laurentian Great Lakes. *Environmental Science & Technology.* 41: 4561-4567.
- Gauthier, LTH, C. E. Weseloh, D. V. C. Letcher, R. J. (2008). Dramatic changes in the temporal trends of polybrominated diphenyl ethers (PBDEs) in herring gull eggs from the Laurentian Great Lakes: 1982-2006. *Environmental Science & Technology.* 42: 1524-1530.
- Gebbink, WAS, C. Dietz, R. Kirkegaard, M. Born, E. W. Muir, D. C. G. Letcher, R. J. (2008). Target tissue selectivity and burdens of diverse classes of brominated and chlorinated contaminants in polar bears (*Ursus maritimus*) from East Greenland. *Environmental Science & Technology.* 42: 752-759.
- Gerecke, ACG, W. Hartmann, P. C. Heeb, N. V. Kohler, H. P. E. Schmid, P. Zennegg, M. Kohler, M. (2006). Anaerobic degradation of brominated flame retardants in sewage sludge. *Chemosphere.* 64: 311-317.
- Gilchrist, TTL, R. J. Thomas, P. Fernie, K. J. (2014). Polybrominated diphenyl ethers and multiple stressors influence the reproduction of free-ranging tree swallows (*Tachycineta bicolor*) nesting at wastewater treatment plants. *Sci Total Environ.* 472: 63-71.
- Gosciny, SV, S. Maleki, M. Van Overmeire, I. Windal, I. Hanot, V. Blaude, M. N. Vleminckx, C. Van Looco, J. (2011). Dietary intake of hexabromocyclododecane diastereoisomers (alpha-, beta-, and gamma-HBCD) in the Belgian adult population. *Chemosphere.* 84: 279-288.
- Gramatica, PC, Stefano Sangion, Alessandro. (2016). Are some "safer alternatives" hazardous as PBTs? The case study of new flame retardants. *J Hazard Mater.* 306: 237-246.
- Gregoraszczyk, ELM, K. Wąciłowicz, K. Berg, V. Skaare, J. U. Ropstad, E. (2008). Steroid secretion following exposure of ovarian follicular cells to three different natural mixtures of persistent organic pollutants (POPs). *Reprod Toxicol.* 25: 58-66. [Reproductive Toxicology (Elmsford, N.Y.)].
- Guerra, PA, M. Jimenez, B. Pacepavicius, G. Marvin, C. MacInnis, G. Eljarrat, E. Barcelo, D. Champoux, L. Fernie, K. (2012). Emerging and historical brominated flame retardants in peregrine falcon (*Falco peregrinus*) eggs from Canada and Spain. *Environ Int.* 40: 179-186.
- Guerra, PdLC, A. Marsh, G. Eljarrat, E. Barcelo, D. (2009). Transfer of hexabromocyclododecane from industrial effluents to sediments and biota: Case study in Cinca river (Spain). *J Hydrol.* 369: 360-367.
- Guerra, PdLC, A. Marsh, G. Raldua, D. Barata, C. Eljarrat, E. Barcelo, D. (2009). Transfer of hexabromocyclododecane from industrial effluents to sediments and biota: Case study in Cinca river (Spain) (vol 369, pg 360, 2009). *J Hydrol.* 378: 355-355.
- Guerra, PE, E. Barcelo, D. (2010). Analysis and occurrence of emerging brominated flame retardants in the Llobregat River basin. *J Hydrol.* 383: 39-43.
- Hale, RCLG, M. J. Harvey, E. Gaylor, M. O. Mainor, T. M. (2006). Brominated flame retardant concentrations and trends in abiotic media. *Chemosphere.* 64: 181-186.
- Hamers, TK, J. H. Sonneveld, E. Murk, A. J. Kester, M. H. A. Andersson, P. L. Legler, J. Brouwer, A. (2006). In vitro profiling of the endocrine-disrupting potency of brominated flame retardants. *Toxicol Sci.* 92: 157-173.
- Han, CC, Xiaomei Xie, Wen Zhu, Zhenou Liu, Cuiping Chen, Fan Shen, Yan. (2010). Determination of hexabromocyclododecane diastereoisomers in *Sargassum fusiforme* and comparison of the extraction efficiency of ultrasonication, microwave-assisted extraction, Soxhlet extraction and pressurised liquid extraction. *J Sep Sci.* 33: 3319-3325.
- Hardy, MLB, J. Manor, O. Gentit, W. (2003). Industry-sponsored research on the potential health and environmental effects of selected brominated flame retardants. *Environ Int.* 29: 793-799.
- Harrad, SA, M. A. (2008). Calibration of two passive air sampler configurations for monitoring concentrations of hexabromocyclododecanes in indoor air. *J Environ Monit.* 10: 527-531. [Journal of environmental monitoring : JEM].
- Harrad, SA, Mohamed Abou-Elwafa Covaci, Adrian. (2009). Causes of variability in concentrations and diastereomer patterns of hexabromocyclododecanes in indoor dust. *Environ Int.* 35: 573-579.
- Harrad, SA, M. A. Rose, N. L. Turner, S. D. Davidson, T. A. (2009). Current-use brominated flame retardants in water, sediment, and fish from English lakes. *Environ Sci Technol.* 43: 9077-9083. [Environmental science & technology].
- Haug, LST, C. Liane, V. H. Becher, G. (2008). Comparison of GC and LC determinations of hexabromocyclododecane in biological samples - Results from two interlaboratory comparison studies. *Chemosphere.* 71: 1087-1092.
- Haukas, MH, K. Nygard, T. Berge, J. A. Mariussen, E. (2010). Diastereomer-specific bioaccumulation of hexabromocyclododecane (HBCD) in a coastal food web, Western Norway. *Sci Total Environ.* 408: 5910-5916.
- He, MJL, X. J. Yu, L. H. Liu, J. A. Zhang, X. L. Chen, S. J. Chen, D. Mai, B. X. (2010). Tetrabromobisphenol-A and Hexabromocyclododecane in Birds from an E-Waste Region in South China: Influence of Diet on Diastereoisomer- and Enantiomer-Specific Distribution and Trophodynamics. *Environmental Science & Technology.* 44: 5748-5754.
- He, MJL, X. J. Yu, L. H. Liu, J. A. Zhang, X. L. Chen, S. J. Mai, B. X. (2010). Tetrabromobisphenol-A and Hexabromocyclododecane in Birds from an E-Waste Region in South China: Influence of Diet on Diastereoisomer- and Enantiomer-specific Distribution and Trophodynamics (vol 44, pg 5748, 2010). *Environmental Science & Technology.* 44: 8357-8357.
- He, MJL, X. J. Yu, L. H. Wu, J. P. Chen, S. J. Mai, B. X. (2013). Diastereoisomer and enantiomer-specific profiles of hexabromocyclododecane and tetrabromobisphenol A in an aquatic environment in a highly industrialized area, South China: Vertical profile, phase partition, and bioaccumulation. *Environ Pollut.* 179: 105-110.
- He, QW, X. H. Sun, P. Wang, Z. Y. Wang, L. S. (2015). Acute and chronic toxicity of tetrabromobisphenol A to three aquatic species under different pH conditions. *Aquat Toxicol.* 164: 145-154.

Environmental Hazard Literature Search Results

Off Topic

- Heeb, NVBS, W. Mattrel, Peter Haag, Regula Gerecke, Andreas C. Schmid, Peter Zennegg, Markus Vonmont, Heinz. (2008). Regio- and stereoselective isomerization of hexabromocyclododecanes (HBCDs): Kinetics and mechanism of \hat{I}^3 - to \hat{I}^{\pm} -HBCD isomerization. *Chemosphere*. 73: 1201-1210.
- Heeb, NVG, Heidi Bernd Schweizer, W. Lienemann, P. (2010). Thermally-induced transformation of hexabromocyclo dodecanes and isobutoxypenta bromocyclododecanes in flame-proofed polystyrene materials. *Chemosphere*. 80: 701-708.
- Heeb, NVG, Heidi Schweizer, W. Bernd Heeb, Meret Lienemann, P. (2011). Crystal structure of \hat{I} -isobutoxypentabromo-cyclododecanes, kinetics and selectivity of their isomerization during thermal treatment of flame-proofed polystyrenes. *Chemosphere*. 83: 1568-1574.
- Heeb, NVS, W. Bernd Mattrel, Peter Haag, Regula Kohler, Martin Schmid, Peter Zennegg, Markus Wolfensberger, Max. (2008). Regio- and stereoselective isomerization of hexabromocyclododecanes (HBCDs): Kinetics and mechanism of \hat{I}^2 -HBCD racemization. *Chemosphere*. 71: 1547-1556.
- Heeb, NVW, S. A. Geueke, B. Fleischmann, T. Kohler, H. P. E. Lienemann, P. (2014). LinA2, a HCH-converting bacterial enzyme that dehydrohalogenates HBCDs. *Chemosphere*. 107: 194-202.
- Heeb, NVW, Simon A. Geueke, Birgit Fleischmann, Thomas Kohler, Hans-Peter E. Bernd Schweizer, W. Moor, Heidi Lienemann, Peter. (2015). Stereochemistry of enzymatic transformations of (+) \hat{I}^2 - and ($\hat{\alpha}$) \hat{I}^2 -HBCD with LinA2 – A HCH-degrading bacterial enzyme of *Sphingobium indicum* B90A. *Chemosphere*. 122: 70-78.
- Heeb, NVZ, D. Geueke B - Laboratory for Analytical Chemistry, Swiss Federal Laboratories for Materials Testing Research, Empa Åibestrasse sse C. H. DÅ bendSwitzerland norbert heeb empa ch Lienemann, P. (2012). Biotransformation of Hexabromocyclododecanes (HBCDs) with LinB--an HCH-converting bacterial enzyme. *Environmental sciencce & technology*126-174.
- Heeb, NVZ, D. Graf, H. ADwiss al Institute for for Materials Science ande Technology, Laboratory of Analytical Chemistry Åiberlandse sse C. H. DÅ bendorf eritzerland norbert heeb empa ch Az Geueke, B. Kohler, H. P. Lienemann, P. (2013). Stereochemistry of δ -HBCD to 1R,2R,5S,6R,9R,10S-pentabromocyclododecanol. *Chemphe013, Feb; 90(6):1911-9 [Ch [Chemosphere]*.
- Heeb, NVZ, Daniel Graf, Heidi Azara, Valeria Bernd Schweizer, W. Geueke, Birgit Kohler, Hans-Peter E. Lienemann, Peter. (2013). Stereochemistry of LinB-catalyzed biotransformation of \hat{I} -HBCD to 1R,2R,5S,6R,9R,10S-pentabromocyclododecanol. *Chemosphere*. 90: 1911-1919.
- Helgason, LBP, A. FÅ-reid, S. Baek, K. Lie, E. Gabrielsen, G. W. Barrett, R. T. Skaare, J. U. (2009). Levels and temporal trends (1983-2003) of polybrominated diphenyl ethers and hexabromocyclododecanes in seabird eggs from north Norway. *Environ Toxicol Chem*. 28: 1096-1103. [Environmental toxicology chemistry / SETAC].
- Hermanson, MHI, E. Forsstrom, S. Teixeira, C. Muir, D. C. G. Pohjola, V. A. van de Wal, R. S. V. (2010). Deposition History of Brominated Flame Retardant Compounds in an Ice Core from Holtedahlfonna, Svalbard, Norway. *Environmental Science & Technology*. 44: 7405-7410.
- Herzke, DB, U. Kallenborn, R. Nygard, T. Vetter, W. (2005). Brominated flame retardants and other organobromines in Norwegian predatory bird eggs. *Chemosphere*. 61: 441-449.
- Hites, RA. (2005). Brominated flame retardants in the environment. *J Environ Monit*. 7: 1033-1036.
- HlouÅkovÅi, VL, Darina KalachovÅi, Kamila HrÅjdkovÅi, Petra Poustka, Jan HajÅilovÅi, Jana PulkrabovÅi, Jana. (2014). Brominated flame retardants and perfluoroalkyl substances in sediments from the Czech aquatic ecosystem. *Sci Total Environ*. 470Å€“471: 407-416.
- Hlouskova, VL, D. Kalachova, K. Hradkova, P. Poustka, J. Hajslova, J. Pulkrabova, J. (2013). Occurrence of brominated flame retardants and perfluoroalkyl substances in fish from the Czech aquatic ecosystem. *Sci Total Environ*. 461: 88-98.
- Hoguet, JK, Jennifer M. Reiner, Jessica L. Kucklick, John R. Bryan, Colleen E. Moors, Amanda J. Pugh, Rebecca S. Becker, Paul R. (2013). Spatial and temporal trends of persistent organic pollutants and mercury in beluga whales (*Delphinapterus leucas*) from Alaska. *Sci Total Environ*. 449: 285-294.
- Hoh, EH, R. A. (2005). Brominated flame retardants in the atmosphere of the east-central United States. *Environmental Science & Technology*. 39: 7794-7802.
- Hong, SHS, W. J. Han, G. M. Ha, S. Y. Jang, M. Rani, M. Hong, S. Yeo, G. Y. (2014). Levels and profiles of persistent organic pollutants in resident and migratory birds from an urbanized coastal region of South Korea. *Sci Total Environ*. 470: 1463-1470.
- Hradkova, PP, J. Kalachova, K. Hlouskova, V. Tomaniova, M. Poustka, J. Hajslova, J. (2012). Occurrence of Halogenated Contaminants in Fish from Selected River Localities and Ponds in the Czech Republic. *Arch Environ Contam Toxicol*. 62: 85-96.
- Hu, JCI, J. Wang, Y. Ma, Z. H. Zheng, W. J. (2011). Levels of polybrominated diphenyl ethers and hexabromocyclododecane in the atmosphere and tree bark from Beijing, China. *Chemosphere*. 84: 355-360.
- Hu, XH, Decong Xu, Ying. (2009). Effects of tetrabrominated diphenyl ether and hexabromocyclododecanes in single and complex exposure to hepatoma HepG2 cells. *Environ Toxicol Pharmacol*. 27: 327-337.
- Hu, XH, Decong Song, Qi Li, Jing Wang, Peng. (2011). Determinations of hexabromocyclododecane (HBCD) isomers in channel catfish, crayfish, hen eggs and fish feeds from China by isotopic dilution LCÅ€“MS/MS. *Chemosphere*. 82: 698-707.
- Huang, HLZ, S. Z. Lv, J. T. Wen, B. Wang, S. Wu, T. (2016). Experimental and Theoretical Evidence for Diastereomer- and Enantiomer-Specific Accumulation and Biotransformation of HBCD in Maize Roots. *Environmental Science & Technology*. 50: 12205-12213.
- Hwang, I-KK, Hee-Hyung Lee, In-Seok Oh, Jeong-Eun. (2012). Assessment of characteristic distribution of PCDD/Fs and BFRs in sludge generated at municipal and industrial wastewater treatment plants. *Chemosphere*. 88: 888-894.
- Ichihara, MY, A. Takakura, K. Kakutani, N. Sudo, M. (2014). Distribution and pollutant load of hexabromocyclododecane (HBCD) in sewage treatment plants and water from Japanese Rivers. *Chemosphere*. 110: 78-84.
- Ilyas, MS, Agus Setiawan, Iwan Eka Riyadi, Adi Slamet Isobe, Tomohiko Takahashi, Shin Tanabe, Shinsuke. (2011). Characterization of polychlorinated biphenyls and brominated flame retardants in sediments from riverine and coastal waters of Surabaya, Indonesia. *Mar Pollut Bull*. 62: 89-98.

Environmental Hazard Literature Search Results

Off Topic

- Ilyas, MS, A. Setiawan, I. E. Riyadi, A. S. Isobe, T. Ogawa, S. Takahashi, S. Tanabe, S. (2011). Characterization of polychlorinated biphenyls and brominated flame retardants in surface soils from Surabaya, Indonesia. *Chemosphere*. 83: 783-791. [Chemosphere].
- Ilyas, MS, A. Setiawan, I. E. Riyadi, A. S. Isobe, T. Tanabe, S. (2013). Characterization of polychlorinated biphenyls and brominated flame retardants in sludge, sediment and fish from municipal dumpsite at Surabaya, Indonesia. *Chemosphere*. 93: 1500-1510. [Chemosphere].
- Ilyina, TH, R. W. (2010). Scenarios of Temporal and Spatial Evolution of Hexabromocyclododecane in the North Sea. *Environmental Science & Technology*. 44: 4622-4628.
- inc, ACCWrl. (102). Hexabromocyclododecane (hbcdd): a 90-day oral (gavage) toxicity study of hbcdd in rats - final report, with cover letter dated 010302. Epa/Ots. 001424: 0102-001424.
- inc, CMAWrl. (397). A 28-day repeated dose oral toxicity study of hexabromocyclododecane (hbcdd) in rats with cover letter dated 03/18/1997. Epa/Ots0397-1289.
- inc, CMAWrl. (898). Support: report addendum, a 28-day repeated dose oral toxicity study of hbcdd in rats, with cover letter dated 6/19/1998. Epa/Ots0898-1289.
- inc, CMAWi. (1997). Hexabromocyclododecane (hbcdd): determination of the vapor pressure using a spinning rotor gauge with cover letter dated 08/15/1997. Epa/OtsOrder this.
- inc, CMAWrl. (1998). Addendum to final report (thyroid histopathology), a 28-day repeated dose oral toxicity study of hbcdd in rats, with cover letter dated 6/18/1998. Epa/Ots. 980000155: #86-980000155.
- inc, ECPri. (1990). Acute exposure dermal toxicity test in rabbits (82 epa/oecd) with attachments and cover letter dated 030890. Epa/Ots. 900000167: #86-900000167.
- inc, ECPri. (1990). Acute exposure oral toxicity study in rats (83 epa/oecd) with attachments and cover letter dated 030890. Epa/Ots. 900000166: #86-900000166.
- inc, ECPri. (1990). Primary dermal irritation study in rabbits with attachments and cover letter dated 030890. Epa/Ots. 900000168: #86-900000168.
- inc, ECPri. (1990). Primary eye irritation test epa/82 with attachments and cover letter dated 030890. Epa/Ots. 900000165: #86-900000165.
- inst, BCP. (1990). Hexabromocyclododecane: 90-day feeding trials with rats with attachments and cover letter dated 031290. Epa/Ots. 900000380: #86-900000380.
- Ismail, NG, S. B. Pleskach, K. Whittle, D. M. Helm, P. A. Marvin, C. H. Tomy, G. T. (2009). BROMINATED AND CHLORINATED FLAME RETARDANTS IN LAKE ONTARIO, CANADA, LAKE TROUT (SALVELINUS NAMAYCUSH) BETWEEN 1979 AND 2004 AND POSSIBLE INFLUENCES OF FOOD-WEB CHANGES. *Environ Toxicol Chem*. 28: 910-920.
- Isobe, TO, Yoko Ramu, Karri Yamamoto, Takahito Tajima, Yuko Yamada, Tadasu K. Amano, Masao Miyazaki, Nobuyuki Takahashi, Shin Tanabe, Shinsuke. (2009). Organohalogen contaminants in striped dolphins (*Stenella coeruleoalba*) from Japan: Present contamination status, body distribution and temporal trends (1978-2003). *Mar Pollut Bull*. 58: 396-401.
- Isobe, TO, T. Hamada, H. Nakayama, K. Yamada, T. K. Tajima, Y. Amano, M. Tanabe, S. (2011). Contamination status of POPs and BFRs and relationship with parasitic infection in finless porpoises (*Neophocaena phocaenoides*) from Seto Inland Sea and Omura Bay, Japan. *Mar Pollut Bull*. 63: 564-571.
- Isobe, TO, S. P. Ramu, K. Sudaryanto, A. Tanabe, S. (2012). Geographical distribution of non-PBDE-brominated flame retardants in mussels from Asian coastal waters. *Environ Sci Pollut Res Int*. 19: 3107-3117. [Environmental science and pollution research international].
- Ito, AF, N. Okamoto, T. Ando, Y. Watanabe, H. (1994). Tumorigenicity study of phloxine (FR 104) in B6C3F1 mice. *Food Chem Toxicol*. 32: 517-520.
- Janak, KC, A. Voorspoels, S. Becher, G. (2005). Hexabromocyclododecane in marine species from the Western Scheldt Estuary: Diastereoisomer- and enantiomer-specific accumulation. *Environmental Science & Technology*. 39: 1987-1994.
- Jarque, SPa, Benjamin. (2014). Deiodinases and thyroid metabolism disruption in teleost fish. *Environ Res*. 135: 361-375.
- Jaspers, VC, A. Maervoet, J. Dauwe, T. Voorspoels, S. Schepens, P. Eens, M. (2005). Brominated flame retardants and organochlorine pollutants in eggs of little owls (*Athene noctua*) from Belgium. *Environ Pollut*. 136: 81-88.
- Jenkins, SA. (1990). Studies of oligomeric tetrahydrofurans and a synthesis of 5,5',alpha,alpha'-tetraepi-teurilene. PhD, University of Minnesota , Ann Arbor.
- Jenssen, BMS, Eugen G. Baek, Kine Bytingsvik, Jenny Gaustad, Hege Ruus, Anders Skaare, Janneche Utne. (2007). Brominated Flame Retardants in North-East Atlantic Marine Ecosystems. *Environ Health Perspect*. 115: 35-41.
- Jeong, GHH, N. R. Hwang, E. H. Lee, B. C. Yoon, J. (2014). Hexabromocyclododecanes in crucian carp and sediment from the major rivers in Korea. *Sci Total Environ*. 470: 1471-1478.
- Johansson, AKS, U. Lindberg, P. Bignert, A. de Wit, C. A. (2011). Temporal trends of polybrominated diphenyl ethers and hexabromocyclododecane in Swedish Peregrine Falcon (*Falco peregrinus peregrinus*) eggs. *Environ Int*. 37: 678-686.
- Johansson, FA, Annika Erixon, Klaus MalmvÃrn, Anna Nilsson, Robert Bergman, Ã...ke Helleday, Thomas Jenssen, Dag. (2004). Screening for genotoxicity using the DRAG assay: investigation of halogenated environmental contaminants. *Mutation Research/Genetic Toxicology and Environmental Mutagenesis*. 563: 35-47.
- Johrens, KS, Y. Anagnostopoulos, I. Schiffmann, S. Tiacci, E. Falini, B. Stein, H. (2005). T-bet-positive and IRTA1-positive monocytoid B cells differ from marginal zone B cells and epithelial-associated B cells in their antigen profile and topographical distribution. *Haematologica-the Hematology Journal*. 90: 1070-1077.
- Jorundsdottir, HL, K. Svavarsson, J. Bignert, A. Bergman, A. (2013). Polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) in seven different marine bird species from Iceland. *Chemosphere*. 93: 1526-1532.
- Kajiwara, ND, J. Harrad, S. Takigami, H. (2013). Photolysis of brominated flame retardants in textiles exposed to natural sunlight. *Environmental Science-Processes & Impacts*. 15: 653-660.

Environmental Hazard Literature Search Results

Off Topic

- Kajiwaru, NH, Osamu Takigami, Hidetaka Noma, Yukio Tachifuji, Ayako Matsufuji, Yasushi. (2014). Leaching of brominated flame retardants from mixed wastes in lysimeters under conditions simulating landfills in developing countries. *Chemosphere*. 116: 46-53.
- Kajiwaru, NN, Yukio Takigami, Hidetaka. (2011). Brominated and organophosphate flame retardants in selected consumer products on the Japanese market in 2008. *J Hazard Mater*. 192: 1250-1259.
- Kajiwaru, NS, M. Ohiwa, T. Takigami, H. (2009). Determination of flame-retardant hexabromocyclododecane diastereomers in textiles. *Chemosphere*. 74: 1485-1489.
- Kajiwaru, NT, H. (2013). Emission behavior of hexabromocyclododecanes and polybrominated diphenyl ethers from flame-retardant-treated textiles. *Environ Sci Process Impacts*. 15: 1957-1963. [Environmental science. Processes & impacts].
- Kajiwaru, NT, Hidetaka. (2016). Particle size distribution of brominated flame retardants in house dust from Japan. *Emerging Contaminants*. 2: 109-117.
- Kalachova, KH, P. Lankova, D. Hajslova, J. Pulkrabova, J. (2012). Occurrence of brominated flame retardants in household and car dust from the Czech Republic. *Sci Total Environ*. 441: 182-193.
- Kang, NHH, K. A. Kim, T. H. Hyun, S. H. Jeung, E. B. Choi, K. C. (2012). Induced growth of BG-1 ovarian cancer cells by 17 β -estradiol or various endocrine disrupting chemicals was reversed by resveratrol via downregulation of cell cycle progression. *Mol Med Rep*. 6: 151-156. [Molecular medicine reports].
- Kemmlin, SH, D. Law, R. J. (2003). BFR - governmental testing programme. *Environ Int*. 29: 781-792.
- Kemmlin, SH, O. Jann, O. (2003). Emissions of organophosphate and brominated flame retardants from selected consumer products and building materials. *Atmos Environ*. 37: 5485-5493.
- Keune, HG, A. C. Zimmer, K. E. Ravnum, S. Yang, A. Bartonova, A. von Krauss, M. K. Ropstad, E. Eriksen, G. S. Saunders, M. Magnanti, B. Forsberg, B. (2012). We're only in it for the knowledge? A problem solving turn in environment and health expert elicitation. *Environmental Health*. 11: S3-S3.
- Kim, GBS, H. M. (2010). PBDEs, methoxylated PBDEs and HBCDs in Japanese common squid (*Todarodes panificus*) from Korean offshore waters. *Mar Pollut Bull*. 60: 935-940.
- Kim, JTS, M. H. Kang, J. H. Kim, J. H. Jung, J. W. Chang, Y. S. (2015). Occurrence of Legacy and New Persistent Organic Pollutants in Avian Tissues from King George Island, Antarctica. *Environmental Science & Technology*. 49: 13628-13638.
- Kim, SHN, K. H. Hwang, K. A. Choi, K. C. (2016). Influence of hexabromocyclododecane and 4-nonylphenol on the regulation of cell growth, apoptosis and migration in prostatic cancer cells. *Toxicol In Vitro*. 32: 240-247.
- Klaassen, CD. (1975). Effect of spironolactone on the distribution of mercury. *Toxicol Appl Pharmacol*. 33: 366-375.
- Klamer, HJCL, P. E. G. Lamoree, M. H. Villerius, L. A. Akerman, J. E. Bakker, J. F. (2005). A chemical and toxicological profile of Dutch North Sea surface sediments. *Chemosphere*. 58: 1579-1587.
- Kling, PF, L. (2009). Proteomic studies in zebrafish liver cells exposed to the brominated flame retardants HBCD and TBBPA. *Ecotoxicol Environ Saf*. 72: 1985-1993.
- Klosterhaus, SLS, H. M. La Guardia, M. J. Greig, D. J. (2012). Brominated and chlorinated flame retardants in San Francisco Bay sediments and wildlife. *Environ Int*. 47: 56-65.
- Knutsen, HKK, H. E. Thomsen, C. Froshaug, M. Haugen, M. Becher, G. Alexander, J. Meltzer, H. M. (2008). Dietary exposure to brominated flame retardants correlates with male blood levels in a selected group of Norwegians with a wide range of seafood consumption. *Molecular Nutrition & Food Research*. 52: 217-227.
- Koch, CD, A. Aragon-Gomez, J. Nachev, M. Stephan, S. Willach, S. Ulbricht, M. Schmitz, O. J. Schmidt, T. C. Sures, B. (2016). Degradation of Polymeric Brominated Flame Retardants: Development of an Analytical Approach Using PolyFR and UV Irradiation. *Environmental Science & Technology*. 50: 12912-12920.
- Koch, CS-K, T. Rupp, R. Sures, B. (2015). Review of hexabromocyclododecane (HBCD) with a focus on legislation and recent publications concerning toxicokinetics and -dynamics. *Environ Pollut*. 199: 26-34.
- Kohler, MZ, M. Bogdal, C. Gerecke, A. C. Schmid, P. Heeb, N. V. Sturm, M. Vonmont H Aempa, Swiss Federal Laboratories for Materials Testing Research, Uberlandstrasse DÃ bendorf Sritzerland martin kohler bluewin ch Kohler, H. P. Giger, W. (2008). Temporal trends, congener patterns, and sources of octa-, nona-, and decabromodiphenyl ethers (PBDE) and hexabromocyclododecanes (HBCD) in Swiss lake sediments. *Environ Sci Technol*:6378-6384.
- Koike, EY, R. Takigami, H. Takano, H. (2013). Brominated flame retardants stimulate mouse immune cells in vitro. *J Appl Toxicol*. 33: 1451-1459.
- Koppen, RB, R. Jung, C. Nehls, I. (2008). On the thermally induced isomerisation of hexabromocyclododecane stereoisomers. *Chemosphere*. 71: 656-662.
- Kovarich, SP, Ester Gramatica, Paola. (2011). QSAR classification models for the prediction of endocrine disrupting activity of brominated flame retardants. *J Hazard Mater*. 190: 106-112.
- Krivoshiev, BVD, F. Blust, R. Covaci, A. Husson, S. J. (2015). Elucidating toxicological mechanisms of current flame retardants using a bacterial gene profiling assay. *Toxicol In Vitro*. 29: 2124-2132.
- Krivoshiev, BVD, F. Covaci, A. Blust, R. Husson, S. J. (2016). Assessing in-vitro estrogenic effects of currently-used flame retardants. *Toxicol In Vitro*. 33: 153-162.
- Kuang, JMM, Y. N. Harrad, S. (2016). Concentrations of "legacy" and novel brominated flame retardants in matched samples of UK kitchen and living room/bedroom dust. *Chemosphere*. 149: 224-230.
- KukuÅ ka, PA, OndÅ™ej Kohoutek, JiÅ™Å- Holt, Eva KalÅibovÅi, Tereza Holoubek, Ivan KlÅinovÅi, Jana. (2015). Source identification, spatio-temporal distribution and ecological risk of persistent organic pollutants in sediments from the upper Danube catchment. *Chemosphere*. 138: 777-783.

Environmental Hazard Literature Search Results

Off Topic

- Kunisue, TT, N. Isobe, T. Takahashi, S. Nakatsu, S. Tsubota, T. Okumoto, K. Bushisue, S. Shindo, K. Tanabe, S. (2008). Regional trend and tissue distribution of brominated flame retardants and persistent organochlorines in raccoon dogs (*Nyctereutes procyonoides*) from Japan. *Environ Sci Technol.* 42: 685-691. [Environmental science & technology].
- La Guardia, MJH, R. C. Harvey, E. Mainor, T. M. Ciparis, S. (2012). In Situ Accumulation of HBCD, PBDEs, and Several Alternative Flame-Retardants in the Bivalve (*Corbicula fluminea*) and Gastropod (*Elimia proxima*). *Environmental Science & Technology.* 46: 5798-5805.
- Labandeira, AE, E. Barcelo, D. (2007). Congener distribution of polybrominated diphenyl ethers in feral carp (*Cyprinus carpio*) from the Llobregat River, Spain. *Environ Pollut.* 146: 188-195.
- labs, GLCClb-t. (1990). Mutagenicity of two lots of fm-100 lot 53 and residue of lot 3322 in the absence and presence of metabolic activation with test data and cover letter. *Epa/Ots.* 900000267: #86-900000267.
- labs, MC1b-t. (1992). Initial submission: acute inhalation toxicity study with pyrolytic products of hexabromocyclododecane in rats with cover letter dated 080592. *Epa/Ots.* 920007160: #88-920007160.
- Lam, JCL, R. K. Murphy, M. B. Lam, P. K. (2009). Temporal trends of hexabromocyclododecanes (HBCDs) and polybrominated diphenyl ethers (PBDEs) and detection of two novel flame retardants in marine mammals from Hong Kong, South China. *Environ Sci Technol.* 43: 6944-6949. [Environmental science & technology].
- Lang, HJ. (1990). Nitrification in soilless potting media. PhD, The Pennsylvania State University, Ann Arbor.
- Law, KH, T. Danell, R. Stern, G. Gewurtz, S. Alaee, M. Marvin, C. Whittle, M. Tomy, G. (2006). Bioaccumulation and trophic transfer of some brominated flame retardants in a Lake Winnipeg (Canada) food web. *Environ Toxicol Chem.* 25: 2177-2186.
- Law, RJ. (2014). An overview of time trends in organic contaminant concentrations in marine mammals: going up or down? *Mar Pollut Bull.* 82: 7-10. [Marine pollution bulletin].
- Law, RJA, C. R. de Boer, J. Covaci, A. Herzke, D. Lepom, P. Morris, S. Tronczynski, J. de Wit, C. A. (2006). Levels and trends of brominated flame retardants in the European environment. *Chemosphere.* 64: 187-208.
- Law, RJB, P. Allchin, C. R. Barry, J. (2006). Levels of the flame retardants hexabromocyclododecane and tetrabromobisphenol A in the blubber of harbor porpoises (*Phocoena phocoena*) stranded or bycaught in the UK, with evidence for an increase in HBCD concentrations in recent years. *Environmental Science & Technology.* 40: 2177-2183.
- Law, RJB, P. Barry, J. Wilford, B. H. Allchin, C. R. Jepson, P. D. (2008). A Significant Downturn in Levels of Hexabromocyclododecane in the Blubber of Harbor Porpoises (*Phocoena phocoena*) Stranded or Bycaught in the UK: An Update to 2006. *Environmental Science & Technology.* 42: 9104-9109.
- Law, RJB, P. Barry, J. Deaville, R. Reid, R. J. Jepson, P. D. (2010). Chlorobiphenyls in the blubber of harbour porpoises (*Phocoena phocoena*) from the UK: Levels and trends 1991-2005. *Mar Pollut Bull.* 60: 470-473.
- Law, RJB, J. Barber, J. L. Bersuder, P. Deaville, R. Reid, R. J. Brownlow, A. Penrose, R. Barnett, J. Loveridge, J. Smith, B. Jepson, P. D. (2012). Contaminants in cetaceans from UK waters: status as assessed within the Cetacean Strandings Investigation Programme from 1990 to 2008. *Mar Pollut Bull.* 64: 1485-1494. [Marine pollution bulletin].
- Law, RJH, D. Harrad, S. Morris, S. Bersuder, P. Allchin, C. R. (2008). Levels and trends of HBCD and BDEs in the European and Asian environments, with some information for other BFRs. *Chemosphere.* 73: 223-241. [Chemosphere].
- Law, RJK, M. Heeb, N. V. Gerecke, A. C. Schmid, P. Voorspoels, S. Covaci, A. Becher, G. Janak, K. Thomsen, C. (2005). Hexabromocyclododecane challenges scientists and regulators. *Environmental Science & Technology.* 39: 281A-287A.
- Lazado, CCC, C. M. A. Gallage, S. Brinchmann, M. F. Kiron, V. (2010). Responses of Atlantic cod *Gadus morhua* head kidney leukocytes to phytase produced by gastrointestinal-derived bacteria. *Fish Physiology and Biochemistry.* 36: 883-891.
- Le, TTS, Min-Hui Nam, In-Huyn Yoon, Hakwon Kang, Yu-Gyeong Chang, Yoon-Seok. (2017). Transformation of hexabromocyclododecane in contaminated soil in association with microbial diversity. *J Hazard Mater.* 325: 82-89.
- Lee, ISK, H. H. Kim, U. J. Oh, J. E. (2015). Brominated flame retardants in Korean river sediments, including changes in polybrominated diphenyl ether concentrations between 2006 and 2009. *Chemosphere.* 126: 18-24.
- Lee, SCS, Ed Harner, Tom Pozo, Karla Barresi, Enzo Schachtschneider, JoAnne Zaruk, Donna DeJong, Maryl Narayan, Julie. (2016). Retrospective analysis of "new" flame retardants in the global atmosphere under the GAPS Network. *Environ Pollut.* 217: 62-69.
- Leslie, HAL, P. E. G. Shore, R. F. Walker, L. A. Bersuder, P. R. C. Morris, S. Allchin, C. R. de Boer, J. (2011). Decabromodiphenylether and hexabromocyclododecane in wild birds from the United Kingdom, Sweden and The Netherlands: Screening and time trends. *Chemosphere.* 82: 88-95.
- Letcher, RJF, K. Wesloh, D. V. C. Shahmiri, S. Gauthier, L. (2006). Novel Brominated and Chlorinated Hydrocarbon Contaminants in Fish-Eating Waterbirds From the Great Lakes: Presence and Trends in Herring Gulls (*Larus argentatus*) and Peregrine Falcons (*Falco peregrinus*). *Annual Conference on Great Lakes Research.* 49.
- Letcher, RJG, W. A. Sonne, C. Born, E. W. McKinney, M. A. Dietz, R. (2009). Bioaccumulation and biotransformation of brominated and chlorinated contaminants and their metabolites in ringed seals (*Pusa hispida*) and polar bears (*Ursus maritimus*) from East Greenland. *Environ Int.* 35: 1118-1124.
- Li, DM, Z. Zhong, Y. Huang, W. L. Wu, Y. D. Peng, P. A. (2016). Reductive transformation of tetrabromobisphenol A by sulfidated nano zerovalent iron. *Water Res.* 103: 1-9.
- Li, DP, P. A. Yu, Z. Q. Huang, W. L. Zhong, Y. (2016). Reductive transformation of hexabromocyclododecane (HBCD) by FeS. *Water Res.* 101: 195-202.
- Li, FJ, J. Tan, D. Q. Wang, L. X. Geng, N. B. Cao, R. Gao, Y. Chen, J. P. (2016). Hexabromocyclododecane and tetrabromobisphenol A in sediments and paddy soils from Liaohhe River Basin, China: Levels, distribution and mass inventory. *J Environ Sci.* 48: 209-217.
- Li, HHS, H. T. Wang, P. Wang, Y. W. Zhang, H. D. Zhang, Q. H. Jiang, G. B. (2013). Occurrence and distribution of hexabromocyclododecane in sediments from seven major river drainage basins in China. *J Environ Sci.* 25: 69-76.

Environmental Hazard Literature Search Results

Off Topic

- Li, HHZ, Q. H. Wang, P. Li, Y. M. Lv, J. X. Chen, W. H. Geng, D. W. Wang, Y. W. Wang, T. Jiang, G. B. (2012). Levels and distribution of hexabromocyclododecane (HBCD) in environmental samples near manufacturing facilities in Laizhou Bay area, East China. *J Environ Monit.* 14: 2591-2597.
- Li, LW, R. Liu, J. G. Hu, J. X. (2016). Long-term emissions of hexabromocyclododecane as a chemical of concern in products in China. *Environ Int.* 91: 291-300.
- Li, WLH, C. Y. Liu, L. Y. Song, W. W. Zhang, Z. F. Ma, W. L. Qiao, L. N. Li, Y. F. (2016). Multi-year air monitoring of legacy and current-use brominated flame retardants in an urban center in northeastern China. *Sci Total Environ.* 571: 633-642.
- Li, Y-DY, Xia Na, Guang-Shui. (2010). Progress in Research on the Hexabromocyclododecane in Environment. *Journal of Environment and Health.* 27: 933-936.
- Li, ZHZ, V. Turek, J. Velisek, J. Pulkrabova, J. Kolarova, J. Sudova, E. Berankova, P. Hradkova, P. Hajslova, J. Randak, T. (2011). Evaluating environmental impact of STPs situated on streams in the Czech Republic: an integrated approach to biomonitoring the aquatic environment. *Water Res.* 45: 1403-1413. [Water research].
- Liang, DW, C. Sun, J. Li, S. P. (2016). Photolytic degradation of tris-(2,3-dibromopropyl) isocyanurate (TBC) in aqueous systems. *Environ Technol.* 37: 2292-2297.
- Lindberg, PS, U. Haggberg, L. de Wit, C. A. (2004). Higher brominated diphenyl ethers and hexabromocyclododecane found in eggs of peregrine falcons (*Falco peregrinus*) breeding in Sweden. *Environmental Science & Technology.* 38: 93-96.
- Lo, KWS-R, S. C. Jans, U. (2012). Investigation of the reaction of hexabromocyclododecane with polysulfide and bisulfide in methanol/water solutions. *Chemosphere.* 87: 158-162.
- Losada, SR, A. Roosens, L. Santos, F. J. Galceran, M. T. Vetter, W. Neels, H. Covaci, A. (2009). Biomagnification of anthropogenic and naturally-produced organobrominated compounds in a marine food web from Sydney Harbour, Australia. *Environ Int.* 35: 1142-1149. [Environment international].
- Itd, ACCWi. (902). Support: Itr fr amer chem council to usepa submitting 2 env effcts stdies on tetrabromobisphenol a & an addendum to a 90-day tox stdy on hbcd in rats, w/attchmnts & dtd 072502. *Epa/Ots0902-1424.*
- Lundstedt-Enkel, KA, L. Nylund, K. Bignert, A. Tysklind, M. Olsson, M. Orberg, J. (2006). Multivariate data analysis of organochlorines and brominated flame retardants in Baltic Sea guillemot (*Uria aalge*) egg and muscle. *Chemosphere.* 65: 1591-1599.
- Lundstedt-Enkel, KJ, A. K. Tysklind, M. Asplund, L. Nylund, K. Olsson, M. Orberg, J. (2005). Multivariate data analyses of chlorinated and brominated contaminants and biological characteristics in adult guillemot (*Uria aalge*) from the Baltic Sea. *Environmental Science & Technology.* 39: 8630-8637.
- Ma, XDZ, H. J. Yao, Z. W. Zhao, X. F. Wang, L. X. Wang, Z. Chen, J. P. Chen, J. W. (2013). Bioaccumulation and trophic transfer of polybrominated diphenyl ethers (PBDEs) in a marine food web from Liaodong Bay, North China. *Mar Pollut Bull.* 74: 110-115.
- Managaki, SE, I. Masunaga, S. (2012). Sources and distribution of hexabromocyclododecanes (HBCDs) in Japanese river sediment. *J Environ Monit.* 14: 901-907.
- Mankidy, RR, B. Honaramooz, A. Giesy, J. P. (2014). Effects of novel brominated flame retardants on steroidogenesis in primary porcine testicular cells. *Toxicol Lett.* 224: 141-146.
- Manna, RND-D, Agnieszka. (2014). A computational study of the dechlorination of \hat{I}^2 -hexachlorocyclohexane (\hat{I}^2 -HCH) catalyzed by the haloalkane dehalogenase LinB. *Arch Biochem Biophys.* 562: 43-50.
- Mariussen, EF, F. (2003). The effect of brominated flame retardants on neurotransmitter uptake into rat brain synaptosomes and vesicles. *Neurochem Int.* 43: 533-542.
- Mariussen, EF, E. Breivik, K. Steinnes, E. Borgen, A. Kjellberg, G. Schlabach, M. (2008). Elevated levels of polybrominated diphenyl ethers (PBDEs) in fish from Lake Mjosa, Norway. *Sci Total Environ.* 390: 132-141.
- Mark, FEV, J. Dresch, H. Dima, B. Gruttner, W. Horn, J. (2015). Destruction of the flame retardant hexabromocyclododecane in a full-scale municipal solid waste incinerator. *Waste Management & Research.* 33: 165-174.
- Marteinson, SCB, D. M. Shutt, J. L. Letcher, R. J. Ritchie, I. J. Fernie, K. J. (2010). MULTI-GENERATIONAL EFFECTS OF POLYBROMINATED DIPHENYLETHERS EXPOSURE: EMBRYONIC EXPOSURE OF MALE AMERICAN KESTRELS (*FALCO SPARVERIUS*) TO DE-71 ALTERS REPRODUCTIVE SUCCESS AND BEHAVIORS. *Environ Toxicol Chem.* 29: 1740-1747.
- Maurice, NO, Jean-Charles Cariou, Ronan Marchand, Philippe Dervilly-Pinel, Gaud Le Bizec, Bruno Travel, AngÃ©lique Jondreville, Catherine Schroeder, Henri. (2015). Assessment of the short-term neurobehavioral toxicity of a perinatal exposure to the hexabromocyclododecane (HBCDD) \hat{I}^{\pm} -isomer in rats. *Neurotoxicol Teratol.* 49: 123.
- McHugh, BP, R. Corcoran, J. Anninou, P. Boyle, B. Joyce, E. Barry Foley, M. McGovern, E. (2010). The occurrence of persistent chlorinated and brominated organic contaminants in the European eel (*Anguilla anguilla*) in Irish waters. *Chemosphere.* 79: 305-313. [Chemosphere].
- McKinney, MAC, L. S. Elliott, J. E. Williams, T. D. Garcelon, D. K. Letcher, R. J. (2006). Brominated flame retardants and halogenated phenolic compounds in North American west coast bald eaglet (*Haliaeetus leucocephalus*) plasma. *Environmental Science & Technology.* 40: 6275-6281.
- McKinney, MAL, R. J. Aars, J. Born, E. W. Branigan, M. Dietz, R. Evans, T. J. Gabrielsen, G. W. Peacock, E. Sonne, C. (2011). Flame retardants and legacy contaminants in polar bears from Alaska, Canada, East Greenland and Svalbard, 2005-2008. *Environ Int.* 37: 365-374.
- McKinney, MAS, Ian Lunn, Nick J. Peacock, Elizabeth Letcher, Robert J. (2010). The role of diet on long-term concentration and pattern trends of brominated and chlorinated contaminants in western Hudson Bay polar bears, 1991-2007. *Sci Total Environ.* 408: 6210-6222.
- Medvedeva, NGP, Y. M. Zaytseva, T. B. Zharikov, G. A. (2012). Destruction of Mustard Gas Hydrolysis Products by Marine and Soil Bacteria. *Biology Bulletin.* 39: 77-84.
- Melymuk, LG, Emma Riddell, Nicole Diamond, Miriam L. (2015). Interlaboratory study of novel halogenated flame retardants: INTERFLAB. *Anal Bioanal Chem.* 407: 6759-6769.

Environmental Hazard Literature Search Results

Off Topic

- Meng, JH, Seongjin Wang, Tiyu Li, Qifeng Yoon, Seo Joon Lu, Yonglong Giesy, John P. Khim, Jong Seong. (2017). Traditional and new POPs in environments along the Bohai and Yellow Seas: An overview of China and South Korea. *Chemosphere*. 169: 503-515.
- Meyer, TM, D. C. G. Teixeira, C. Wang, X. W. Young, T. Wania, F. (2012). Deposition of Brominated Flame Retardants to the Devon Ice Cap, Nunavut, Canada. *Environmental Science & Technology*. 46: 826-833.
- Miller, AE, John E. Elliott, Kyle H. Guigueno, M. F. Wilson, Laurie K. Lee, Sandi Idrissi, Abde. (2014). Spatial and temporal trends in brominated flame retardants in seabirds from the Pacific coast of Canada. *Environ Pollut*. 195: 48-55.
- Miller, AE, J. E. Elliott, K. H. Guigueno, M. F. Wilson, L. K. Lee, S. Idrissi, A. (2015). Brominated flame retardant trends in aquatic birds from the Salish Sea region of the west coast of North America, including a mini-review of recent trends in marine and estuarine birds. *Sci Total Environ*. 502: 60-69.
- Minh, V-DD, Gerald Francis Nam, Doan Dinh Linaweaver, Paul G. Harvey, Claude. (1979). Immersion vs pressure-breathing and diaphragmatic function in the upright position. *Respiration Physiology*. 36: 39-49.
- Mohar, MF. (1991). Production of proton-rich nuclei between nickel and zirconium. PhD, Michigan State University, Ann Arbor.
- Montie, EWL, R. J. Reddy, C. M. Moore, M. J. Rubinstein, B. Hahn, M. E. (2010). Brominated flame retardants and organochlorine contaminants in winter flounder, harp and hooded seals, and North Atlantic right whales from the Northwest Atlantic Ocean. *Mar Pollut Bull*. 60: 1160-1169.
- Morgenstern, JA, T. Leblanc, R. Naumann, U. Schettler, H. Wolf, P. (1986). Chapter 19 - The fetal phonocardiogram A2 - Rolfe, Peter. *Fetal Physiological Measurements* 115-123.
- Muir, DCGB, S. Derocher, A. E. Dietz, R. Evans, T. J. Gabrielsen, G. W. Nagy, J. Norstrom, R. J. Sonne, C. Stirling, I. Taylor, M. K. Letcher, R. J. (2006). Brominated flame retardants in polar bears (*Ursus maritimus*) from Alaska, the Canadian Arctic, East Greenland, and Svalbard. *Environmental Science & Technology*. 40: 449-455.
- Munro, SB, Bert J. E. G. Colley, Karen J. Tedder, Thomas F. (1992). The B lymphocyte surface antigen CD75 is not an α -2,6-sialyltransferase but is a carbohydrate antigen, the production of which requires the enzyme. *Cell*. 68: 1003.
- Munsch, CM, P. Venisseau, A. Veyrand, B. Zendong, Z. (2013). Levels and trends of the emerging contaminants HBCDs (hexabromocyclododecanes) and PFCs (perfluorinated compounds) in marine shellfish along French coasts. *Chemosphere*. 91: 233-240.
- Munsch, CO, N. Veyrand, B. Marchand, P. (2015). Occurrence of legacy and emerging halogenated organic contaminants in marine shellfish along French coasts. *Chemosphere*. 118: 329-335.
- Murvoll, KMS, J. U. Anderssen, E. Jenssen, B. M. (2006). Exposure and effects of persistent organic pollutants in European shag (*Phalacrocorax aristotelis*) hatchlings from the coast of Norway. *Environ Toxicol Chem*. 25: 190-198.
- Murvoll, KMS, J. U. Moe, B. Anderssen, E. Jenssen, B. M. (2006). Spatial trends and associated biological responses of organochlorines and brominated flame retardants in hatchlings of North Atlantic kittiwakes (*Rissa tridactyla*). *Environ Toxicol Chem*. 25: 1648-1656.
- Murvoll, KMS, J. U. Jensen, H. Jenssen, B. M. (2007). Associations between persistent organic pollutants and vitamin status in Brunnich's guillemot and common eider hatchlings. *Sci Total Environ*. 381: 134-145.
- Newton, SS, U. de Wit, C. A. (2015). Emerging Flame Retardants, PBDEs, and HBCDDs in Indoor and Outdoor Media in Stockholm, Sweden. *Environmental Science & Technology*. 49: 2912-2920.
- Ni, HGL, S. Y. Mo, T. Zeng, H. (2016). Brominated flame retardant emissions from the open burning of five plastic wastes and implications for environmental exposure in China. *Environ Pollut*. 214: 70-76.
- Ni, HGZ, H. (2013). HBCD and TBBPA in particulate phase of indoor air in Shenzhen, China. *Sci Total Environ*. 458: 15-19.
- Noel, J-PF. (1990). Residual lattice defects in silicon(100) films doped with low-energy positive boron and positive arsenic ions during growth by molecular beam epitaxy: Variation with ion energy and growth temperature. PhD, University of Illinois at Urbana-Champaign, Ann Arbor.
- Nordlof, UH, B. Bignert, A. Asplund, L. (2010). Levels of brominated flame retardants and methoxylated polybrominated diphenyl ethers in eggs of white-tailed sea eagles breeding in different regions of Sweden. *Sci Total Environ*. 409: 238-246.
- Nyholm, JRN, A. Norrgren, L. Haglund, P. Andersson, P. L. (2009). UPTAKE AND BIOTRANSFORMATION OF STRUCTURALLY DIVERSE BROMINATED FLAME RETARDANTS IN ZEBRAFISH (*DANIO RERIO*) AFTER DIETARY EXPOSURE. *Environ Toxicol Chem*. 28: 1035-1042.
- Oh, JKK, K. Managaki, S. Masunaga, S. (2014). Levels and distribution of hexabromocyclododecane and its lower brominated derivative in Japanese riverine environment. *Chemosphere*. 109: 157-163.
- Okonski, KD, C. Melymuk, L. Landlova, L. Kukucka, P. Vojta, S. Kohoutek, J. Cupr, P. Klanova, J. (2014). Particle Size Distribution of Halogenated Flame Retardants and Implications for Atmospheric Deposition and Transport. *Environmental Science & Technology*. 48: 14426-14434.
- Olivier, BZ, L. Olry, J. C. Jondreville, C. Bouillaud-Kremarik, P. Schroeder, H. (2016). Perinatal exposure of rat pups to the HexaBromoCycloDoDecane (HBCDD) β -isomer affects sexual maturation and copulatory behavior at the adult stage. *Toxicol Lett*. 259, Supplement: S111.
- Olukunle, OI, O. J. (2015). Concentration of novel brominated flame retardants and HBCD in leachates and sediments from selected municipal solid waste landfill sites in Gauteng Province, South Africa. *Waste Manag*. 43: 300-306.
- Onogbolese, COS, M. D. (2014). Hexabromocyclododecane and Hexachlorocyclohexane: How Lessons Learnt Have Led to Improved Regulation. *Crit Rev Environ Sci Tech*. 44: 1423-1442.
- Oros, DRH, D. Rodigari, F. Crane, D. Sericano, J. (2005). Levels and distribution of polybrominated diphenyl ethers in water, surface sediments, and bivalves from the San Francisco Estuary. *Environmental Science & Technology*. 39: 33-41.
- Oster, MS, L. Beck, J. J. Howard, A. Field, C. B. (2014). Orientation behavior of predaceous ground beetle species in response to volatile emissions identified from yellow starthistle damaged by an invasive slug. *Arthropod-Plant Interactions*. 8: 429-437.
- Palm Cousins, ABm-Ln, Eva Hedlund, Britta. (2012). Prioritizing organic chemicals for long-term air monitoring by using empirical monitoring data application to data from the Swedish screening program. *Environ Monit Assess*. 184: 4647-4654.

Environmental Hazard Literature Search Results

Off Topic

- Parsing, BCUSS. (1990). Algal growth inhibition test with cover letter dated 031290. Epa/Ots. 900000391: #86-900000391.
- Parsing, BCUSS. (1990). Hexabromocyclododecane: 28-day feeding trials with rats with cover letter dated 031290. Epa/Ots. 900000376: #86-900000376.
- Parsing, BCUSS. (1990). Oxygen consumption test (using pseudomonas putida by the test method of robra) with cover letter dated 031290. Epa/Ots. 900000393: #86-900000393.
- Parsing, BCUSS. (1990). Report on the study of the acute oral toxicity of hexabromocyclododecane in the mouse with cover letter dated 031290. Epa/Ots. 900000383: #86-900000383.
- Parsing, BCUSS. (1990). Report on the study of the irritation of hexabromocyclododecane to the dorsal skin of rabbits after 20-hour exposure with cover letter dated 031290. Epa/Ots. 900000381: #86-900000381.
- Parsing, BCUSS. (1990). Report on the study of the primary irritation of hexabromocyclododecane to the eye of rabbits with cover letter dated 031290. Epa/Ots. 900000382: #86-900000382.
- Parsing, USEUSS. (2000). Economic analysis of proposed test rule for five brominated flame retardants with cover letter dated 101690. Epa/Ots. 90135011: #40-90135011.
- Peters, RJBB, H. van Delft, R. J. (2008). Xeno-estrogenic compounds in precipitation. *J Environ Monit.* 10: 760-769.
- Pierce, GJS, M. B. Murphy, S. Learmonth, J. A. Zuur, A. F. Rogan, E. Bustamante, P. Caurant, F. Lahaye, V. Ridoux, V. Zegers, B. N. Mets, A. Addink, M. Smeenk, C. Jauniaux, T. Law, R. J. Dabin, W. Lopez, A. Farre, J. M. A. Gonzalez, A. F. Guerra, A. Garcia-Hartmann, M. Reid, R. J. Moffat, C. F. Lockyer, C. Boon, J. P. (2008). Bioaccumulation of persistent organic pollutants in female common dolphins (*Delphinus delphis*) and harbour porpoises (*Phocoena phocoena*) from western European seas: Geographical trends, causal factors and effects on reproduction and mortality. *Environ Pollut.* 153: 401-415.
- Polder, AV, B. Skaare, J. U. Bouwman, H. (2008). Polybrominated diphenyl ethers and HBCD in bird eggs of South Africa. *Chemosphere.* 73: 148-154.
- Poma, GB, A. Volta, P. Roscioli, C. Guzzella, L. (2014). Evaluation of spatial distribution and accumulation of novel brominated flame retardants, HBCD and PBDEs in an Italian subalpine lake using zebra mussel (*Dreissena polymorpha*). *Environ Sci Pollut Res Int.* 21: 9655-9664.
- Poma, GR, C. Guzzella, L. (2014). PBDE, HBCD, and novel brominated flame retardant contamination in sediments from Lake Maggiore (Northern Italy). *Environ Monit Assess.* 186: 7683-7692.
- Poma, GV, P. Roscioli, C. Bettinetti, R. Guzzella, L. (2014). Concentrations and trophic interactions of novel brominated flame retardants, HBCD, and PBDEs in zooplankton and fish from Lake Maggiore (Northern Italy). *Sci Total Environ* 401-408.
- Qi, HL, W. L. Liu, L. Y. Song, W. W. Ma, W. L. Li, Y. F. (2014). Brominated flame retardants in the urban atmosphere of Northeast China: Concentrations, temperature dependence and gas-particle partitioning. *Sci Total Environ.* 491: 60-66.
- Ramu, KI, Tomohiko Takahashi, Shin Kim, Eun-Young Min, Byung-Yoon We, Sung-Ug Tanabe, Shinsuke. (2010). Spatial distribution of polybrominated diphenyl ethers and hexabromocyclododecanes in sediments from coastal waters of Korea. *Chemosphere.* 79: 713-719.
- Ramu, KK, N. Isobe, T. Takahashi, S. Kim, E. Y. Min, B. Y. We, S. U. Tanabe, S. (2007). Spatial distribution and accumulation of brominated flame retardants, polychlorinated biphenyls and organochlorine pesticides in blue mussels (*Mytilus edulis*) from coastal waters of Korea. *Environ Pollut.* 148: 562-569.
- Rani, MS, W. J. Han, G. M. Jang, M. Song, Y. K. Hong, S. H. (2014). Hexabromocyclododecane in polystyrene based consumer products: An evidence of unregulated use. *Chemosphere.* 110: 111-119.
- Rasinger, JDC, T. S. Lundebye, A. K. Hogstrand, C. (2014). Cross-omics gene and protein expression profiling in juvenile female mice highlights disruption of calcium and zinc signalling in the brain following dietary exposure to CB-153, BDE-47, HBCD or TCDD. *Toxicology.* 321: 1-12.
- Rauert, CH, S. Suzuki, G. Takigami, H. Uchida, N. Takata, K. (2014). Test chamber and forensic microscopy investigation of the transfer of brominated flame retardants into indoor dust via abrasion of source materials. *Sci Total Environ.* 493: 639-648.
- Rawn, DFKS, A. Quade, S. C. Sun, W. F. Lau, B. P. Y. Kosarac, I. Hayward, S. Ryan, J. J. (2011). Brominated flame retardants in Canadian chicken egg yolks. *Food Additives and Contaminants Part a-Chemistry Analysis Control Exposure & Risk Assessment.* 28: 807-815.
- Reigh, RCE, Simon C. (1992). Effects of dietary soybean and fish-protein ratios on growth and body composition of red drum (*Sciaenops ocellatus*) fed isonitrogenous diets. *Aquaculture.* 104: 279-292.
- Reindl, ARF, L. (2015). Flame Retardants at the Top of a Simulated Baltic Marine Food Web-A Case Study Concerning African Penguins from the Gdansk Zoo. *Arch Environ Contam Toxicol.* 68: 259-264.
- Reindl, KMK, J. D. Bergan, H. E. Sheridan, M. A. (2011). Growth hormone-stimulated insulin-like growth factor-1 expression in rainbow trout (*Oncorhynchus mykiss*) hepatocytes is mediated by ERK, PI3K-AKT, and JAK-STAT. *American Journal of Physiology-Regulatory Integrative and Comparative Physiology.* 301: R236-R243.
- Reistad, TF, F. Mariussen, E. (2006). Neurotoxicity of the pentabrominated diphenyl ether mixture, DE-71, and hexabromocyclododecane (HBCD) in rat cerebellar granule cells in vitro. *Arch Toxicol.* 80: 785-796.
- Remberger, MS, J. Palm, A. Kaj, L. Stromberg, K. Brorstrom-Lunden, E. (2004). The environmental occurrence of hexabromocyclododecane in Sweden. *Chemosphere.* 54: 9-21.
- Ribeiro, ARN, Olga C. Pereira, Manuel F. R. Silva, Adriãjn M. T. (2015). An overview on the advanced oxidation processes applied for the treatment of water pollutants defined in the recently launched Directive 2013/39/EU. *Environ Int.* 75: 33-51.
- Riddell, NB, R. Chittim, B. Emmerling, F. Koppen, R. Lough, A. McAlees, A. McCrindle, R. (2011). Preparation and X-ray structural characterization of further stereoisomers of 1,2,5,6,9,10-hexabromocyclododecane. *Chemosphere.* 84: 900-907.
- Robson, MM, L. Bradley, L. Treen, B. Backus, S. (2013). Wet deposition of brominated flame retardants to the Great Lakes basin - Status and trends. *Environ Pollut.* 182: 299-306.

Environmental Hazard Literature Search Results

Off Topic

- Routti, HL-L, R. Berg, M. K. Fink, T. Harju, M. Kristiansen, K. Rostkowski, P. Rusten, M. Sylte, I. Oygarden, L. Goksoyr, A. (2016). Environmental Chemicals Modulate Polar Bear (*Ursus maritimus*) Peroxisome Proliferator-Activated Receptor Gamma (PPARG) and Adipogenesis in Vitro. *Environmental Science & Technology*. 50: 10708-10720.
- Ruan, TW, Y. W. Wang, C. Wang, P. Fu, J. J. Yin, Y. G. Qu, G. B. Wang, T. Jiang, G. B. (2009). Identification and Evaluation of a Novel Heterocyclic Brominated Flame Retardant Tris(2,3-dibromopropyl) Isocyanurate in Environmental Matrices near a Manufacturing Plant in Southern China. *Environmental Science & Technology*. 43: 3080-3086.
- Saegusa, YF, H. Woo, G. H. Inoue, K. Takahashi, M. Mitsumori, K. Hirose, M. Nishikawa, A. Shibutani, M. (2009). Developmental toxicity of brominated flame retardants, tetrabromobisphenol A and 1,2,5,6,9,10-hexabromocyclododecane, in rat offspring after maternal exposure from mid-gestation through lactation. *Reprod Toxicol*. 28: 456-467.
- Saegusa, YF, H. Woo, G. H. Ohishi, T. Wang, L. Mitsumori, K. Nishikawa, A. Shibutani, M. (2012). Transient aberration of neuronal development in the hippocampal dentate gyrus after developmental exposure to brominated flame retardants in rats. *Arch Toxicol*. 86: 1431-1442.
- Sagerup, KH, Lisa B. Polder, Anuschka Str m, Hallvard Josefsen, Terje D. Sk re, Janneche U. Gabrielsen, Geir W. (2009). Persistent organic pollutants and mercury in dead and dying glaucous gulls (*Larus hyperboreus*) at Bj rn ya (Svalbard). *Sci Total Environ*. 407: 6009-6016.
- Sagerup, KH-TUM, Troum Troms  Norway kjetil sagerup uit no Polder, A. Str m - slash, slash University Museum, Museum Troms  Norway kjetil sagerup Josefsen, T. D. Sk re, J. U. Tra Trash University Museum, Tseum Troms  kjetil kjetil sagerup uiAU Gabrielsen G. W. (2009). Persistent organic pollutants and mercury in dead and dying glaucous gulls (*Larus hyperboreus*) at Bj rn os(Sv;ya (Svalbard). *The Science of the total environment*6009-6016.
- Saha, PR. (1992). Effect of phytate level in whole wheat flour on mineral bioavailability in rats. PhD, Purdue University , Ann Arbor.
- Sahlstr m, LMA-SmUAoAES, Stockholmersity S. E. Stockholm Sweden A. U. de Wit, C. A. Lignell, S. Darnerud, P. O. (2015). Feasibility study of feces for noninvasive biomonitoring of brominated flame retardants in toddlers. *Environ Sci Technol*. 49: 606-615. [Environmental science & technology].
- Sahlstrom, LMOS, U. de Wit, C. A. Lignell, S. Darnerud, P. O. (2015). Estimated intakes of brominated flame retardants via diet and dust compared to internal concentrations in a Swedish mother-toddler cohort. *Int J Hyg Environ Health*. 218: 422-432.
- Sakai, HK, E. Y. Petrov, E. A. Tanabe, S. Iwata, H. (2009). Transactivation potencies of Baikal seal constitutive active/androstane receptor by persistent organic pollutants and brominated flame retardants. *Environ Sci Technol*. 43: 6391-6397. [Environmental science & technology].
- Sandberg, EMM, X. Y. He, K. Frank, S. J. Ostrov, D. A. Sayeski, P. P. (2005). Identification of 1,2,3,4,5,6-hexabromocyclohexane as a small molecule inhibitor of Jak2 tyrosine kinase autophosphorylation. *J Med Chem*. 48: 2526-2533.
- Santoro, MF. (1987). METABOLIC FACTORS AFFECTING THE ABILITY OF SELENIUM TO INHIBIT THE GROWTH OF CANINE MAMMARY TUMOR CELLS. PhD, University of Illinois at Urbana-Champaign , Ann Arbor.
- Saunders, DMVH, E. B. Hecker, M. Mankidy, R. Giesy, J. P. (2013). In vitro endocrine disruption and TCDD-like effects of three novel brominated flame retardants: TBPH, TBB, & TBCO. *Toxicol Lett*. 223: 252-259.
- Saunders, DMVP, M. Wiseman, S. Giesy, J. P. (2015). Effects of the brominated flame retardant TBCO on fecundity and profiles of transcripts of the HPGL-axis in Japanese medaka. *Aquat Toxicol*. 160: 180-187.
- Schechter, AH, D. Colacino, J. Patel, K. Papke, O. Opel, M. Birnbaum, L. (2010). Polybrominated Diphenyl Ethers (PBDEs) and Hexabromocyclododecane (HBCD) in Composite US Food Samples. *Environ Health Perspect*. 118: 357-362.
- Schreder, EDLG, M. J. (2014). Flame Retardant Transfers from U.S. Households (Dust and Laundry Wastewater) to the Aquatic Environment. *Environmental Science & Technology*. 48: 11575-11583.
- Schriks, MR, J. M. Murk, A. J. Furlow, J. D. (2007). Thyroid hormone receptor isoform selectivity of thyroid hormone disrupting compounds quantified with an in vitro reporter gene assay. *Environ Toxicol Pharmacol*. 23: 302-307. [Environmental toxicology and pharmacology].
- Segui, XP, E. Betro, S. Agueda, A. Casal, J. Ocampo-Duque, W. Rudolph, I. Barra, R. Paez, M. Baron, E. Eljarrat, E. Barcelo, D. Darbra, R. M. (2013). Fuzzy model for risk assessment of persistent organic pollutants in aquatic ecosystems. *Environ Pollut*. 178: 23-32.
- Seibeck, SB, Berthold Otto, Harald Inomata, Katsuhiko Khawn, Htoi Kinoshita, Hideki Michael, Norbert Lamparter, Tilman Heyn, Maarten P. (2007). Locked 5Zs-biliverdin blocks the Meta-RA to Meta-RC transition in the functional cycle of bacteriophytochrome Agp1. *FEBS Letters*. 581: 5425-5429.
- Sellstrom, UB, A. Kierkegaard, A. Haggberg, L. De Wit, C. A. Olsson, M. Jansson, B. (2003). Temporal trend studies on tetra- and pentabrominated diphenyl ethers and hexabromocyclododecane in guillemot egg from the Baltic Sea. *Environmental Science & Technology*. 37: 5496-5501.
- Shaw, SDB, M. L. Brenner, D. Kannan, K. Lohmann, N. Papke, O. (2009). Bioaccumulation of polybrominated diphenyl ethers and hexabromocyclododecane in the northwest Atlantic marine food web. *Sci Total Environ*. 407: 3323-3329.
- Shaw, SDB, Michelle L. Brenner, Diane Kannan, Kurunthachalam P pke, Nina Lohmann Olaf. (2010). Response to Letter to the Editor re "Bioaccumulation of polybrominated diphenyl ethers and hexabromocyclododecane in the northwest Atlantic marine food web". *Sci Total Environ*. 408: 3717-3718.
- Shaw, SDB, Michelle L. Weijs, Liesbeth Covaci, Adrian. (2012). Tissue-specific accumulation of polybrominated diphenyl ethers (PBDEs) including Deca-BDE and hexabromocyclododecanes (HBCDs) in harbor seals from the northwest Atlantic. *Environ Int*. 44: 1-6.
- Shoeib, MH, T. Webster, G. M. Sverko, E. Cheng, Y. (2012). Legacy and current-use flame retardants in house dust from Vancouver, Canada. *Environ Pollut*175-182.
- Smith, KL, C. H. El-Hiti, G. A. Kang, G. S. Jones, E. Clement, S. G. Checquer, A. D. Howarth, O. W. Hursthouse, M. B. Coles, S. J. (2005). An extensive study of bromination of cis, trans, trans-1,5,9-cyclododecatriene: product structures and conformations (vol 3, pg 1880, 2005). *Organic & Biomolecular Chemistry*. 3: 4158-4158.

Environmental Hazard Literature Search Results

Off Topic

- Smith, KL, C. H. El-Hiti, G. A. Kang, G. S. Jones, E. Clement, S. G. Checquer, A. D. Howarth, O. W. Hursthouse, M. B. Coles, S. J. (2005). An extensive study of bromination of cis,trans,trans-1,5,9-cyclododecatriene: product structures and conformations. *Organic & Biomolecular Chemistry*. 3: 1880-1892.
- Sormo, EGJ, B. M. Lie, E. Skaare, J. U. (2009). BROMINATED FLAME RETARDANTS IN AQUATIC ORGANISMS FROM THE NORTH SEA IN COMPARISON WITH BIOTA FROM THE HIGH ARCTIC MARINE ENVIRONMENT. *Environ Toxicol Chem*. 28: 2082-2090.
- Sormo, EGL, E. Ruus, A. Gaustad, H. Skaare, J. U. Jenssen, B. M. (2011). Trophic level determines levels of brominated flame-retardants in coastal herring gulls. *Ecotoxicol Environ Saf*. 74: 2091-2098.
- Sormo, EGS, M. P. Jenssen, B. M. Hop, H. Baek, K. Kovacs, K. M. Lydersen, C. Falk-Petersen, S. Gabrielsen, G. W. Lie, E. Skaare, J. U. (2006). Biomagnification of polybrominated diphenyl ether and hexabromocyclododecane flame retardants in the polar bear food chain in Svalbard, Norway. *Environ Toxicol Chem*. 25: 2502-2511.
- Stamenkovic, IS, Dennis Aruffo, Alejandro Sy, Man Sun Anderson, Terri. (1991). The B lymphocyte adhesion molecule CD22 interacts with leukocyte common antigen CD45RO on T cells and α 6 sialyltransferase, CD75, on B cells. *Cell*. 66: 1133-1144.
- Stapleton, HMA, J. G. Kelly, S. M. Konstantinov, A. Klosterhaus, S. Watkins, D. McClean, M. D. Webster, T. F. (2008). Alternate and new brominated flame retardants detected in US house dust. *Environmental Science & Technology*. 42: 6910-6916.
- Stapleton, HMD, N. G. Kucklick, J. R. Reddy, C. M. Schantz, M. M. Becker, P. R. Gulland, F. Porter, B. J. Wise, S. A. (2006). Determination of HBCD, PBDEs and MeO-BDEs in California sea lions (*Zalophus californianus*) stranded between 1993 and 2003. *Mar Pollut Bull*. 52: 522-531.
- Stiborova, HK, Michal Vrkoslavova, Jana Pulkrabova, Jana Hajslova, Jana Demnerova, Katerina Uhlik, Ondrej. (2017). Linking toxicity profiles to pollutants in sludge and sediments. *J Hazard Mater*. 321: 672-680.
- Stiborova, HV, J. Pulkrabova, J. Poustka, J. Hajslova, J. Demnerova, K. (2015). Dynamics of brominated flame retardants removal in contaminated wastewater sewage sludge under anaerobic conditions. *Sci Total Environ*. 533: 439-445.
- Stubbings, WAD, Daniel S. Harrad, Stuart. (2016). Chlorinated organophosphate and brominated flame retardants in UK waste soft furnishings: A preliminary study. *Emerging Contaminants*. 2: 185-190.
- Stubbings, WAH, S. (2014). Extent and mechanisms of brominated flame retardant emissions from waste soft furnishings and fabrics: A critical review. *Environ Int*. 71: 164-175.
- Stubbings, WAK, N. Takigami, H. Harrad, S. (2016). Leaching behaviour of hexabromocyclododecane from treated curtains. *Chemosphere*. 144: 2091-2096.
- Su, GS, D. Yu, Y. Yu, H. Zhang, X. Liu, H. Giesy, J. P. (2014). Occurrence of additive brominated flame retardants in aquatic organisms from Tai Lake and Yangtze River in Eastern China, 2009-2012. *Chemosphere*:340-346.
- Su, JL, Y. Z. Liu, Z. Y. Gao, S. T. Zeng, X. Y. Yu, Z. Q. Sheng, G. Y. Fu, J. M. (2015). Distribution of polybrominated diphenyl ethers and HBCD in sediments of the Hunhe River in Northeast China. *Environ Sci Pollut Res Int*. 22: 16781-16790.
- Suhring, RB, F. Fricke, N. Kotke, D. Wolschke, H. Ebinghaus, R. (2016). Distribution of brominated flame retardants and dechloranes between sediments and benthic fish - A comparison of a freshwater and marine habitat. *Sci Total Environ*. 542: 578-585.
- Sullivan, KMB, D. M. Ritchie, J. I. Shutt, J. L. Letcher, R. J. Fernie, K. J. (2010). Changes in Plasma Retinol of American Kestrels (*Falco sparverius*) in Response to Dietary or in Ovo Exposure to Environmentally Relevant Concentrations of a Penta-Brominated Diphenyl Ether Mixture, De-71. *Journal of Toxicology and Environmental Health-Part a-Current Issues*. 73: 1645-1654.
- Sullivan, KMM, S. C. Letcher, R. J. Bird, D. M. Ritchie, I. J. Shutt, J. L. Fernie, K. J. (2013). CHANGES IN THE INCUBATION BY AMERICAN KESTRELS (*Falco sparverius*) DURING EXPOSURE TO THE POLYBROMINATED DIPHENYL ETHER (PBDE) MIXTURE DE-71. *Journal of Toxicology and Environmental Health-Part a-Current Issues*. 76: 978-989.
- Suominen, KV, M. Marttinen, S. (2014). Hazardous organic compounds in biogas plant end products—Soil burden and risk to food safety. *Sci Total Environ*. 491-492: 192-199.
- Suominen, KV, M. Marttinen, S. (2014). Hazardous organic compounds in biogas plant end products—soil burden and risk to food safety. *The Science of the total environment*192-199.
- Svendsen, TCC, L. Hargrave, B. Fisk, A. Muir, D. C. G. Borga, K. (2007). Polyaromatic hydrocarbons, chlorinated and brominated organic contaminants as tracers of feeding ecology in polar benthic amphipods. *Mar Ecol Prog Ser*. 337: 155-164.
- Svihlikova, VL, D. Poustka, J. Tomaniova, M. Hajslova, J. Pulkrabova, J. (2015). Perfluoroalkyl substances (PFASs) and other halogenated compounds in fish from the upper Labe River basin. *Chemosphere*. 129: 170-178.
- Szlinder-Richert, JR, W. Nermer, T. Usydus, Z. Robak, S. (2014). The occurrence of organic contaminants in European eel (*Anguilla anguilla*) in Poland: an environmental quality assessment. *Chemosphere*.
- Tâ€ rnk Glynn, AA, M. Darnerud, P. O. Ankarberg, E. H. (2011). PCDD/F, PCB, PBDE, HBCD and chlorinated pesticides in a Swedish market basket from 2005—levels and dietary intake estimations. *Chemosphere*. 83: 193-199. [Chemosphere].
- Takahashi, SO, T. Ramu, K. Isobe, T. Ohmori, K. Kubodera, T. Tanabe, S. (2010). Organohalogen compounds in deep-sea fishes from the western North Pacific, off-Tohoku, Japan: Contamination status and bioaccumulation profiles. *Mar Pollut Bull*. 60: 187-196. [Marine pollution bulletin].
- Takigami, HS, Go Hirai, Yasuhiro Sakai, Shin-ichi. (2009). Brominated flame retardants and other polyhalogenated compounds in indoor air and dust from two houses in Japan. *Chemosphere*. 76: 270-277.
- Takigami, HS, Go Hirai, Yasuhiro Ishikawa, Yukari Sunami, Masakiyo Sakai, Shin-ichi. (2009). Flame retardants in indoor dust and air of a hotel in Japan. *Environ Int*. 35: 688-693.
- Takigami, HW, Mafumi Kajiwara, Natsuko. (2014). Destruction behavior of hexabromocyclododecanes during incineration of solid waste containing expanded and extruded polystyrene insulation foams. *Chemosphere*. 116: 24-33.
- Tanabe, S. (2008). Temporal trends of brominated flame retardants in coastal waters of Japan and South China: Retrospective monitoring study using archived samples from es-Bank, Ehime University, Japan. *Mar Pollut Bull*. 57: 267-274.
- Tanaka, K. (2015). gamma-BHC: Its history and mystery - why is only gamma-BHC insecticidal? *Pestic Biochem Physiol*. 120: 91-100.

Environmental Hazard Literature Search Results

Off Topic

- Tang, JF, J. Li, X. Li, G. (2014). Levels of flame retardants HBCD, TBBPA and TBC in surface soils from an industrialized region of East China. *Environ Sci Process Impacts*. 16: 1015-1021. [Environmental science. Processes & impacts].
- Tang, LS, H. Y. Zhu, J. Y. Xu, G. Han, T. Peng, B. Q. Wu, M. H. (2015). Hexabromocyclododecane diastereoisomers in surface sediments from river drainage basins of Shanghai, China: occurrence, distribution, and mass inventory. *Environ Sci Pollut Res Int*. 22: 11993-12000.
- Tao, FM, H. Suzuki, G. Tue, N. M. Viet, P. H. Takigami, H. Harrad, S. (2016). Emerging halogenated flame retardants and hexabromocyclododecanes in food samples from an e-waste processing area in Vietnam. *Environ Sci Process Impacts*. 18: 361-370. [Environmental science. Processes & impacts].
- Thomas, GOM, S. E. W. Asplund, L. Hall, A. J. (2005). Absorption of decabromodiphenyl ether and other organohalogen chemicals by grey seals (*Halichoerus grypus*). *Environ Pollut*. 133: 581-586.
- Thomas, MJJ, B. F. G. Raja, R. Sankar, G. Midgley, P. A. (2003). High-performance nanocatalysts for single-step hydrogenations. *Acc Chem Res*. 36: 20-30.
- Thuresson, KB, J. A. de Wit, C. A. (2012). Tri-decabrominated diphenyl ethers and hexabromocyclododecane in indoor air and dust from Stockholm microenvironments 1: Levels and profiles. *Sci Total Environ*. 414: 713-721.
- Tomko, GM, K. M. (2013). Environmental fate of hexabromocyclododecane from a new Canadian electronic recycling facility. *J Environ Manage*. 114: 324-327.
- Tomy, GTP, K. Ismail, N. Whittle, D. M. Helm, P. A. Sverko, E. Zaruk, D. Marvin, C. H. (2007). Isomers of dechlorane plus in Lake Winnipeg and Lake Ontario food webs. *Environmental Science & Technology*. 41: 2249-2254.
- Tomy, GTP, K. Oswald, T. Halldorson, T. Helm, P. A. Macinnis, G. Marvin, C. H. (2008). Enantioselective bioaccumulation of hexabromocyclododecane and congener-specific accumulation of brominated diphenyl ethers in an eastern Canadian Arctic marine food web. *Environmental Science & Technology*. 42: 3634-3639.
- Tomy, GTP, K. Ferguson, S. H. Hare, J. Stern, G. Macinnis, G. Marvin, C. H. Loseto, L. (2009). Trophodynamics of Some PFCs and BFRs in a Western Canadian Arctic Marine Food Web. *Environmental Science & Technology*. 43: 4076-4081.
- Tomy, GTP, V. Marvin, C. Stapleton, H. M. Covaci, A. Harrad, S. (2011). Biotransformation of HBCD in Biological Systems Can Confound Temporal-Trend Studies. *Environmental Science & Technology*. 45: 364-365.
- Tomy, GTT, C. R. Zidane, T. M. Murison, K. E. Pleskach, K. Hare, J. Arseneault, G. Marvin, C. H. Sverko, E. (2008). Examination of Isomer Specific Bioaccumulation Parameters and Potential In Vivo Hepatic Metabolites of Syn- and Anti-Dechlorane Plus Isomers in Juvenile Rainbow Trout (*Oncorhynchus mykiss*). *Environ Sci Technol*. 42: 5562-5567.
- Tso, C-pS, Yang-hsin. (2014). The transformation of hexabromocyclododecane using zerovalent iron nanoparticle aggregates. *J Hazard Mater*. 277: 76-83.
- Tung, EWYY, H. Lefevre, P. L. C. Berger, R. G. Rawn, D. F. K. Gaertner, D. W. Kawata, A. Rigden, M. Robaire, B. Hales, B. F. Wade, M. G. (2016). Gestational and Early Postnatal Exposure to an Environmentally Relevant Mixture of Brominated Flame Retardants: General Toxicity and Skeletal Variations. *Birth Defects Research Part B-Developmental and Reproductive Toxicology*. 107: 157-168.
- Tweeddale, AC. (2017). The inadequacies of pre-market chemical risk assessment's toxicity studies: the implications. *J Appl Toxicol*. 37: 92-104.
- Ueno, DA, M. Marvin, C. Muir, D. C. G. Macinnis, G. Reiner, E. Crozier, P. Furdui, V. I. Subramanian, A. Fillmann, G. Lam, P. K. S. Zheng, G. J. Mughtar, M. Razak, H. Prudente, M. Chung, K. H. Tanabe, S. (2006). Distribution and transportability of hexabromocyclododecane (HBCD) in the Asia-Pacific region using skipjack tuna as a bioindicator. *Environ Pollut*. 144: 238-247.
- Ueno, DI, T. Ramu, K. Tanabe, S. Alae, M. Marvin, C. Inoue, K. Someya, T. Miyajima, T. Kodama, H. Nakata, H. (2010). Spatial distribution of hexabromocyclododecanes (HBCDs), polybrominated diphenyl ethers (PBDEs) and organochlorines in bivalves from Japanese coastal waters. *Chemosphere*. 78: 1213-1219.
- Ungherese, GC, A. Martellini, T. Ugolini, A. (2012). PBDEs in the supralittoral environment: The sandhopper *Talitrus saltator* (Montagu) as biomonitor? *Chemosphere*. 86: 223-227.
- Vainikka, PH, Mikko. (2012). Review on bromine in solid fuels – Part 2: Anthropogenic occurrence. *Fuel*. 94: 34-51.
- Venier, MW, Michael Bowerman, William W. Hites, Ronald A. (2010). Flame retardants and organochlorine pollutants in bald eagle plasma from the Great Lakes region. *Chemosphere*. 80: 1234-1240.
- Verboven, NV, J. Letcher, R. J. Gabrielsen, G. W. Evans, N. P. (2009). DIFFERENTIAL INVESTMENT IN EGGS BY ARCTIC-BREEDING GLAUCOUS GULLS (LARUS HYPERBOREUS) EXPOSED TO PERSISTENT ORGANIC POLLUTANTS. *Auk*. 126: 123-133.
- Verissimo, CJN, S. C. M. Alberti, A. L. L. Rodrigues, C. F. C. Barbosa, C. M. P. Chiebao, D. P. Cardoso, D. da Silva, G. S. Pereira, J. R. Margatho, L. F. F. da Costa, R. L. D. Nardon, R. F. Ueno, T. E. H. Curci, Vclm Molento, M. B. (2012). Multidrug and multispecies resistance in sheep flocks from Sao Paulo state, Brazil. *Veterinary Parasitology*. 187: 209-216.
- Verreault, JG, G. V. Chu, S. G. Muir, D. C. G. Andersen, M. Hamaed, A. Letcher, R. J. (2005). Flame retardants and methoxylated and hydroxylated polybrominated diphenyl ethers in two Norwegian Arctic top predators: Glaucous gulls and polar bears. *Environmental Science & Technology*. 39: 6021-6028.
- Verreault, JG, W. A. Gauthier, L. T. Gabrielsen, G. W. Letcher, R. J. (2007). Brominated flame retardants in glaucous gulls from the Norwegian Arctic: More than just an issue of polybrominated diphenyl ethers. *Environmental Science & Technology*. 41: 4925-4931.
- Verreault, JG, G. A. U. Gabrielsen Bustnes, J. O. (2010). The Svalbard glaucous gull as bioindicator species in the European arctic: insight from 35 years of contaminants research. *Rev Environ Coiron Contam Toxicol*. 205.
- Verreault, JS, S. Gabrielsen, G. W. Letcher, R. J. (2007). Organohalogen and metabolically-derived contaminants and associations with whole body constituents in Norwegian Arctic glaucous gulls. *Environ Int*. 33: 823-830.
- Verslycke, TAV, A. D. Arijis, K. Janssen, C. R. (2005). Flame retardants, surfactants and organotins in sediment and mysid shrimp of the Scheldt estuary (The Netherlands). *Environ Pollut*. 136: 19-31.
- Villanger, GDL, C. Kovacs, K. M. Lie, E. Skaare, J. U. Jenssen, B. M. (2011). Disruptive effects of persistent organohalogen contaminants on thyroid function in white whales (*Delphinapterus leucas*) from Svalbard. *Sci Total Environ*. 409: 2511-2524.

Environmental Hazard Literature Search Results

Off Topic

- Vorkamp, KB, K. Riget, F. F. (2012). Species-Specific Time Trends and Enantiomer Fractions of Hexabromocyclododecane (HBCD) in Biota from East Greenland. *Environmental Science & Technology*. 46: 10549-10555.
- Vorkamp, KB, R. Riget, F. F. Skov, H. Sonne, C. Dietz, R. (2015). Novel brominated flame retardants and dechlorane plus in Greenland air and biota. *Environ Pollut*. 196: 284-291.
- Vorkamp, KR, F. F. Bossi, R. Dietz, R. (2011). Temporal Trends of Hexabromocyclododecane, Polybrominated Diphenyl Ethers and Polychlorinated Biphenyls in Ringed Seals from East Greenland. *Environmental Science & Technology*. 45: 1243-1249.
- Vorkamp, KT, M. Falk, K. Leslie, H. Moller, S. Sorensen, P. B. (2005). Temporal development of brominated flame retardants in peregrine falcon (*Falco peregrinus*) eggs from South Greenland (1986-2003). *Environmental Science & Technology*. 39: 8199-8206.
- Wäger, PATTSL, Swiss Federal Laboratories for Materials Science Teogy, mpa Lerchenfeldstrasse St Gallen Switzerland patrick waeger empa ch Schluemp, M. MÄ ller, E. Gloor, R. (2012). RoHS regulated substances in mixed plastics from waste electrical and electronic equipment. *Environ Sci Technol*. 46: 628-635. [Environmental science & technology].
- Waijers, SLH, Julia Soeter, AMarieke Helmus, Rick Kools, Stefan A. E. de Voogt, Pim Admiraal, Wim Parsons, John R. Kraak, Michiel H. S. (2013). Toxicity of new generation flame retardants to *Daphnia magna*. *Sci Total Environ*. 463: 1042-1048.
- Wang, FDZ, H. J. Geng, N. B. Zhang, B. Q. Ren, X. Q. Chen, J. P. (2016). New Insights into the Cytotoxic Mechanism of Hexabromocyclododecane from a Metabolomic Approach. *Environmental Science & Technology*. 50: 3145-3153.
- Wang, GHW, H. L. Zhang, X. Y. Zhang, H. Yang, X. Tian, X. P. Li, J. Xiang, W. Z. Li, X. (2013). *Aliidiomarina sanyensis* sp nov., a hexabromocyclododecane assimilating bacterium from the pool of *Spirulina platensis* cultivation, Sanya, China. *Antonie Van Leeuwenhoek International Journal of General and Molecular Microbiology*. 104: 309-314.
- Wang, JZJ, X. W. Gao, S. T. Zeng, X. Y. Li, H. R. Zhou, Z. Sheng, G. Y. Yu, Z. Q. (2016). Levels and distributions of polybrominated diphenyl ethers, hexabromocyclododecane, and tetrabromobisphenol A in sediments from Taihu Lake, China. *Environ Sci Pollut Res Int*. 23: 10361-10370.
- Wang, TH, S. L. Ruan, T. Wang, Y. W. Feng, J. Y. Jiang, G. B. (2013). Spatial distribution and inter-year variation of hexabromocyclododecane (HBCD) and tris-(2,3-dibromopropyl) isocyanurate (TBC) in farm soils at a peri-urban region. *Chemosphere*. 90: 182-187.
- Wang, XG, Ping Wang, Chuanfei Ren, Jiao Yao, Tandong. (2016). A review of current knowledge and future prospects regarding persistent organic pollutants over the Tibetan Plateau. *Sci Total Environ*. 573: 139-154.
- Wang, XMD, X. Mai, B. X. Xie, Z. Q. Xiang, C. H. Sun, L. G. Sheng, G. Y. Fu, J. M. Zeng, E. Y. (2005). Polybrominated diphenyl ethers in airborne particulates collected during a research expedition from the Bohai Sea to the Arctic. *Environmental Science & Technology*. 39: 7803-7809.
- Wang, XR, N. Q. Qi, H. Ma, W. L. Li, Y. F. (2009). Levels and distribution of brominated flame retardants in the soil of Harbin in China. *J Environ Sci*. 21: 1541-1546.
- Watanabe, WS, T. Sawamura, R. Hino, A. Konno, K. Hirose, A. Kurokawa, M. (2010). Effects of tetrabromobisphenol A, a brominated flame retardant, on the immune response to respiratory syncytial virus infection in mice. *Int Immunopharmacol*. 10: 393-397.
- Westerink, RH, H. Bergman, A. Van Den Berg, M. Dingemans, M. (2010). The brominated flame retardants hexabromocyclododecane (HBCD) and BDE-47 affect calcium homeostasis in rat PC12 cells. *Toxicol Lett*. 196, Supplement: S222-S223.
- Wichmann, HD, F. T. Bahadir, M. (2002). Thermal formation of PBDD/F from tetrabromobisphenol A - a comparison of polymer linked TBBP A with its additive incorporation in thermoplastics. *Chemosphere*. 47: 349-355.
- Wilford, BHT, G. O. Jones, K. C. Davison, B. Hurst, D. K. (2008). Decabromodiphenyl ether (deca-BDE) commercial mixture components, and other PBDEs, in airborne particles at a UK site. *Environ Int*. 34: 412-419.
- Wilkerson, VA. (1992). In situ determination of protein degradation and metabolizable protein and amino acid requirements for growing beef cattle. PhD, The University of Nebraska - Lincoln , Ann Arbor.
- Winkler, RA, A. Renegar, D. A. (2004). The skeleton eroding band disease on coral reefs of Aqaba, Red Sea. *Marine Ecology-Pubblicazioni Della Stazione Zoologica Di Napoli I*. 25: 129-144.
- Witowski, NE. (1991). I. Metal ion binding capacity as a function of the stereochemistry of stereoregular 2,5-linked oligotetrahydrofurans. II. Omega-phenylalkylsilyl ethers as proton NMR spectroscopic probes for long-chain alkanols. PhD, University of Minnesota , Ann Arbor.
- Wong, FK-K, P. Bidleman, T. F. (2012). Fate of Brominated Flame Retardants and Organochlorine Pesticides in Urban Soil: Volatility and Degradation. *Environmental Science & Technology*. 46: 2668-2674.
- Wu, JPG, Y. T. Zhang, Y. Luo, X. J. Zhi, H. Chen, S. J. Mai, B. X. (2010). Trophodynamics of hexabromocyclododecanes and several other non-PBDE brominated flame retardants in a freshwater food web. *Environ Sci Technol*. 44: 5490-5495. [Environmental science & technology].
- Wu, JPG, Y. T. Zhang, Y. Luo, X. J. Zhi, H. Chen, S. J. Mai, B. X. (2011). Several current-use, non-PBDE brominated flame retardants are highly bioaccumulative: Evidence from field determined bioaccumulation factors. *Environ Int*. 37: 210-215.
- Wu, JZ, Ying Luo, Xiaojun She, Yazhe Yu, Lehuan Chen, Shejun Mai, Bixian. (2012). A review of polybrominated diphenyl ethers and alternative brominated flame retardants in wildlife from China: Levels, trends, and bioaccumulation characteristics. *J Environ Sci*. 24: 183-194.
- Wu, M-HZ, Jian-Yao Tang, Liang Liu, Ning Peng, Bing-Quan Sun, Rui Xu, Gang. (2014). Hexabromocyclododecanes in surface sediments from Shanghai, China: Spatial distribution, seasonal variation and diastereoisomer-specific profiles. *Chemosphere*. 111: 304-311.
- Xia, CL, James C. W. Wu, Xiaoguo Sun, Liguang Xie, Zhouqing Lam, Paul K. S. (2011). Hexabromocyclododecanes (HBCDs) in marine fishes along the Chinese coastline. *Chemosphere*. 82: 1662-1668.
- Xian, QR, Karri Isobe, Tomohiko Sudaryanto, Agus Liu, Xiaohua Gao, Zishen Takahashi, Shin Yu, Hongxia Tanabe, Shinsuke. (2008). Levels and body distribution of polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecanes (HBCDs) in freshwater fishes from the Yangtze River, China. *Chemosphere*. 71: 268-276.
- Xiang, NC, L. Meng, X. Z. Dai, X. H. (2015). Occurrence of hexabromocyclododecane (HBCD) in sewage sludge from Shanghai: Implications for source and environmental burden. *Chemosphere*. 118: 207-212.

Environmental Hazard Literature Search Results

Off Topic

- Xu, CO, J. Cui, Y. Wang, L. Lv, C. Liu, K. Wang, B. Xu, T. Li, Q. X. Liu, S. (2013). Development of a monoclonal antibody-based enzyme-linked immunosorbent assay for tetrabromobisphenol A. *Monoclon Antib Immunodiagn Immunother.* 32: 113-118.
- Yamada, TT, Y. Yamada, Y. (2009). Isolation of *Pseudomonas* sp Strain HB01 Which Degrades the Persistent Brominated Flame Retardant gamma-Hexabromocyclododecane. *Bioscience Biotechnology and Biochemistry.* 73: 1674-1678.
- Yanagisawa, RK, E. Win-Shwe, T. T. Yamamoto, M. Takano, H. (2014). Impaired Lipid and Glucose Homeostasis in Hexabromocyclododecane-Exposed Mice Fed a High-Fat Diet. *Environ Health Perspect.* 122: 277-283.
- Yanagisawa, RW-S, Tin-Tin Koike, Eiko Takano, Hirohisa. (2013). Impact of hexabromocyclododecane on lipid and glucose metabolism in high-fat diet-induced obese mice. *Toxicol Lett.* 221, Supplement: S252.
- Yang, CR, Neil L. Turner, Simon D. Yang, Handong Goldsmith, Ben Losada, Sara Barber, Jonathan L. Harrad, Stuart. (2016). Hexabromocyclododecanes, polybrominated diphenyl ethers, and polychlorinated biphenyls in radiometrically dated sediment cores from English lakes, ~ 1950 to present. *Sci Total Environ.* 541: 721-728.
- Yang, RQW, H. Guo, J. H. Li, A. (2012). Emerging Brominated Flame Retardants in the Sediment of the Great Lakes. *Environmental Science & Technology.* 46: 3119-3126.
- Yu, DY, J. Li, T. Feng, J. F. Xian, Q. M. Zhu, J. P. (2015). Levels and distribution of Dechloranes in sediments of Lake Taihu, China. *Environ Sci Pollut Res Int.* 22: 6601-6609.
- Yu, L-HL, Xiao-Jun Liu, Hong-Ying Zeng, Yan-Hong Zheng, Xiao-Bo Wu, Jiang-Ping Yu, Yun-Jiang Mai, Bi-Xian. (2014). Organohalogen contamination in passerine birds from three metropolises in China: Geographical variation and its implication for anthropogenic effects on urban environments. *Environ Pollut.* 188: 118-123.
- Yu, LL, Xiaojun Zheng, Xiaobo Zeng, Yanhong Chen, Da Wu, Jiangping Mai, Bixian. (2013). Occurrence and biomagnification of organohalogen pollutants in two terrestrial predatory food chains. *Chemosphere.* 93: 506-511.
- Yu, LL, L. Q. Song, S. S. Kuang, H. Xu, C. L. (2016). Development of an immunochromatographic test strip and ic-ELISA for tetrabromobisphenol: a detection in lake water and rice pudding samples. *Food and Agricultural Immunology.* 27: 460-470.
- Yu, YZ, Danna Wu, Feng. (2015). Mechanism and products of the photolysis of hexabromocyclododecane in acetonitrile/water solutions under a UV-C lamp. *Chem Eng J.* 281: 892-899.
- Yu, ZQC, L. G. Maw, B. X. Wu, M. H. Sheng, G. Y. Fu, J. Peng, P. A. (2008). Diastereoisomer- and enantiomer-specific profiles of hexabromocyclododecane in the atmosphere of an urban city in South China. *Environmental Science & Technology.* 42: 3996-4001.
- Yufang, ZC, Chen Xiu, Wang Panpan, Guo Xinyu, Zhang Zhiqiang, Yu Jing, An. (2015). HBCD and PCBs enhance the cell migration and invasion of HepG2 via the PI3 K/Akt pathway. *Toxicology Research.* 4: 677-685.
- Zegers, BNM, A. Van Bommel, R. Minkenberg, C. Hamers, T. Kamstra, J. H. Pierce, G. J. Boon, J. P. (2005). Levels of hexabromocyclododecane in harbor porpoises and common dolphins from western European seas, with evidence for stereoisomer-specific biotransformation by cytochrome P450. *Environmental Science & Technology.* 39: 2095-2100.
- Zeng, WXT, T. (2001). Protection of boar spermatozoa from cold shock damage by 2-hydroxypropyl-beta-cyclodextrin. *Theriogenology.* 55: 615-627. [Theriogenology].
- Zeng, YHL, X. J. Zheng, X. B. Tang, B. Wu, J. P. Mai, B. X. (2014). Species-specific bioaccumulation of halogenated organic pollutants and their metabolites in fish serum from an e-waste site, South China. *Arch Environ Contam Toxicol.* 67: 348-357. [Archives of environmental contamination and toxicology].
- Zeng, Y-HT, Bin Luo, Xiao-Jun Zheng, Xiao-Bo Peng, Ping-An Mai, Bi-Xian. (2016). Organohalogen pollutants in surface particulates from workshop floors of four major e-waste recycling sites in China and implications for emission lists. *Sci Total Environ.* 569-570: 982-989.
- Zhang, KLH, J. Wang, H. Z. Liu, K. Yu, G. Deng, S. B. Wang, B. (2014). Mechanochemical degradation of hexabromocyclododecane and approaches for the remediation of its contaminated soil. *Chemosphere.* 116: 40-45.
- Zhang, W-HW, Ying-Xin Simonnot, M. O. (2012). Soil Contamination due to E-Waste Disposal and Recycling Activities: A Review with Special Focus on China. *Pedosphere.* 22: 434-455.
- Zhang, XZ, D. D. Luo, Z. X. Lin, L. F. Yan, C. Z. (2011). Diastereoisomer- and enantiomer-specific profiles of hexabromocyclododecane in the sediment of Dongjiang River, South China. *Environ Chem.* 8: 561-568.
- Zhang, YQL, Q. F. Lu, Y. L. Jones, K. Sweetman, A. J. (2016). Hexabromocyclododecanes (HBCDDs) in surface soils from coastal cities in North China: Correlation between diastereoisomer profiles and industrial activities. *Chemosphere.* 148: 504-510.
- Zhang, YR, Yuefei Sun, Hongwen Zhao, Lijie Gan, Zhiwei. (2013). Hexabromocyclododecanes in surface sediments and a sediment core from Rivers and Harbor in the northern Chinese city of Tianjin. *Chemosphere.* 90: 1610-1616.
- Zhao, Y-YZ, Xi-Hui Sojini, O. S. Samuel. (2010). Thermodynamics and photochemical properties of $\hat{1}\pm$, $\hat{1}^2$, and $\hat{1}^3$ -hexabromocyclododecanes: A theoretical study. *Chemosphere.* 80: 150-156.
- Zhong, YP, P. A. Yu, Z. Q. Deng, H. P. (2010). Effects of metals on the transformation of hexabromocyclododecane (HBCD) in solvents: Implications for solvent-based recycling of brominated flame retardants. *Chemosphere.* 81: 72-78.
- Zhou, DNW, Y. Feng, X. N. Chen, Y. Wang, Z. P. Tao, T. Wei, D. B. (2014). Photodegradation of hexabromocyclododecane (HBCD) by Fe(III) complexes/H₂O₂ under simulated sunlight. *Environ Sci Pollut Res Int.* 21: 6228-6233.
- Zhu, JL, J. G. Hu, J. X. Yi, S. (2016). Socio-economic analysis of the risk management of hexabromocyclododecane (HBCD) in China in the context of the Stockholm Convention. *Chemosphere.* 150: 520-527.
- Zhu, LYH, R. A. (2005). Brominated flame retardants in sediment cores from lakes Michigan and Erie. *Environmental Science & Technology.* 39: 3488-3494.
- Zhu, LYM, B. L. Hites, R. A. (2009). Brominated Flame Retardants in Serum from the General Population in Northern China. *Environmental Science & Technology.* 43: 6963-6968.

Environmental Hazard Literature Search Results

Off Topic

- Zhu, NL, A. Wang, T. Wang, P. Qu, G. Ruan, T. Fu, J. Yuan, B. Zeng, L. Wang, Y. Jiang, G. (2012). Tris(2,3-dibromopropyl) isocyanurate, hexabromocyclododecanes, and polybrominated diphenyl ethers in mollusks from Chinese Bohai Sea. *Environ Sci Technol.* 46: 7174-7181. [Environmental science & technology].
- Zhu, NLF, J. J. Gao, Y. Ssebugere, P. Wang, Y. W. Jiang, G. B. (2013). Hexabromocyclododecane in alpine fish from the Tibetan Plateau, China. *Environ Pollut.* 181: 7-13.
- Zhu, NLS, K. W. Wang, T. Henkelmann, B. Zheng, X. Y. Fu, J. J. Gao, Y. Wang, Y. W. Jiang, G. B. (2014). Environmental fate and behavior of persistent organic pollutants in Shergyla Mountain, southeast of the Tibetan Plateau of China. *Environ Pollut.* 191: 166-174.
- Zhu, NLS, K. W. Wang, T. Henkelmann, B. Fu, J. J. Gao, Y. Wang, Y. W. Jiang, G. B. (2015). Lichen, moss and soil in resolving the occurrence of semi-volatile organic compounds on the southeastern Tibetan Plateau, China. *Sci Total Environ.* 518: 328-336.
- Zhu, Z-CC, She-Jun Zheng, Jing Tian, Mi Feng, An-Hong Luo, Xiao-Jun Mai, Bi-Xian. (2014). Occurrence of brominated flame retardants (BFRs), organochlorine pesticides (OCPs), and polychlorinated biphenyls (PCBs) in agricultural soils in a BFR-manufacturing region of North China. *Sci Total Environ.* 481: 47-54.
- Zieminska, ES, A. Toczylowska, B. Lazarewicz, J. W. (2012). Acute Cytotoxicity Evoked by Tetrabromobisphenol A in Primary Cultures of Rat Cerebellar Granule Cells Outweighs the Effects of Polychlorinated Biphenyls. *Pol J Environ Stud.* 21: 1079-1087.
- Zimmer, KEMo-D-DoB, Sciences Aquatic Medicine, Norwegian School of Veterinary Science Norway Olsaker, I. Dahl, E. Berg, V. Karlsson, C. Murk, A. J. Skaare, J. U. Ropstad, E. Verhaegen, S. (2011). In vitro steroidogenic effects of mixtures of persistent organic pollutants (POPs) extracted from burbot (*Lota lota*) caught in two Norwegian lakes. *Sci Total Environ.* 409: 2040-2048. [The Science of the total environment].
- Zitko, V. (1994). TLC detection of brominated flame retardants in styrofoam. *Chemosphere.* 28: 1211-1215.

Human Health Hazard Literature Search Results

On Topic

- Abdallah, MA; Pawar, G; Harrad, S. (2015). Evaluation of 3D-human skin equivalents for assessment of human dermal absorption of some brominated flame retardants. *Environ Int.* 84: 64-70. <http://dx.doi.org/10.1016/j.envint.2015.07.015>.
- Abdallah, MA; Tilston, E; Harrad, S; Collins, C. (2012). In vitro assessment of the bioaccessibility of brominated flame retardants in indoor dust using a colon extended model of the human gastrointestinal tract. *J Environ Monit.* 14: 3276-3283. <http://dx.doi.org/10.1039/c2em30690e>.
- Abdallah, MA; Uchea, C; Chipman, JK; Harrad, S. (2014). Enantioselective biotransformation of hexabromocyclododecane by in vitro rat and trout hepatic sub-cellular fractions. *Environ Sci Technol.* 48: 2732-2740. <http://dx.doi.org/10.1021/es404644s>.
- Abdallah, MA; Zhang, J; Pawar, G; Viant, MR; Chipman, JK; D'Silva, K; Bromirski, M; Harrad, S. (2015). High-resolution mass spectrometry provides novel insights into products of human metabolism of organophosphate and brominated flame retardants. *Anal Bioanal Chem.* 407: 1871-1883. <http://dx.doi.org/10.1007/s00216-015-8466-z>.
- ACC. (2005). HPV data summary and test plan for hexabromocyclododecane (HBCD). Arlington, VA: Brominated Flame Retardant Industry Panel (BFRIP), American Chemistry Council. <http://www.epa.gov/oppt/chemrtk/pubs/summaries/cyclodod/c13459tc.htm>.
- Al-Mousa, F; Michelangeli, F. (2012). Some commonly used brominated flame retardants cause Ca²⁺-ATPase inhibition, beta-amyloid peptide release and apoptosis in SH-SY5Y neuronal cells. *PLoS ONE.* 7: e33059. <http://dx.doi.org/10.1371/journal.pone.0033059>.
- Al-Mousa, F; Michelangeli, F. (2014). The sarcoplasmic-endoplasmic reticulum Ca²⁺-ATPase (SERCA) is the likely molecular target for the acute toxicity of the brominated flame retardant hexabromocyclododecane (HBCD). *Chem Biol Interact.* 207: 1-6. <http://dx.doi.org/10.1016/j.cbi.2013.10.021>.
- Almughamsi, H; Whalen, MM. (2016). Hexabromocyclododecane and tetrabromobisphenol A alter secretion of interferon gamma (IFN- γ) from human immune cells. *Arch Toxicol.* 90: 1695-1707. <http://dx.doi.org/10.1007/s00204-015-1586-6>.
- Amacher, DE; Schomaker, SJ; Burkhardt, JE. (1998). The relationship among microsomal enzyme induction, liver weight and histological change in rat toxicology studies. *Food Chem Toxicol.* 36: 831-839. [http://dx.doi.org/10.1016/S0278-6915\(98\)00066-0](http://dx.doi.org/10.1016/S0278-6915(98)00066-0).
- AMERIBROM INC. (1990). LETTER FROM AMERIBROM INC TO US EPA REGARDING 8D SUBMISSION FOR HEXABROMOCYCLODODECANE WITH ATTACHMENTS. (TSCATS/410157). AMERIBROM INC.,
- An, J; Chen, C; Wang, X; Zhong, Y; Zhang, X; Yu, Y; Yu, Z. (2014). Oligomeric proanthocyanidins alleviate hexabromocyclododecane-induced cytotoxicity in HepG2 cells through regulation on ROS formation and mitochondrial pathway. *Toxicol In Vitro.* 28: 319-326. <http://dx.doi.org/10.1016/j.tiv.2013.11.009>.
- An, J; Guo, P; Shang, Y; Zhong, Y; Zhang, X; Yu, Y; Yu, Z. (2016). The "adaptive responses" of low concentrations of HBCD in L02 cells and the underlying molecular mechanisms. *Chemosphere.* 145: 68-76. <http://dx.doi.org/10.1016/j.chemosphere.2015.11.071>.
- An, J; Zou, W; Chen, C; Zhong, FY; Yu, QZ; Wang, QJ. (2013). The cytological effects of HBCDs on human hepatocyte L02 and the potential molecular mechanism. *J Environ Sci Health A Tox Hazard Subst Environ Eng.* 48: 1333-1342. <http://dx.doi.org/10.1080/10934529.2013.781875>.
- Aniagu, SO; Williams, TD; Allen, Y; Katsiadaki, I; Chipman, JK. (2008). Global genomic methylation levels in the liver and gonads of the three-spine stickleback (*Gasterosteus aculeatus*) after exposure to hexabromocyclododecane and 17-beta oestradiol. *Environ Int.* 34: 310-317. <http://dx.doi.org/10.1016/j.envint.2007.03.009>.
- Aniagu, SO; Williams, TD; Chipman, JK. (2009). Changes in gene expression and assessment of DNA methylation in primary human hepatocytes and HepG2 cells exposed to the environmental contaminants-Hexabromocyclododecane and 17-beta oestradiol. *Toxicology.* 256: 143-151. <http://dx.doi.org/10.1016/j.tox.2008.10.017>.

Human Health Hazard Literature Search Results

On Topic

- Anisuzzaman, S; Whalen, MM. (2016). Tetrabromobisphenol A and hexabromocyclododecane alter secretion of IL-1 β from human immune cells. *J Immunotoxicol.* 13: 403-416. <http://dx.doi.org/10.3109/1547691X.2015.1111960>.
- Anon. (1995). The flame retardants project - A collection of reports on some flame retardants and an updated ecotoxicological summary for tetrabromobisphenol A. (CIS/05/00392).
- Anon. (1996). Hexabromocyclododecan (Aug 1995). (RISKLINE/1999030020). Anonymous.
- Anon. (1997). LETTER FROM CHEM MFGS ASSOC TO USEPA REGARDING: TOXICITY STUDIES ON HEXABROMOCYCLODODECANE, PENTABROMODIPHENYL OXIDE, AND OCTABROMODIPHENYL OXIDE WITH ATTACHMENTS, DATED 11/26/1996. (TSCATS/452961).
- Anon. (2000). USEPA STATUS REPORT: HEXABROMOCYCLODODECANE WITH ATTACHMENTS. (TSCATS/409859).
- Antignac, JP; Main, KM; Virtanen, HE; Boquien, CY; Marchand, P; Venisseau, A; Guiffard, I; Bichon, E; Wohlfahrt-Veje, C; Legrand, A; Boscher, C; Skakkebaek, NE; Toppari, J; Le Bizec, B. (2016). Country-specific chemical signatures of persistent organic pollutants (POPs) in breast milk of French, Danish and Finnish women. *Environ Pollut.* 218: 728-738. <http://dx.doi.org/10.1016/j.envpol.2016.07.069>.
- Aylward, LL; Hays, SM. (2011). Biomonitoring-based risk assessment for hexabromocyclododecane (HBCD) [Review]. *Int J Hyg Environ Health.* 214: 179-187. <http://dx.doi.org/10.1016/j.ijheh.2011.02.002>.
- Aznar-Alemany, O; Trabolón, L; Jacobs, S; Barbosa, VL; Tejedor, MF; Granby, K; Kwadijk, C; Cunha, SC; Ferrari, F; Vandermeersch, G; Sioen, I; Verbeke, W; Vilavert, L; Domingo, JL; Eljarrat, E; Barceló, D. (2016). Occurrence of halogenated flame retardants in commercial seafood species available in European markets. *Food Chem Toxicol.* 24. <http://dx.doi.org/10.1016/j.fct.2016.12.034>.
- Bao, L; Wei, YL; Yao, Y; Ruan, QQ; Zeng, EY. (2014). Global trends of research on emerging contaminants in the environment and humans: a literature assimilation [Review]. *Environ Sci Pollut Res Int.* 22: 1635-1643. <http://dx.doi.org/10.1007/s11356-014-3404-8>.
- BASF. (1969). Hexabromocyclododecane: 28-day feeding trials with rats with cover letter dated 031290 [TSCA Submission]. (86-900000376). Parsippany, NJ: BASF Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522939>.
- BASF. (1990). Hexabromocyclododecane 28-day feeding trials with rats with test data and cover letter [TSCA Submission] (pp. #86-900000274). (TSCATS/407266. OTS0523266. Doc I.D. 86900000274). West Lafayette, IN: Great Lakes Chemical Corporation.
- BASF. (1990). Report on the study of the acute oral toxicity of hexabromocyclododecane in the mouse with cover letter dated 031290 [TSCA Submission]. (86900000383). Wyandotte, MI: BASF Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522946>.
- BASF. (1990). Report on the study of the irritation of hexabromocyclododecane to the dorsal skin of rabbits after 20-hour exposure with cover letter dated 031290. (TSCATS/406638). Washington, DC. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522944>.
- BASF. (1990). Report on the study of the primary irritation of hexabromocyclododecane to the eye of rabbits with cover letter dated 031290. (TSCATS/406639). BASF Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522945>.
- BASF. (2000). Cytogenetic study in vivo with of hexabromocyclododecane in the mouse micronucleus test after two intraperitoneal administrations. (Project No. 26MO100/004018). Ludwigshafen, Germany: BASF Aktiengesellschaft.
- Bastos Sales, L; Kamstra, JH; Cenijn, PH; van Rijt, LS; Hamers, T; Legler, J. (2013). Effects of endocrine disrupting chemicals on in vitro global DNA methylation and adipocyte differentiation. *Toxicol In Vitro.* 27: 1634-1643. <http://dx.doi.org/10.1016/j.tiv.2013.04.005>.
- Bernhard, A; Bertssen, MH; Lundebye, AK; Røyneberg Alvheim, A; Secher Myrmed, L; Fjære, E; Tørstensen, BE; Kristiansen, K; Madsen, L; Brattelid, T; Rasinger, JD. (2016). Marine fatty acids aggravate hepatotoxicity of α -HBCD in juvenile female BALB/c mice. *Food Chem Toxicol.* 97: 411-423. <http://dx.doi.org/10.1016/j.fct.2016.10.002>.
- Birnbaum, LS; Staskal, DF. (2004). Brominated flame retardants: Cause for concern? [Review]. *Environ Health Perspect.* 112: 9-17. <http://dx.doi.org/10.1289/ehp.6559>.
- Bjermo, H; Aune, M; Cantillana, T; Glynn, A; Lind, PM; Ridefelt, P; Darnerud, PO. (2017). Serum levels of brominated flame retardants (BFRs: PBDE, HBCD) and influence of dietary factors in a population-based study on Swedish adults. *Chemosphere.* 167: 485-491. <http://dx.doi.org/10.1016/j.chemosphere.2016.10.008>.
- Boone, L; Meyer, D; Cusick, P; Ennulat, D; Bolliger, AP; Everds, N; Meador, V; Elliott, G; Honor, D; Bounous, D; Jordan, H. (2005). Selection and interpretation of clinical pathology indicators of hepatic injury in preclinical studies [Review]. *Vet Clin Pathol.* 34: 182-188. <http://dx.doi.org/10.1111/j.1939-165X.2005.tb00041.x>.
- Brandsma, SH; Van der Ven, LT; De Boer, J; Leonards, PE. (2009). Identification of hydroxylated metabolites of hexabromocyclododecane in wildlife and 28-days exposed Wistar rats. *Environ Sci Technol.* 43: 6058-6063. <http://dx.doi.org/10.1021/es900879k>.
- Burns-Naas, LA; Hastings, KL; Ladics, GS; Makris, SL; Parker, GA; Holsapple, MP. (2008). What's so special about the developing immune system? [Review]. *Int J Toxicol.* 27: 223-254. <http://dx.doi.org/10.1080/10915810801978110>.
- Canbaz, D; Lebre, MC; Logiantara, A; van Ree, R; van Rijt, LS. (2016). Indoor pollutant hexabromocyclododecane enhances house dust mite-induced activation of human monocyte-derived dendritic cells. *J Immunotoxicol.* 13: 1-7. <http://dx.doi.org/10.1080/1547691X.2016.1200224>.
- Canbaz, D; Logiantara, A; Hamers, T; van Ree, R; van Rijt, LS. (2016). Indoor Pollutant Hexabromocyclododecane Has a Modest Immunomodulatory Effect on House Dust Mite Induced Allergic Asthma in Mice. *Environ Sci Technol.* 50: 405-411. <http://dx.doi.org/10.1021/acs.est.5b05348>.
- Cantón, RF; Peijnenburg, AA; Hoogenboom, RL; Piersma, AH; van der Ven, LT; van den Berg, M; Heneweer, M. (2008). Subacute effects of hexabromocyclododecane (HBCD) on hepatic gene expression profiles in rats. *Toxicol Appl Pharmacol.* 231: 267-272. <http://dx.doi.org/10.1016/j.taap.2008.04.013>.
- Cantón, RF; Sanderson, JT; Nijmeijer, S; Bergman, A; Letcher, RJ; van den Berg, M. (2006). In vitro effects of brominated flame retardants and metabolites on CYP17 catalytic activity: a novel mechanism of action? *Toxicol Appl Pharmacol.* 216: 274-281. <http://dx.doi.org/10.1016/j.taap.2006.05.007>.

Human Health Hazard Literature Search Results

On Topic

- Carignan, CC; Abdallah, MA; Wu, N; Heiger-Bernays, W; Mcclean, MD; Harrad, S; Webster, TF. (2012). Predictors of tetrabromobisphenol-A (TBBP-A) and hexabromocyclododecanes (HBCD) in milk from Boston mothers. *Environ Sci Technol.* 46: 12146-12153. <http://dx.doi.org/10.1021/es302638d>.
- Cato, A; Celada, L; Kibakaya, EC; Simmons, N; Whalen, MM. (2014). Brominated flame retardants, tetrabromobisphenol A and hexabromocyclododecane, activate mitogen-activated protein kinases (MAPKs) in human natural killer cells. *Cell Biol Toxicol.* 30: 345-360. <http://dx.doi.org/10.1007/s10565-014-9289-y>.
- Chao, H, owRan; Huang, HL, in; Hsu, Y, iC; Lin, CW, en; Lin, DY, an; Gou, Y, anYou; Chen, KC. (2014). Impact of Brominated POPs on the Neurodevelopment and Thyroid Hormones of Young Children in an Indoor Environment-A Review. *Aerosol Air Qual Res.* 14: 1320-1332. <http://dx.doi.org/10.4209/aaqr.2013.05.0156>.
- Christen, V; Crettaz, P; Oberli-Schrämli, A; Fent, K. (2010). Some flame retardants and the antimicrobials triclosan and triclocarban enhance the androgenic activity in vitro. *Chemosphere.* 81: 1245-1252. <http://dx.doi.org/10.1016/j.chemosphere.2010.09.031>.
- Covaci, A; Dirtu, AC. (2008). NATO Science for Peace and Security Series A-Chemistry and Biology
BROMINATED FLAME RETARDANTS: ANALYTICAL, TOXICOLOGICAL AND ENVIRONMENTAL ASPECTS.
- Covaci, A; Voorspoels, S; Ramos, L; Neels, H; Blust, R. (2007). Recent developments in the analysis of brominated flame retardants and brominated natural compounds [Review]. *J Chromatogr A.* 1153: 145-171. <http://dx.doi.org/10.1016/j.chroma.2006.11.060>.
- Crown, S; Barel, Z; Shanin, H; Kenan, G. (1984). Acute eye irritation/corrosion study in rabbits (unpublished). Beer Sheva, Israel: Dead Sea Bromine Works Ltd.
- Crump, D; Chiu, S; Egloff, C; Kennedy, SW. (2008). Effects of hexabromocyclododecane and polybrominated diphenyl ethers on mRNA expression in chicken (*Gallus domesticus*) hepatocytes. *Toxicol Sci.* 106: 479-487. <http://dx.doi.org/10.1093/toxsci/kfn196>.
- Crump, D; Egloff, C; Chiu, S; Letcher, RJ; Chu, S; Kennedy, SW. (2010). Pipping success, isomer-specific accumulation, and hepatic mRNA expression in chicken embryos exposed to HBCD. *Toxicol Sci.* 115: 492-500. <http://dx.doi.org/10.1093/toxsci/kfq068>.
- Darnerud, PO. (2003). Toxic effects of brominated flame retardants in man and in wildlife [Review]. *Environ Int.* 29: 841-853. [http://dx.doi.org/10.1016/S0160-4120\(03\)00107-7](http://dx.doi.org/10.1016/S0160-4120(03)00107-7).
- De Boer, J. (2009). NATO Science for Peace and Security Series C - Environmental Security
BROMINATED FLAME RETARDANTS IN THE ENVIRONMENT.
- De Wit, CA. (2000). Brominated flame retardants. (CIS/06/01413). De Wit, CA.
- de Wit, CA. (2002). An overview of brominated flame retardants in the environment [Review]. *Chemosphere.* 46: 583-624.
- Dean, WP; Leong, BKJ. (1977). Acute toxicity studies in rabbits and rats. Test material Firemaster 100 Lot 53 77.902. Sponsored by Velsicol Chemical Corporation [unpublished]. (Study No. 163-499). International Research and Development Corporation.
- Deng, J; Yu, L; Liu, C; Yu, K; Shi, X; Yeung, LW; Lam, PK; Wu, RS; Zhou, B. (2009). Hexabromocyclododecane-induced developmental toxicity and apoptosis in zebrafish embryos. *Aquat Toxicol.* 93: 29-36. <http://dx.doi.org/10.1016/j.aquatox.2009.03.001>.
- Dingemans, MM; Heusinkveld, HJ; de Groot, A; Bergman, A; van den Berg, M; Westerink, RH. (2009). Hexabromocyclododecane inhibits depolarization-induced increase in intracellular calcium levels and neurotransmitter release in PC12 cells. *Toxicol Sci.* 107: 490-497. <http://dx.doi.org/10.1093/toxsci/kfn249>.
- Dorosh, A; Dêd, L; Elzeinová, F; Pěkníková, J. (2011). Assessing oestrogenic effects of brominated flame retardants hexabromocyclododecane and tetrabromobisphenol A on MCF-7 cells. *Folia Biol (Krakow Pol).* 57: 35-39.
- EC. (1990). PRIMARY EYE IRRITATION TEST EPA/82 WITH ATTACHMENTS AND COVER LETTER DATED 030890. (TSCATS/405819). PHARMACKON RESEARCH INTL INC.
- Eggesbø, M; Thomsen, C; Jørgensen, JV; Becher, G; Odland, JØ; Longnecker, MP. (2011). Associations between brominated flame retardants in human milk and thyroid-stimulating hormone (TSH) in neonates. *Environ Res.* 111: 737-743. <http://dx.doi.org/10.1016/j.envres.2011.05.004>.
- EINECS. (2008). Risk assessment: Hexabromocyclododecane. Cas-No.: 25637-99-4. Luxembourg: European Inventory of Existing Commercial Chemical Substances, Office for Official Publications of the European Communities. <https://echa.europa.eu/documents/10162/661bff17-dc0a-4475-9758-40bdd6198f82>.
- Ema, M; Fujii, S; Hirata-Koizumi, M; Matsumoto, M. (2008). Supplemental data to "Two-generation reproductive toxicity study of the flame retardant hexabromocyclododecane in rats" [Supplemental Data]. *Reprod Toxicol.* 25.
- Ema, M; Fujii, S; Hirata-Koizumi, M; Matsumoto, M. (2008). Two-generation reproductive toxicity study of the flame retardant hexabromocyclododecane in rats. *Reprod Toxicol.* 25: 335-351. <http://dx.doi.org/10.1016/j.reprotox.2007.12.004>.
- Environment Canada. (2011). Screening assessment report on hexabromocyclododecane. Chemical Abstracts Service Registry Number 3194-55-6. <https://www.ec.gc.ca/ese-ees/7882C148-8AE4-4BA4-8555-668C49F91500/HBCD%20-%20F SAR%20-%20EN.pdf>.
- Environment Canada. (2016). Canadian Environmental Protection Act, 1999. Federal environmental quality guidelines. Hexabromocyclododecane (HBCD). Environment and climate change Canada. <http://ec.gc.ca/ese-ees/default.asp?lang=En&n=8BA57E1C-1>.
- EPA. (2016). Technical review of hexabromocyclododecane (HBCD) CAS registry numbers 3194-55-6 and 25637-99-4. Washington, DC: U. S. Environmental Protection Agency. <https://www.regulations.gov/document?D=EPA-HQ-TRI-2015-0607-0028>.
- ERG. (2014). External peer review of a WIL Research Laboratories toxicity study report, "A 28-day repeated dose oral toxicity study of HBCD in rats" final report (1997) and Addendum (1998). (Contract No.: EP-C-12-029, Task Order 38). submitted to U.S. Environmental Protection Agency.
- ERG. (2014). External peer review of a WIL Research Laboratories toxicity study report, "A 90-Day oral (gavage) toxicity study of HBCD in rats" Final Report (2001) and Addendum (2002). (Contract No.: EP-C-12-029, Task Order 38). submitted to U.S. Environmental Protection Agency.

Human Health Hazard Literature Search Results

On Topic

- Eriksson, P; Fischer, C; Wallin, M; Jakobsson, E; Fredriksson, A. (2006). Impaired behaviour, learning and memory, in adult mice neonatally exposed to hexabromocyclododecane (HBCDD). *Environ Toxicol Pharmacol*. 21: 317-322. <http://dx.doi.org/10.1016/j.etap.2005.10.001>.
- Erratico, C; Zheng, X; van den Eede, N; Tomy, G; Covaci, A. (2016). Stereoselective Metabolism of α -, β -, and γ -Hexabromocyclododecanes (HBCDs) by Human Liver Microsomes and CYP3A4. *Environ Sci Technol*. 50: 8263-8273. <http://dx.doi.org/10.1021/acs.est.6b01059>.
- Esslinger, S; Becker, R; Maul, R; Nehls, I. (2011). Hexabromocyclododecane enantiomers: microsomal degradation and patterns of hydroxylated metabolites. *Environ Sci Technol*. 45: 3938-3944. <http://dx.doi.org/10.1021/es1039584>.
- Ethyl Corporation. (1990). Genetic toxicology rat hepatocyte primary culture/DNA repair test on hexabromocyclododecane with cover letter dated 030890. (TSCATS/405817. OTS0522234. Doc I.D. 8690000163). Baton Rouge, LA. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522234>.
- Ethyl Corporation. (1990). Genetic toxicology salmonella/microsomal assay on hexabromocyclododecane with cover letter dated 030890 [TSCA Submission]. (TSCATS/405818. OTS0522235. Doc I.D. 8690000164). Baton Rouge, LA. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522235>.
- Fa, S; Pogrmic-Majkic, K; Dakic, V; Kaisarevic, S; Hrubik, J; Andric, N; Stojilkovic, SS; Kovacevic, R. (2013). Acute effects of hexabromocyclododecane on Leydig cell cyclic nucleotide signaling and steroidogenesis in vitro. *Toxicol Lett*. 218: 81-90. <http://dx.doi.org/10.1016/j.toxlet.2013.01.009>.
- Fa, S; Pogrmic-Majkic, K; Samardzija, D; Hrubik, J; Glisic, B; Kovacevic, R; Andric, N. (2015). HBCDD-induced sustained reduction in mitochondrial membrane potential, ATP and steroidogenesis in peripubertal rat Leydig cells. *Toxicol Appl Pharmacol*. 282: 20-29. <http://dx.doi.org/10.1016/j.taap.2014.11.001>.
- Fa, S; Samardzija, D; Odzic, L; Pogrmic-Majkic, K; Kaisarevic, S; Kovacevic, R; Andric, N. (2014). Hexabromocyclododecane facilitates FSH activation of ERK1/2 and AKT through epidermal growth factor receptor in rat granulosa cells. *Arch Toxicol*. 88: 345-354. <http://dx.doi.org/10.1007/s00204-013-1133-2>.
- Fängström, B; Athanassiadis, I; Odsjö, T; Norén, K; Bergman, A. (2008). Temporal trends of polybrominated diphenyl ethers and hexabromocyclododecane in milk from Stockholm mothers, 1980-2004. *Mol Nutr Food Res*. 52: 187-193. <http://dx.doi.org/10.1002/mnfr.200700182>.
- Fery, Y; Buschauer, I; Salzig, C; Lang, P; Schrenk, D. (2009). Technical pentabromodiphenyl ether and hexabromocyclododecane as activators of the pregnane-X-receptor (PXR). *Toxicology*. 264: 45-51. <http://dx.doi.org/10.1016/j.tox.2009.07.009>.
- Fery, Y; Mueller, SO; Schrenk, D. (2010). Development of stably transfected human and rat hepatoma cell lines for the species-specific assessment of xenobiotic response enhancer module (XREM)-dependent induction of drug metabolism. *Toxicology*. 277: 11-19. <http://dx.doi.org/10.1016/j.tox.2010.08.008>.
- Fisk, P; Girling, A; Wiley, R. (2003). Prioritisation of flame retardants for environmental risk assessment. Bristol, United Kingdom: Environment Agency.
- Fromme, H; Becher, G; Hilger, B; Völkel, W. (2015). Brominated flame retardants - Exposure and risk assessment for the general population [Review]. *Int J Hyg Environ Health*. 219: 1-23. <http://dx.doi.org/10.1016/j.ijheh.2015.08.004>.
- Fujimoto, H; Woo, GH; Morita, R; Itahashi, M; Akane, H; Nishikawa, A; Shibutani, M. (2013). Increased cellular distribution of vimentin and ret in the cingulum of rat offspring after developmental exposure to decabromodiphenyl ether or 1,2,5,6,9,10-hexabromocyclododecane. *J Toxicol Pathol*. 26: 119-129. <http://dx.doi.org/10.1293/tox.26.119>.
- Genskow, KR; Bradner, JM; Hossain, MM; Richardson, JR; Caudle, WM. (2015). Selective damage to dopaminergic transporters following exposure to the brominated flame retardant, HBCDD. *Neurotoxicol Teratol*. 52: 162-169. <http://dx.doi.org/10.1016/j.ntt.2015.06.003>.
- Germer, S; Piersma, AH; van der Ven, L; Kamyschnikow, A; Fery, Y; Schmitz, HJ; Schrenk, D. (2006). Subacute effects of the brominated flame retardants hexabromocyclododecane and tetrabromobisphenol A on hepatic cytochrome P450 levels in rats. *Toxicology*. 218: 229-236. <http://dx.doi.org/10.1016/j.tox.2005.10.019>.
- Geyer, HJ; Schramm, K, -W; Darnerud, PO; Aune, M; Feicht, EA; Fried, KW; Henkelmann, B; Lenoir, D; Schmid, P; McDonald, TA. (2004). Terminal elimination half-lives of the brominated flame retardants TBBPA, HBCD, and lower brominated PBDEs in humans. *Organohalogen Compd*. 66: 3820-3825.
- GSRI. (1978). Mutagenicity test of GLS-S6-41A (not published). (TSCATS/443581. OTS0000947. EPA/OTS Doc #FYI-OTS-0794-0947).
- GSRI. (1994). Initial submission: Letter from Ethyl Corp to USEPA re technical and toxicity data on brominated flame retardants including hexabromocyclododecane, * w/attchmts, dated 5/23/88 [TSCA Submission]. (FYIOTS07940947). Baton Rouge, LA: Ethyl Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0000947>.
- Gutleb, AC; Meerts, IAT, M; Bergsma, JH; Schriks, M; Murk, AJ. (2005). T-Screen as a tool to identify thyroid hormone receptor active compounds. *Environ Toxicol Pharmacol*. 19: 231-238. <http://dx.doi.org/10.1016/j.etap.2004.06.003>.
- Hachisuka, A; Nakamura, R; Sato, Y; Nakamura, R; Shibutani, M; Teshima, R. (2010). Effects of perinatal exposure to the brominated flame-retardant hexabromocyclododecane (HBCD) on the developing immune system in rats [translation]. *Kokuritsu Iyakuhin Shokuhin Eisei Kenkyusho Hokoku*. [2010].
- Hachisuka, A; Nakamura, R; Sato, Y; Nakamura, R; Shibutani, M; Teshima, R. (2010). [Effects of perinatal exposure to the brominated flame-retardant hexabromocyclododecane (HBCD) on the developing immune system in rats]. *Kokuritsu Iyakuhin Shokuhin Eisei Kenkyusho Hokoku*. [2010]: 58-64.
- Hakk, H. (2016). Comparative Metabolism Studies of Hexabromocyclododecane (HBCD) Diastereomers in Male Rats Following a Single Oral Dose. *Environ Sci Technol*. 50: 89-96. <http://dx.doi.org/10.1021/acs.est.5b04510>.
- Hakk, H; Letcher, RJ. (2003). Metabolism in the toxicokinetics and fate of brominated flame retardants--a review [Review]. *Environ Int*. 29: 801-828. [http://dx.doi.org/10.1016/S0160-4120\(03\)00109-0](http://dx.doi.org/10.1016/S0160-4120(03)00109-0).

Human Health Hazard Literature Search Results

On Topic

- Hakk, H; Szabo, DT; Huwe, J; Diliberto, J; Birnbaum, LS. (2012). Novel and distinct metabolites identified following a single oral dose of α - or γ -hexabromocyclododecane in mice. *Environ Sci Technol*. 46: 13494-13503. <http://dx.doi.org/10.1021/es303209g>.
- Hamers, T; Kamstra, JH; Sonneveld, E; Murk, AJ; Kester, MH; Andersson, PL; Legler, J; Brouwer, A. (2006). In vitro profiling of the endocrine-disrupting potency of brominated flame retardants. *Toxicol Sci*. 92: 157-173. <http://dx.doi.org/10.1093/toxsci/kfj187>.
- Hardy, ML; Bieseimer, J; Manor, O; Gentit, W. (2003). Industry-sponsored research on the potential health and environmental effects of selected brominated flame retardants. *Environ Int*. 29: 793-799. [http://dx.doi.org/10.1016/S0160-4120\(03\)00111-9](http://dx.doi.org/10.1016/S0160-4120(03)00111-9).
- Harju, M; Hamers, T; Kamstra, JH; Sonneveld, E; Boon, JP; Tysklind, M; Andersson, PL. (2007). Quantitative structure-activity relationship modeling on in vitro endocrine effects and metabolic stability involving 26 selected brominated flame retardants. *Environ Toxicol Chem*. 26: 816-826. <http://dx.doi.org/10.1897/06-308R.1>.
- He, Y; Gong, L; Fang, Y; Zhan, Q; Liu, HX; Lu, Y; Guo, GL; Lehman-McKeeman, L; Fang, J; Wan, YJ. (2013). The role of retinoic acid in hepatic lipid homeostasis defined by genomic binding and transcriptome profiling. *BMC Genomics*. 14: 575. <http://dx.doi.org/10.1186/1471-2164-14-575>.
- Heindel, JJ. (1998). An evaluation and interpretation of reproductive endpoints for human health risk assessment Oocyte quantitation and ovarian histology. Washington, DC: ILSI Press.
- Helleday, T; Tuominen, KL; Bergman, A; Jenssen, D. (1999). Brominated flame retardants induce intragenic recombination in mammalian cells. *Mutat Res*. 439: 137-147.
- Henics, T; Wheatley, DN. (1999). Cytoplasmic vacuolation, adaptation and cell death: a view on new perspectives and features [Review]. *Biol Cell*. 91: 485-498. [http://dx.doi.org/10.1016/S0248-4900\(00\)88205-2](http://dx.doi.org/10.1016/S0248-4900(00)88205-2).
- Henrichs, J; Bongers-Schokking, JJ; Schenk, JJ; Ghassabian, A; Schmidt, HG; Visser, TJ; Hooijkaas, H; de Muinck Keizer-Schrama, SM; Hofman, A; Jaddoe, VV; Visser, W; Steegers, EA; Verhulst, FC; de Rijke, YB; Tiemeier, H. (2010). Maternal thyroid function during early pregnancy and cognitive functioning in early childhood: The generation R study. *J Clin Endocrinol Metab*. 95: 4227-4234. <http://dx.doi.org/10.1210/jc.2010-0415>.
- Hiebl, J; Vetter, W. (2007). Detection of hexabromocyclododecane and its metabolite pentabromocyclododecene in chicken egg and fish from the official food control. *J Agric Food Chem*. 55: 3319-3324. <http://dx.doi.org/10.1021/jf063428b>.
- Hinkson, NC; Whalen, MM. (2009). Hexabromocyclododecane decreases the lytic function and ATP levels of human natural killer cells. *J Appl Toxicol*. 29: 656-661. <http://dx.doi.org/10.1002/jat.1453>.
- Hinkson, NC; Whalen, MM. (2010). Hexabromocyclododecane decreases tumor-cell-binding capacity and cell-surface protein expression of human natural killer cells. *J Appl Toxicol*. 30: 302-309. <http://dx.doi.org/10.1002/jat.1495>.
- Hofman, LF; Foley, TP; Henry, JJ; Naylor, EW. (2003). Assays for thyroid-stimulating hormone using dried blood spotted filter paper specimens to screen for hypothyroidism in older children and adults. *J Med Screen*. 10: 5-10. <http://dx.doi.org/10.1258/096914103321610734>.
- Hooper, K; She, J; Sharp, M; Chow, J; Jewell, N; Gephart, R; Holden, A. (2007). Depuration of polybrominated diphenyl ethers (PBDEs) and polychlorinated biphenyls (PCBs) in breast milk from California first-time mothers (primiparae). *Environ Health Perspect*. 115: 1271-1275. <http://dx.doi.org/10.1289/ehp.10166>.
- Howdeshell, KL. (2002). A model of the development of the brain as a construct of the thyroid system [Review]. *Environ Health Perspect*. 110 Suppl 3: 337-348.
- HSDB. (2008). Hexabromocyclododecane (HBCD) [Database]. Bethesda, MD: National Library of Medicine. Retrieved from <http://toxnet.nlm.nih.gov/cgi-bin/sis/search/f?./temp/~XQzOHy:1>
- Hu, J; Liang, Y; Chen, M; Wang, X. (2009). Assessing the toxicity of TBBPA and HBCD by zebrafish embryo toxicity assay and biomarker analysis. *Environ Toxicol*. 24: 334-342. <http://dx.doi.org/10.1002/tox.20436>.
- Hu, X; Hu, D; Xu, Y. (2009). Effects of tetrabrominated diphenyl ether and hexabromocyclododecanes in single and complex exposure to hepatoma HepG2 cells. *Environ Toxicol Pharmacol*. 27: 327-337. <http://dx.doi.org/10.1016/j.etap.2008.11.014>.
- Huang, X; Chen, C; Shang, Y; Zhong, Y; Ren, G; Yu, Z; An, J. (2016). In vitro study on the biotransformation and cytotoxicity of three hexabromocyclododecane diastereoisomers in liver cells. *Chemosphere*. 161: 251-258. <http://dx.doi.org/10.1016/j.chemosphere.2016.07.001>.
- Hulbert, AJ. (2000). Thyroid hormones and their effects: a new perspective [Review]. *Biol Rev Camb Philos Soc*. 75: 519-631.
- Huntingdon Research Centre. (1990). Ames metabolic activation test to assess the potential mutagenic effect of und no. 49 with cover letter dated 031290 [TSCA Submission]. (TSCATS/406642. OTS0522948. 86900000385). Wyandotte, MI: BASF Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522948>.
- Ibhazehiebo, K; Iwasaki, T; Shimokawa, N; Kimura-Kuroda, J; Koibuchi, N. (2010). Suppression of cerebellar Purkinje cell dendrite arborization by alpha-hexabromocyclododecane. *J Physiol Sci*. 60: S78-S78.
- Ibhazehiebo, K; Iwasaki, T; Shimokawa, N; Koibuchi, N. (2011). 1,2,5,6,9,10- α Hexabromocyclododecane (HBCD) impairs thyroid hormone-induced dendrite arborization of Purkinje cells and suppresses thyroid hormone receptor-mediated transcription. *Cerebellum*. 10: 22-31. <http://dx.doi.org/10.1007/s12311-010-0218-1>.
- Ibhazehiebo, K; Iwasaki, T; Xu, M; Shimokawa, N; Koibuchi, N. (2011). Brain-derived neurotrophic factor (BDNF) ameliorates the suppression of thyroid hormone-induced granule cell neurite extension by hexabromocyclododecane (HBCD). *Neurosci Lett*. 493: 1-7. <http://dx.doi.org/10.1016/j.neulet.2011.01.062>.
- IBT Labs. (1990). Mutagenicity of two lots of FM-100 lot 53 and residue of lot 3322 in the absence and presence of metabolic activation with test data and cover letter [TSCA Submission]. (TSCATS/407259. OTS0523259. Doc I.D. 86900000267). West Lafayette, IN: Great Lakes Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0523259>.
- IPCS. (1997). Flame retardants: a general introduction. In *Environmental Health Criteria* (pp. 52). Geneva, Switzerland: World Health Organization. <http://www.inchem.org/documents/ehc/ehc/ehc192.htm>.

Human Health Hazard Literature Search Results

On Topic

- IRDC. (1978). Acute inhalation toxicity study in rats with hexabromocyclododecane with attachments and cover letter dated 042478 [TSCA Submission]. (EPA/OTS Doc #88-7800137; 8EHQ04780137). Chicago, IL: Velsicol Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0200488>.
- IRDC. (1978). Acute toxicity studies in rabbits and rats with hexabromocyclododecane with attachments [TSCA Submission]. (EPA/OTS Doc #88-7800065; 8EHQ02780065). Chicago, IL: Velsicol Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0200051>.
- IRDC. (1978). Acute toxicity studies in rabbits and rats with residue of hexabromocyclododecane with attachments and cover letter dated 030178 [TSCA Submission]. (88-7800088; 8EHQ03780088). Chicago, IL: Velsicol Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0200466>.
- Isobe, T; Oda, H; Takayanagi, N; Kunisue, T; Komori, H; Arita, N; Ueda, N; Nose, M; Yamada, T; Takahashi, S; Tanabe, S. (2009). Hexabromocyclododecanes in human adipose tissue from Japan. *Environ Chem.* 6: 328-333. <http://dx.doi.org/10.1071/EN09024>.
- Jaeger, B. (1984). Pesticide assessment guidelines, subdivision F Hazard evaluation: human and domestic animals. Jaeger, B.
- Ji, XL; Liu, Y; Liu, F; Lu, Y; Zhong, GR. (2010). [Transthyretin-binding activity of hexabromocyclododecanes (HBCDs) and its thyroid hormone disrupting effects after developmental exposure]. *Huanjing Kexue.* 31: 2191-2195.
- Johnson, PI; Stapleton, HM; Mukherjee, B; Hauser, R; Meeker, JD. (2013). Associations between brominated flame retardants in house dust and hormone levels in men. *Sci Total Environ.* 445-446: 177-184. <http://dx.doi.org/10.1016/j.scitotenv.2012.12.017>.
- Julvez, J; Alvarez-Pedrerol, M, ar; Rebagliato, M; Murcia, M; Fornes, J; Garcia-Esteban, R; Lertxundi, N; Espada, M; Tardon, A; Riano Galan, I; Sunyer, J. (2013). Thyroxine levels during pregnancy in healthy women and early child neurodevelopment. *Epidemiology.* 24: 150-157. <http://dx.doi.org/10.1097/EDE.0b013e318276ccd3>.
- Kakimoto, K; Akutsu, K; Konishi, Y; Tanaka, Y. (2008). Time trend of hexabromocyclododecane in the breast milk of Japanese women. *Chemosphere.* 71: 1110-1114. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.035>.
- Kang, NH; Hwang, KA; Kim, TH; Hyun, SH; Jeung, EB; Choi, KC. (2012). Induced growth of BG-1 ovarian cancer cells by 17 β -estradiol or various endocrine disrupting chemicals was reversed by resveratrol via downregulation of cell cycle progression. *Mol Med Rep.* 6: 151-156. <http://dx.doi.org/10.3892/mmr.2012.887>.
- Kato, Y; Ikushiro, S; Emi, Y; Tamaki, S; Suzuki, H; Sakaki, T; Yamada, S; Degawa, M. (2008). Hepatic UDP-glucuronosyltransferases responsible for glucuronidation of thyroxine in humans. *Drug Metab Dispos.* 36: 51-55. <http://dx.doi.org/10.1124/dmd.107.018184>.
- Kemmler, S; Herzke, D; Law, RJ. (2003). BFR-governmental testing programme [Review]. *Environ Int.* 29: 781-792. [http://dx.doi.org/10.1016/S0160-4120\(03\)00112-0](http://dx.doi.org/10.1016/S0160-4120(03)00112-0).
- Kemmler, S; Herzke, D; Law, RJ. (2009). Brominated flame retardants in the European chemicals policy of REACH-Regulation and determination in materials [Review]. *J Chromatogr A.* 1216: 320-333. <http://dx.doi.org/10.1016/j.chroma.2008.05.085>.
- Keune, H; Gutleb, AC; Zimmer, KE; Ravnum, S; Yang, A; Bartonova, A; Kreyer von Krauss, M; Ropstad, E; Eriksen, GS; Saunders, M; Magnanti, B; Forsberg, B. (2012). We're only in it for the knowledge? A problem solving turn in environment and health expert elicitation. *Environ Health.* 11 Suppl 1: S3. <http://dx.doi.org/10.1186/1476-069X-11-S1-S3>.
- Kiciński, M; Viaene, MK; Den Hond, E; Schoeters, G; Covaci, A; Dirtu, AC; Nelen, V; Bruckers, L; Croes, K; Sioen, I; Baeyens, W; Van Larebeke, N; Nawrot, TS. (2012). Neurobehavioral function and low-level exposure to brominated flame retardants in adolescents: A cross-sectional study. *Environ Health.* 11: 86. <http://dx.doi.org/10.1186/1476-069X-11-86>.
- Kim, J; Kang, JH, o; Park, H; Baek, S; Kim, YH, o; Chang, YS. (2012). Assessment of polybrominated diphenyl ethers (PBDEs) in serum from the Korean general population. *Environ Pollut.* 164: 46-52. <http://dx.doi.org/10.1016/j.envpol.2012.01.016>.
- Kim, SH; Nam, KH; Hwang, KA; Choi, KC. (2016). Influence of hexabromocyclododecane and 4-nonylphenol on the regulation of cell growth, apoptosis and migration in prostatic cancer cells. *Toxicol In Vitro.* 32: 240-247. <http://dx.doi.org/10.1016/j.tiv.2016.01.008>.
- Kim, UJ; Oh, JE. (2014). Tetrabromobisphenol A and hexabromocyclododecane flame retardants in infant-mother paired serum samples, and their relationships with thyroid hormones and environmental factors. *Environ Pollut.* 184: 193-200. <http://dx.doi.org/10.1016/j.envpol.2013.08.034>.
- Kitamura, S; Suzuki, T; Sanoh, S; Kohta, R; Jinno, N; Sugihara, K; Yoshihara, S; Fujimoto, N; Watanabe, H; Ohta, S. (2005). Comparative study of the endocrine-disrupting activity of bisphenol A and 19 related compounds. *Toxicol Sci.* 84: 249-259. <http://dx.doi.org/10.1093/toxsci/kfi074>.
- Klaassen, CD; Hood, AM. (2001). Effects of microsomal enzyme inducers on thyroid follicular cell proliferation and thyroid hormone metabolism [Review]. *Toxicol Pathol.* 29: 34-40. <http://dx.doi.org/10.1080/019262301301418838>.
- Kling, P; Förlin, L. (2009). Proteomic studies in zebrafish liver cells exposed to the brominated flame retardants HBCD and TBBPA. *Ecotoxicol Environ Saf.* 72: 1985-1993. <http://dx.doi.org/10.1016/j.ecoenv.2009.04.018>.
- Koch, C; Schmidt-Kötters, T; Rupp, R; Sures, B. (2015). Review of hexabromocyclododecane (HBCD) with a focus on legislation and recent publications concerning toxicokinetics and -dynamics [Review]. *Environ Pollut.* 199C: 26-34. <http://dx.doi.org/10.1016/j.envpol.2015.01.011>.
- Koike, E; Yanagisawa, R; Takano, H. (2016). Brominated flame retardants, hexabromocyclododecane and tetrabromobisphenol A, affect proinflammatory protein expression in human bronchial epithelial cells via disruption of intracellular signaling. *Toxicol In Vitro.* 32: 212-219. <http://dx.doi.org/10.1016/j.tiv.2015.12.013>.
- Koike, E; Yanagisawa, R; Takigami, H; Takano, H. (2012). Brominated flame retardants stimulate mouse immune cells in vitro. *J Appl Toxicol.* 33: 1451-1459. <http://dx.doi.org/10.1002/jat.2809>.
- Krivoshiev, BV; Dardenne, F; Covaci, A; Blust, R; Husson, SJ. (2016). Assessing in-vitro estrogenic effects of currently-used flame retardants. *Toxicol In Vitro.* 33: 153-162. <http://dx.doi.org/10.1016/j.tiv.2016.03.006>.

Human Health Hazard Literature Search Results

On Topic

- Kunisue, T; Takayanagi, N; Isobe, T; Takahashi, S; Nakatsu, S; Tsubota, T; Okumoto, K; Bushisue, S; Shindo, K; Tanabe, S. (2008). Regional trend and tissue distribution of brominated flame retardants and persistent organochlorines in raccoon dogs (*Nyctereutes procyonoides*) from Japan. *Environ Sci Technol.* 42: 685-691. <http://dx.doi.org/10.1021/es071565z>.
- Kurokawa, Y; Inoue, T; Uchida, Y; Momma, J. (1984). Carcinogenesis test of flame retarder hexabromocyclododecane in mice (Summary, unpublished, translated into English). Department of Toxicology, National Public Health Research Institute, Biological Safety Test and Research Centre.
- Kurokawa, Y; Inoue, T; Uchida, Y; Momma, J. (1984). [Carcinogenesis test of flame retarder hexabromocyclododecane in mice, Summary]. Department of Toxicology, National Public Health Research Institute, Biological Safety Test and Research Centre.
- Lans, MC; Klasson-Wehler, E; Willemsen, M; Meussen, E; Safe, S; Brouwer, A. (1993). Structure-dependent, competitive interaction of hydroxy-polychlorobiphenyls, -dibenzo-p-dioxins and -dibenzofurans with human transthyretin. *Chem Biol Interact.* 88: 7-21. [http://dx.doi.org/10.1016/0009-2797\(93\)90081-9](http://dx.doi.org/10.1016/0009-2797(93)90081-9).
- Law, RJ. (2014). An overview of time trends in organic contaminant concentrations in marine mammals: Going up or down? [Review]. *Mar Pollut Bull.* 82: 7-10. <http://dx.doi.org/10.1016/j.marpolbul.2014.03.024>.
- Law, RJ; Kohler, M; Heeb, NV; Gerecke, AC; Schmid, P; Voorspoels, S; Covaci, A; Becher, G; Janák, K; Thomsen, C. (2005). Hexabromocyclododecane challenges scientists and regulators [Review]. *Environ Sci Technol.* 39: 281A-287A. <http://dx.doi.org/10.1021/es053302f>.
- Legler, J. (2008). New insights into the endocrine disrupting effects of brominated flame retardants [Review]. *Chemosphere.* 73: 216-222. <http://dx.doi.org/10.1016/j.chemosphere.2008.04.081>.
- Leng, G; Gries, W. (2016). New specific and sensitive biomonitoring methods for chemicals of emerging health relevance [Review]. *Int J Hyg Environ Health.* <http://dx.doi.org/10.1016/j.ijheh.2016.09.014>.
- Letcher, RJ; Gebbink, WA; Sonne, C; Born, EW; Mckinney, MA; Dietz, R. (2009). Bioaccumulation and biotransformation of brominated and chlorinated contaminants and their metabolites in ringed seals (*Pusa hispida*) and polar bears (*Ursus maritimus*) from East Greenland. *Environ Int.* 35: 1118-1124. <http://dx.doi.org/10.1016/j.envint.2009.07.006>.
- Lewis, AC; Palanker, AL. (1978). A dermal LD50 study in albino rabbits and an inhalation LC50 study in albino rats. Test material GLS-S6-41A [unpublished]. (Experiment Reference No. 78385-2). Fairfield, NJ: Consumer Product Testing.
- Li, P; Yang, CQ; Jin, J; Wang, Y; Liu, WZ; Ding, WW. (2014). [Correlations between HBCD and thyroid hormone concentrations in human serum from production source area]. *Huanjing Kexue.* 35: 3970-3976.
- Lignell, S; Aune, M; Darnerud, PO; Cnattingius, S; Glynn, A. (2009). Persistent organochlorine and organobromine compounds in mother's milk from Sweden 1996-2006: Compound-specific temporal trends. *Environ Res.* 109: 760-767. <http://dx.doi.org/10.1016/j.envres.2009.04.011>.
- Lilienthal; G., HH. (2010). Effect profiles of different brominated flame retardants in neurobehavioral and endocrine studies. In PB Merlani (Ed.), *Chemical Engineering Methods and Technology* (pp. 157-162). New York, NY: Nova Science Publishers. https://www.novapublishers.com/catalog/product_info.php?products_id=9937.
- Lilienthal, H; van der Ven, L; Piersma, A; Vos, J. (2007). Auditory and neurobehavioral effects of exposure to brominated flame retardants in rats—Evaluation of benchmark doses [Abstract]. *Reprod Toxicol.* 24: 61. <http://dx.doi.org/10.1016/j.reprotox.2007.04.019>.
- Lilienthal, H; van der Ven, LT; Piersma, AH; Vos, JG. (2009). Effects of the brominated flame retardant hexabromocyclododecane (HBCD) on dopamine-dependent behavior and brainstem auditory evoked potentials in a one-generation reproduction study in Wistar rats. *Toxicol Lett.* 185: 63-72. <http://dx.doi.org/10.1016/j.toxlet.2008.12.002>.
- Litton Bionetics. (1990). Mutagenicity evaluation of 421-32B (final report) with test data and cover letter [TSCA Submission]. (TSCATS/407257. OTS0523257. 86900000265). West Lafayette, IN: Great Lakes Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0523257>.
- Liu, D; Teng, W; Shan, Z; Yu, X; Gao, Y; Wang, S; Fan, C; Wang, H; Zhang, H. (2010). The effect of maternal subclinical hypothyroidism during pregnancy on brain development in rat offspring. *Thyroid.* 20: 909-915. <http://dx.doi.org/10.1089/thy.2009.0036>.
- Luo, XJ; Ruan, W; Zeng, YH; Liu, HY; Chen, SJ; Wu, JP; Mai, BX. (2013). Trophic dynamics of hexabromocyclododecane diastereomers and enantiomers in fish in a laboratory feeding study. *Environ Toxicol Chem.* 32: 2565-2570. <http://dx.doi.org/10.1002/etc.2337>.
- Lyche, JL; Rosseland, C; Berge, G; Polder, A. (2015). Human health risk associated with brominated flame-retardants (BFRs) [Review]. *Environ Int.* 74C: 170-180. <http://dx.doi.org/10.1016/j.envint.2014.09.006>.
- Malarvannan, G; Dirinck, E; Dirtu, AC; Pereira-Fernandes, A; Neels, H; Jorens, PG; Gaal, LV; Blust, R; Covaci, A. (2013). Distribution of persistent organic pollutants in two different fat compartments from obese individuals. *Environ Int.* 55: 33-42. <http://dx.doi.org/10.1016/j.envint.2013.02.012>.
- Malarvannan, G; Isobe, T; Covaci, A; Prudente, M; Tanabe, S. (2013). Accumulation of brominated flame retardants and polychlorinated biphenyls in human breast milk and scalp hair from the Philippines: levels, distribution and profiles. *Sci Total Environ.* 442: 366-379. <http://dx.doi.org/10.1016/j.scitotenv.2012.10.005>.
- Malarvannan, G; Kunisue, T; Isobe, T; Sudaryanto, A; Takahashi, S; Prudente, M; Subramanian, A; Tanabe, S. (2009). Organohalogen compounds in human breast milk from mothers living in Payatas and Malate, the Philippines: Levels, accumulation kinetics and infant health risk. *Environ Pollut.* 157: 1924-1932. <http://dx.doi.org/10.1016/j.envpol.2009.01.010>.
- Maranghi, F; Tassinari, R; Moracci, G; Altieri, I; Rasinger, JD; Carroll, TS; Hogstrand, C; Lundevan, A. (2013). Dietary exposure of juvenile female mice to polyhalogenated seafood contaminants (HBCD, BDE-47, PCB-153, TCDD): comparative assessment of effects in potential target tissues. *Food Chem Toxicol.* 56: 443-449. <http://dx.doi.org/10.1016/j.fct.2013.02.056>.
- Mariussen, E; Fonnum, F. (2003). The effect of brominated flame retardants on neurotransmitter uptake into rat brain synaptosomes and vesicles. *Neurochem Int.* 43: 533-542. [http://dx.doi.org/10.1016/S0197-0186\(03\)00044-5](http://dx.doi.org/10.1016/S0197-0186(03)00044-5).

Human Health Hazard Literature Search Results

On Topic

- Marvin, CH; Tomy, GT; Armitage, JM; Arnot, JA; Mccarty, L; Covaci, A; Palace, V. (2011). Hexabromocyclododecane: current understanding of chemistry, environmental fate and toxicology and implications for global management. *Environ Sci Technol.* 45: 8613-8623. <http://dx.doi.org/10.1021/es201548c>.
- Maurice, N; Olry, JC; Cariou, R; Dervilly-Pinel, G; Le Bizec, B; Travel, A; Jondreville, C; Schroeder, H. (2015). Short-term effects of a perinatal exposure to the HBCDD alpha-isomer in rats: Assessment of early motor and sensory development, spontaneous locomotor activity and anxiety in pups. *Neurotoxicol Teratol.* 52: 170-180. <http://dx.doi.org/10.1016/j.ntt.2015.08.005>.
- Maurice, N; Olry, JC; Cariou, R; Marchand, P; Dervilly-Pinel, G; Le Bizec, B; Travel, A; Jondreville, C; Schroeder, H. (2015). Assessment of the short-term neurobehavioral toxicity of a perinatal exposure to the hexabromocyclododecane (HBCDD) alpha-isomer in rats. *Neurotoxicol Teratol.* 49: 123-123. <http://dx.doi.org/10.1016/j.ntt.2015.04.078>.
- Meijer, L; Martijn, A; Melessen, J; Brouwer, A; Weiss, J; de Jong, FH; Sauer, PJ. (2012). Influence of prenatal organohalogen levels on infant male sexual development: sex hormone levels, testes volume and penile length. *Hum Reprod.* 27: 867-872. <http://dx.doi.org/10.1093/humrep/der426>.
- Meijer, L; Weiss, J; Van Velzen, M; Brouwer, A; Bergman, A; Sauer, PJ. (2008). Serum concentrations of neutral and phenolic organohalogens in pregnant women and some of their infants in The Netherlands. *Environ Sci Technol.* 42: 3428-3433. <http://dx.doi.org/10.1021/es702446p>.
- Messer, A. (2010). Mini-review: Polybrominated diphenyl ether (PBDE) flame retardants as potential autism risk factors [Review]. *Physiol Behav.* 100: 245-249. <http://dx.doi.org/10.1016/j.physbeh.2010.01.011>.
- Microbiological Associates. (1996). Hexabromocyclododecane (HBCD): Chromosome aberrations in human peripheral blood lymphocytes with cover letter dated 12/12/1996 [TSCA Submission]. (TSCATS/453439. OTS0573552. Doc I.D. 86970000358). Arlington, VA: Chemical Manufacturers Association. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.html?searchQuery=OTS0573552>.
- Microbiological Associates. (1996). Hexabromocyclododecane (HBCD): Maximization test in guinea pigs with cover letter dated 12/12/1996 [TSCA Submission]. (86970000356). Arlington, VA: Chemical Manufacturers Association. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.html?searchQuery=OTS0573550>.
- Miller, I; Diepenbroek, C; Rijntjes, E; Renaut, J; Teerds, KJ; Kwadijk, C; Cambier, S; Murk, AJ; Gutleb, AC; Serchi, T. (2016). Gender specific differences in the liver proteome of rats exposed to short term and low-concentration hexabromocyclododecane (HBCD). *Toxicology Research.* 5: 1273-1283. <http://dx.doi.org/10.1039/c6tx00166a>.
- Miller, I; Renaut, J; Cambier, S; Murk, AJ; Gutleb, AC; Serchi, T. (2016). Dataset of liver proteins of eu- and hypothyroid rats affected in abundance by any of three factors: in vivo exposure to hexabromocyclododecane (HBCD), thyroid status, gender differences. 8: 1344-1347. <http://dx.doi.org/10.1016/j.dib.2016.07.063>.
- Miller, I; Serchi, T; Cambier, S; Diepenbroek, C; Renaut, J; van den Berg, JH; Kwadijk, C; Gutleb, AC; Rijntjes, E; Murk, AJ. (2016). Dataset of liver proteins changed in eu- and hypothyroid female rats upon in vivo exposure to hexabromocyclododecane (HBCD). 7: 386-392. <http://dx.doi.org/10.1016/j.dib.2016.02.047>.
- Miller, I; Serchi, T; Cambier, S; Diepenbroek, C; Renaut, J; Van der Berg, JH; Kwadijk, C; Gutleb, AC; Rijntjes, E; Murk, AJ. (2016). Hexabromocyclododecane (HBCD) induced changes in the liver proteome of eu- and hypothyroid female rats. *Toxicol Lett.* 245: 40-51. <http://dx.doi.org/10.1016/j.toxlet.2016.01.002>.
- Miller-Rhodes, P; Popescu, M; Goeke, C; Tirabassi, T; Johnson, L; Markowski, VP. (2014). Prenatal exposure to the brominated flame retardant hexabromocyclododecane (HBCD) impairs measures of sustained attention and increases age-related morbidity in the Long-Evans rat. *Neurotoxicol Teratol.* 45: 34-43. <http://dx.doi.org/10.1016/j.ntt.2014.06.009>.
- Momma, J; Kaniwa, M; Sekiguchi, H; Ohno, K; Kawasaki, Y; Tsuda, M; Nakamura, A; Kurokawa, Y. (1993). [Dermatological evaluation of a flame retardant, hexabromocyclododecane (HBCD) on guinea pig by using the primary irritation, sensitization, phototoxicity and photosensitization of skin]. *Eisei Shikenjo Hokoku*18-24.
- Müller, MH; Polder, A; Brynildsrud, OB; Lie, E; Løken, KB; Manyilizu, WB; Mdegela, RH; Mokiti, F; Murtadha, M; Nonga, HE; Skaare, JU; Lyche, JL. (2016). Brominated flame retardants (BFRs) in breast milk and associated health risks to nursing infants in Northern Tanzania. *Environ Int.* 89-90: 38-47. <http://dx.doi.org/10.1016/j.envint.2015.12.032>.
- Murai, T; Kawasaki, H; Kanoh, S. (1985). [Studies on the toxicity of insecticides and food additives in pregnant rats. 7. Fetal toxicity of hexabromocyclododecane]. *Oyo Yakuri.* 29: 981-986.
- NICNAS. (2001). Polybrominated flame retardants (PBFRs): Priority existing chemical assessment report no. 20. http://www.nicnas.gov.au/publications/car/pec/pec20/pec_20_full_report_pdf.pdf.
- NICNAS. (2012). Hexabromocyclododecane: Priority existing chemical assessment report no. 34. Australia. http://www.nicnas.gov.au/Publications/CAR/PEC/PEC34/HBCD_Report_June_2012_PDF.pdf.
- NRC. (2000). Toxicological risk of selected flame-retardant chemicals Hexabromocyclododecane. Washington, DC: National Academy Press. http://www.nap.edu/openbook.php?record_id=9841&page=53.
- Nyholm, JR; Norman, A; Norrgren, L; Haglund, P; Andersson, PL. (2008). Maternal transfer of brominated flame retardants in zebrafish (*Danio rerio*). *Chemosphere.* 73: 203-208. <http://dx.doi.org/10.1016/j.chemosphere.2008.04.033>.
- Nyholm, JR; Norman, A; Norrgren, L; Haglund, P; Andersson, PL. (2009). UPTAKE AND BIOTRANSFORMATION OF STRUCTURALLY DIVERSE BROMINATED FLAME RETARDANTS IN ZEBRAFISH (*DANIO RERIO*) AFTER DIETARY EXPOSURE. *Environ Toxicol Chem.* 28: 1035-1042. <http://dx.doi.org/10.1897/08-302.1>.
- OECD. (1983). First addendum to OECD guidelines for testing chemicals. Section 4, no. 415: One-Generation reproduction toxicity. Paris.
- OECD. (2007). SIDS initial assessment profile: Hexabromocyclododecane (HBCDD).
- Ogaswara, S; Fukushi, A; Midorikawa, Y. (1983). Report on acute toxicity test of Pyroguard SR-103 in rats [unpublished]. Ogaswara, S; Fukushi, A; Midorikawa, Y.

Human Health Hazard Literature Search Results

On Topic

- Ogaswara, S; Hanafusa, T. (1993). Report on mutagenicity test on Pyroguard SR-103 using microorganisms [unpublished]. Ogaswara, S; Hanafusa, T.
- Palace, V; Park, B; Pleskach, K; Gemmill, B; Tomy, G. (2010). Altered thyroxine metabolism in rainbow trout (*Oncorhynchus mykiss*) exposed to hexabromocyclododecane (HBCD). *Chemosphere*. 80: 165-169. <http://dx.doi.org/10.1016/j.chemosphere.2010.03.016>.
- Palace, VP; Pleskach, K; Halldorson, T; Danell, R; Wautier, K; Evans, B; Alaei, M; Marvin, C; Tomy, GT. (2008). Biotransformation enzymes and thyroid axis disruption in juvenile rainbow trout (*Oncorhynchus mykiss*) exposed to hexabromocyclododecane diastereoisomers. *Environ Sci Technol*. 42: 1967-1972. <http://dx.doi.org/10.1021/es702565h>.
- Park, M, -A; Hwang, K, -A; Lee, H, -R; Yi, B, -R; Jeung, E, -B; Choi, K, -C. (2012). Cell growth of BG-1 ovarian cancer cells is promoted by di-n-butyl phthalate and hexabromocyclododecane via upregulation of the cyclin D and cyclin-dependent kinase-4 genes. *Mol Med Rep*. 5: 761-766. <http://dx.doi.org/10.3892/mmr.2011.712>.
- Peck, AM; Pugh, RS; Moors, A; Ellisor, MB; Porter, BJ; Becker, PR; Kucklick, JR. (2008). Hexabromocyclododecane in white-sided dolphins: temporal trend and stereoisomer distribution in tissues. *Environ Sci Technol*. 42: 2650-2655. <http://dx.doi.org/10.1021/es072052v>.
- Pharmakologisches Inst. (1970). Hexabromocyclododecane: 90-day feeding trials with rats with attachments and cover letter dated 031290 [TSCA Submission]. (86-900000380). Parsippany, NJ: BASF Corporation.
- Pharmakologisches Inst. (1990). Ames test with hexabromides with cover letter dated 031290 [TSCA Submission]. (TSCATS/406636. OTS0522942. Doc. I.D. 86900000379). Washington, DC: U.S. Environmental Protection Agency.
- Pharmakon Research International. (1990). Acute exposure oral toxicity study in rats (83 EPA/OECD) with attachments and cover letter dated 030890 [TSCA Submission]. (86900000166). Baton Rouge, LA: Ethyl Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522237>.
- Polder, A; Gabrielsen, GW; Odland, JØ; Savinova, TN; Tkachev, A; Løken, KB; Skaare, JU. (2008). Spatial and temporal changes of chlorinated pesticides, PCBs, dioxins (PCDDs/PCDFs) and brominated flame retardants in human breast milk from Northern Russia. *Sci Total Environ*. 391: 41-54. <http://dx.doi.org/10.1016/j.scitotenv.2007.10.045>.
- Polder, A; Müller, MB; Lyche, JL; Mdegela, RH; Nonga, HE; Mabiki, FP; Mbise, TJ; Skaare, JU; Sandvik, M; Skjerve, E; Lie, E. (2014). Levels and patterns of persistent organic pollutants (POPs) in tilapia (*Oreochromis sp.*) from four different lakes in Tanzania: Geographical differences and implications for human health. *Sci Total Environ*. 488-489: 252-260. <http://dx.doi.org/10.1016/j.scitotenv.2014.04.085>.
- Polder, A; Thomsen, C; Lindström, G; Løken, KB; Skaare, JU. (2008). Levels and temporal trends of chlorinated pesticides, polychlorinated biphenyls and brominated flame retardants in individual human breast milk samples from Northern and Southern Norway. *Chemosphere*. 73: 14-23. <http://dx.doi.org/10.1016/j.chemosphere.2008.06.002>.
- Pratt, I; Anderson, W; Crowley, D; Daly, S; Evans, R; Fernandes, A; Fitzgerald, M; Geary, M; Keane, D; Morrison, JJ; Reilly, A; Tlustos, C. (2013). Brominated and fluorinated organic pollutants in the breast milk of first-time Irish mothers: is there a relationship to levels in food? *Food Addit Contam Part A Chem Anal Control Expo Risk Assess*. 30: 1788-1798. <http://dx.doi.org/10.1080/19440049.2013.822569>.
- Pulkřabov, J; Hřdkov, P; Hajslov, J; Poustka, J; Npravnikov, M; Polcek, V. (2009). Brominated flame retardants and other organochlorine pollutants in human adipose tissue samples from the Czech Republic. *Environ Int*. 35: 63-68. <http://dx.doi.org/10.1016/j.envint.2008.08.001>.
- Rasinger, JD; Carroll, TS; Lundebye, AK; Hogstrand, C. (2014). Cross-omics gene and protein expression profiling in juvenile female mice highlights disruption of calcium and zinc signalling in the brain following dietary exposure to CB-153, BDE-47, HBCD or TCDD. *Toxicology*. 321: 1-12. <http://dx.doi.org/10.1016/j.tox.2014.03.006>.
- Ravnum, S; Zimmer, KE; Keune, H; Gutleb, AC; Murk, AJ; Koppe, JG; Magnanti, B; Lyche, JL; Eriksen, GS; Ropstad, E; Skaare, JU; Kobernus, M; Yang, A; Bartonova, A; Kreyer von Krauss, M. (2012). Policy relevant results from an expert elicitation on the human health risks of decabromodiphenyl ether (decaBDE) and hexabromocyclododecane (HBCD). *Environ Health*. 11 Suppl 1: S7. <http://dx.doi.org/10.1186/1476-069X-11-S1-S7>.
- Reistad, T; Fonnum, F; Mariussen, E. (2006). Neurotoxicity of the pentabrominated diphenyl ether mixture, DE-71, and hexabromocyclododecane (HBCD) in rat cerebellar granule cells in vitro. *Arch Toxicol*. 80: 785-796. <http://dx.doi.org/10.1007/s00204-006-0099-8>.
- Rivire, G; Sirot, V; Tard, A; Jean, J; Marchand, P; Veyrand, B; Le Bizec, B; Leblanc, JC. (2014). Food risk assessment for perfluoroalkyl acids and brominated flame retardants in the French population: Results from the second French total diet study. *Sci Total Environ*. 491-492: 176-183. <http://dx.doi.org/10.1016/j.scitotenv.2014.01.104>.
- Ronisz, D; Finne, EF; Karlsson, H; Frlin, L. (2004). Effects of the brominated flame retardants hexabromocyclododecane (HBCDD), and tetrabromobisphenol A (TBBPA), on hepatic enzymes and other biomarkers in juvenile rainbow trout and feral eelpout. *Aquat Toxicol*. 69: 229-245. <http://dx.doi.org/10.1016/j.aquatox.2004.05.007>.
- Roosens, L; Abdallah, MA; Harrad, S; Neels, H; Covaci, A. (2009). Exposure to hexabromocyclododecanes (HBCDs) via dust ingestion, but not diet, correlates with concentrations in human serum: preliminary results. *Environ Health Perspect*. 117: 1707-1712. <http://dx.doi.org/10.1289/ehp.0900869>.
- Roosens, L; Abdallah, MAE; Harrad, S; Neels, H; Covaci, A. (2009). Factors Influencing Concentrations of Polybrominated Diphenyl Ethers (PBDEs) in Students from Antwerp, Belgium. *Environ Sci Technol*. 43: 3535-3541. <http://dx.doi.org/10.1021/es900571h>.
- Roosens, L; Cornelis, C; D'Hollander, W; Bervoets, L; Reynders, H; Van Campenhout, K; Van Den Heuvel, R; Neels, H; Covaci, A. (2010). Exposure of the Flemish population to brominated flame retardants: model and risk assessment. *Environ Int*. 36: 368-376. <http://dx.doi.org/10.1016/j.envint.2010.02.005>.
- Roosens, L; D'Hollander, W; Bervoets, L; Reynders, H; Van Campenhout, K; Cornelis, C; Van Den Heuvel, R; Koppen, G; Covaci, A. (2010). Brominated flame retardants and perfluorinated chemicals, two groups of persistent contaminants in Belgian human blood and milk. *Environ Pollut*. 158: 2546-2552. <http://dx.doi.org/10.1016/j.envpol.2010.05.022>.

Human Health Hazard Literature Search Results

On Topic

- Routti, H; Lille-Langøy, R; Berg, MK; Fink, T; Harju, M; Kristiansen, K; Rostkowski, P; Rusten, M; Sylte, I; Øygarden, L; Goksøyr, A. (2016). Environmental Chemicals Modulate Polar Bear (*Ursus maritimus*) Peroxisome Proliferator-Activated Receptor Gamma (PPARG) and Adipogenesis in Vitro. *Environ Sci Technol*. 50: 10708-10720. <http://dx.doi.org/10.1021/acs.est.6b03020>.
- Roze, E; Meijer, L; Bakker, A; Van Braeckel, KNJ, A; Sauer, PJJ; Bos, AF. (2009). Prenatal exposure to organohalogens, including brominated flame retardants, influences motor, cognitive, and behavioral performance at school age. *Environ Health Perspect*. 117: 1953-1958. <http://dx.doi.org/10.1289/ehp.0901015>.
- Ryan, JJ; Wainman, BC; Schechter, A; Moisey, SA; Kosarac, I; Sun, WF. (2006). Trends of the brominated flame retardants, PBDES and HBCD, in human milks from North America. *Organohalogen Compd*. 68: 778-781.
- Saegusa, Y; Fujimoto, H; Woo, GH; Inoue, K; Takahashi, M; Mitsumori, K; Hirose, M; Nishikawa, A; Shibutani, M. (2009). Developmental toxicity of brominated flame retardants, tetrabromobisphenol A and 1,2,5,6,9,10-hexabromocyclododecane, in rat offspring after maternal exposure from mid-gestation through lactation. *Reprod Toxicol*. 28: 456-467. <http://dx.doi.org/10.1016/j.reprotox.2009.06.011>.
- Saegusa, Y; Fujimoto, H; Woo, GH; Ohishi, T; Wang, L; Mitsumori, K; Nishikawa, A; Shibutani, M. (2012). Transient aberration of neuronal development in the hippocampal dentate gyrus after developmental exposure to brominated flame retardants in rats. *Arch Toxicol*. 86: 1431-1442. <http://dx.doi.org/10.1007/s00204-012-0824-4>.
- Sahlstrom, LMO; Sellstrom, U; de Wit, CA; Lignell, S; Darnerud, P. (2015). Feasibility Study of Feces for Noninvasive Biomonitoring of Brominated Flame Retardants in Toddlers. *Environ Sci Technol*. 49: 606-615. <http://dx.doi.org/10.1021/es504708c>.
- Sakai, H; Kim, EY; Petrov, EA; Tanabe, S; Iwata, H. (2009). Transactivation potencies of Baikal seal constitutive active/androstane receptor by persistent organic pollutants and brominated flame retardants. *Environ Sci Technol*. 43: 6391-6397. <http://dx.doi.org/10.1021/es901120r>.
- Sanders, JM; Knudsen, GA; Birnbaum, LS. (2013). The Fate of β -Hexabromocyclododecane in Female C57BL/6 Mice. *Toxicol Sci*. 134: 251-257. <http://dx.doi.org/10.1093/toxsci/kft121>.
- Schechter, A; Harris, TR; Shah, N; Musumba, A; Pöpke, O. (2008). Brominated flame retardants in US food. *Mol Nutr Food Res*. 52: 266-272. <http://dx.doi.org/10.1002/mnfr.200700166>.
- Schriks, M; Roessig, JM; Murk, AJ; Furlow, JD. (2007). Thyroid hormone receptor isoform selectivity of thyroid hormone disrupting compounds quantified with an in vitro reporter gene assay. *Environ Toxicol Pharmacol*. 23: 302-307. <http://dx.doi.org/10.1016/j.etap.2006.11.007>.
- Schriks, M; Zvinavashe, E; Furlow, JD; Murk, AJ. (2006). Disruption of thyroid hormone-mediated *Xenopus laevis* tadpole tail tip regression by hexabromocyclododecane (HBCD) and 2,2',3,3',4,4',5,5',6-nona brominated diphenyl ether (BDE206). *Chemosphere*. 65: 1904-1908. <http://dx.doi.org/10.1016/j.chemosphere.2006.07.077>.
- Schueuermann, G; Klein, W. (1988). ADVANCES IN BIOCONCENTRATION PREDICTION (pp. 21-23). (BIOSIS/89/08406). Agency for Toxic Substances and Diseases Registry (ATSDR).
- Seguí, X; Pujolasus, E; Betò, S; Agueda, A; Casal, J; Ocampo-Duque, W; Rudolph, I; Barra, R; Páez, M; Barón, E; Eljarrat, E; Barceló, D; Darbra, RM. (2013). Fuzzy model for risk assessment of persistent organic pollutants in aquatic ecosystems. *Environ Pollut*. 178: 23-32. <http://dx.doi.org/10.1016/j.envpol.2013.02.014>.
- Shaw, SD; Berger, ML; Weijs, L; Covaci, A. (2012). Tissue-specific accumulation of polybrominated diphenyl ethers (PBDEs) including Deca-BDE and hexabromocyclododecanes (HBCDs) in harbor seals from the northwest Atlantic. *Environ Int*. 44: 1-6. <http://dx.doi.org/10.1016/j.envint.2012.01.001>.
- Shaw, SD; Harris, JH; Berger, ML; Subedi, B; Kannan, K. (2014). Molecular and Integrative Toxicology Brominated Flame Retardants and Their Replacements in Food Packaging and Household Products: Uses, Human Exposure, and Health Effects. http://dx.doi.org/10.1007/978-1-4471-6500-2_3.
- Shi, Z; Jiao, Y; Hu, Y; Sun, Z; Zhou, X; Feng, J; Li, J; Wu, Y. (2013). Levels of tetrabromobisphenol A, hexabromocyclododecanes and polybrominated diphenyl ethers in human milk from the general population in Beijing, China. *Sci Total Environ*. 452-453: 10-18. <http://dx.doi.org/10.1016/j.scitotenv.2013.02.038>.
- Shi, Z; Zhang, L; Li, J; Zhao, Y; Sun, Z; Zhou, X; Wu, Y. (2016). Novel brominated flame retardants in food composites and human milk from the Chinese Total Diet Study in 2011: Concentrations and a dietary exposure assessment. *Environ Int*. 96: 82-90. <http://dx.doi.org/10.1016/j.envint.2016.09.005>.
- Skotak, K; Szczotko, M. (2016). Dicofof, endosulfan, trifluralin, hexabromocyclododecane and pentachlorophenol. A review of environmental and human health impact. *Przemysł Chemiczny*. 95: 554-560.
- Song, N; Li, L; Li, H; Ai, W; Xie, W; Yu, W; Liu, W; Wang, C; Shen, G; Zhou, L; Wei, C; Li, D; Chen, H. (2016). Single and 14-day repeated dose inhalation toxicity studies of hexabromocyclododecane in rats. *Food Chem Toxicol*. 91: 73-81. <http://dx.doi.org/10.1016/j.fct.2016.02.020>.
- SRI International. (1990). In vitro microbiological mutagenicity studies of four Ciba-Geigy Corporation compounds (final report) with test data and cover letter [TSCA Submission]. (TSCATS/407254. OTS0523254. Doc I.D. 86900000262). West Lafayette, IN: Great Lakes Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0523254>.
- Stubbings, WA; Harrad, S. (2014). Extent and mechanisms of brominated flame retardant emissions from waste soft furnishings and fabrics: A critical review [Review]. *Environ Int*. 71: 164-175. <http://dx.doi.org/10.1016/j.envint.2014.06.007>.
- Stump, DG. (1999). Prenatal developmental toxicity study of hexabromocyclododecane (HBCD) in rats. (WIL-186009). Ashland, OH: WIL Research Laboratories, Inc.
- Szabo, D; Shah, R; Sumner, S; Birnbaum, L. (2012). Systems biology approach for better understanding of mechanisms of neurodevelopment toxicity: A case study using the major flame retardant HBCD [Abstract]. *Neurotoxicol Teratol*. 34: 379. <http://dx.doi.org/10.1016/j.ntt.2012.05.036>.
- Szabo, DT; Diliberto, JJ; Hakk, H; Huwe, JK; Birnbaum, LS. (2010). Toxicokinetics of the flame retardant hexabromocyclododecane gamma: effect of dose, timing, route, repeated exposure, and metabolism. *Toxicol Sci*. 117: 282-293. <http://dx.doi.org/10.1093/toxsci/kfq183>.

Human Health Hazard Literature Search Results

On Topic

- Szabo, DT; Diliberto, JJ; Huwe, JK; Birnbaum, LS. (2011). Toxicokinetics of the flame retardant hexabromocyclododecane alpha: effect of dose, timing, route, repeated exposure, and metabolism. *Toxicol Sci.* 121: 234-244. <http://dx.doi.org/10.1093/toxsci/kfr059>.
- Szabo, DT; Diliberto, JJ; Huwe, JK; Birnbaum, LS. (2011). Differences in tissue distribution of HBCD alpha and gamma between adult and developing mice. *Toxicol Sci.* 123: 256-263. <http://dx.doi.org/10.1093/toxsci/kfr161>.
- Szabo, DT; Pathmasiri, W; Sumner, S; Birnbaum, LS. (2016). Serum Metabolomic Profiles in Neonatal Mice following Oral Brominated Flame Retardant Exposures to Hexabromocyclododecane (HBCD) Alpha, Gamma, and Commercial Mixture. *Environ Health Perspect.* <http://dx.doi.org/10.1289/EHP242>.
- Tanabe, S; Ramu, K; Isobe, T; Takahashi, S. (2008). Brominated flame retardants in the environment of Asia-Pacific: an overview of spatial and temporal trends [Review]. *J Environ Monit.* 10: 188-197. <http://dx.doi.org/10.1039/b709928b>.
- Thomsen, C; Haug, LS; Stigum, H; Frøshaug, M; Broadwell, SL; Becher, G. (2010). Changes in concentrations of perfluorinated compounds, polybrominated diphenyl ethers, and polychlorinated biphenyls in Norwegian breast-milk during twelve months of lactation. *Environ Sci Technol.* 44: 9550-9556. <http://dx.doi.org/10.1021/es1021922>.
- Thomsen, C; Knutsen, HK; Liane, VH; Frøshaug, M; Kvaalem, HE; Haugen, M; Meltzer, HM; Alexander, J; Becher, G. (2008). Consumption of fish from a contaminated lake strongly affects the concentrations of polybrominated diphenyl ethers and hexabromocyclododecane in serum. *Mol Nutr Food Res.* 52: 228-237. <http://dx.doi.org/10.1002/mnfr.200700123>.
- Thomsen, C; Stigum, H; Frøshaug, M; Broadwell, SL; Becher, G; Eggesbø, M. (2010). Determinants of brominated flame retardants in breast milk from a large scale Norwegian study. *Environ Int.* 36: 68-74. <http://dx.doi.org/10.1016/j.envint.2009.10.002>.
- Tobe, M; Suzuki, Y; Aoda, K. (1984). Acute toxicity test of hexabromocyclododecane [unpublished report]. Research Center for Biological Safety National Public Health Research Institute.
- Toms, LM; Guerra, P; Eljarrat, E; Barceló, D; Harden, FA; Hobson, P; Sjödin, A; Ryan, E; Mueller, JF. (2012). Brominated flame retardants in the Australian population: 1993-2009. *Chemosphere.* 89: 398-403. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.053>.
- Tue, NM; Sudaryanto, A; Minh, TB; Isobe, T; Takahashi, S; Viet, PH; Tanabe, S. (2010). Accumulation of polychlorinated biphenyls and brominated flame retardants in breast milk from women living in Vietnamese e-waste recycling sites. *Sci Total Environ.* 408: 2155-2162. <http://dx.doi.org/10.1016/j.scitotenv.2010.01.012>.
- U.S. EPA; OTS. (1992). INITIAL SUBMISSION: ACUTE INHALATION TOXICITY STUDY WITH PYROLYTIC PRODUCTS OF HEXABROMOCYCLODODECANE IN RATS WITH COVER LETTER DATED 080592. (TSCATS/432775). INDUS BIO-TEST LABS.
- U.S. EPA. (1985). Toxic Substances Control Act test guidelines: Final rules [EPA Report]. Washington D.C.
- U.S. EPA. (1998). Assessment of thyroid follicular cell tumors [EPA Report] (pp. 1-51). (EPA/630/R-97/002). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <https://www.epa.gov/sites/production/files/2014-11/documents/thyroid.pdf>.
- U.S. EPA. (1998). Guidelines for neurotoxicity risk assessment [EPA Report] (pp. 1-89). (EPA/630/R-95/001F). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://www.epa.gov/risk/guidelines-neurotoxicity-risk-assessment>.
- U.S. EPA. (1998). Health effects test guidelines OPPTS 870.7800 immunotoxicity. (EPA 712-C-98-351). Washington, DC: Prevention, Pesticides and Toxic Substances, U.S. Environmental Protection Agency. http://www.epa.gov/ocsp/pubs/frs/publications/Test_Guidelines/series870.htm.
- U.S. EPA. (2000). Science policy council handbook: Risk characterization (pp. 1-189). (EPA/100/B-00/002). Washington, D.C.: U.S. Environmental Protection Agency, Science Policy Council. <https://www.epa.gov/risk/risk-characterization-handbook>.
- U.S. EPA. (2002). A review of the reference dose and reference concentration processes (pp. 1-192). (EPA/630/P-02/002F). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://www.epa.gov/osa/review-reference-dose-and-reference-concentration-processes>.
- U.S. EPA. (2005). Guidelines for carcinogen risk assessment [EPA Report] (pp. 1-166). (EPA/630/P-03/001F). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://www2.epa.gov/osa/guidelines-carcinogen-risk-assessment>.
- U.S. EPA. (2005). Supplemental guidance for assessing susceptibility from early-life exposure to carcinogens (pp. 1-125). (EPA/630/R-03/003F). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. https://www3.epa.gov/airtoxics/childrens_supplement_final.pdf.
- U.S. EPA. (2006). Approaches for the application of physiologically based pharmacokinetic (PBPK) models and supporting data in risk assessment (Final Report) [EPA Report] (pp. 1-123). (EPA/600/R-05/043F). Washington, DC: U.S. Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=157668>.
- U.S. EPA. (2007). Integrated Risk Information System (IRIS); announcement of 2008 program. *Fed Reg.* 72: 72715-72719.
- U.S. EPA. (2008). Initial risk-based prioritization of high production volume chemicals; chemical/category: Hexabromocyclododecane (hbcdd).
- U.S. EPA. (2008). Supporting Documents for Initial Risk-Based Prioritization of High Production Volume Chemicals; Chemical/Category: Hexabromocyclododecane (HBCD).
- U.S. EPA. (2010). Hexabromocyclododecane (HBCD) action plan summary [EPA Report]. Washington, D.C. <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/hexabromocyclododecane-hbcd-action-plan>.
- U.S. EPA. (2011). Recommended use of body weight 3/4 as the default method in derivation of the oral reference dose (pp. 1-50). (EPA/100/R11/0001). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum, Office of the Science Advisor. <https://www.epa.gov/risk/recommended-use-body-weight-34-default-method-derivation-oral-reference-dose>.
- U.S. EPA. (2012). Benchmark dose technical guidance. (EPA/100/R-12/001). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <https://www.epa.gov/risk/benchmark-dose-technical-guidance>.
- U.S. EPA. (2012). Estimation Programs Interface Suite for Microsoft® Windows (EPI Suite) [Computer Program]. Washington DC. Retrieved from <https://www.epa.gov/tsca-screening-tools/epi-suite-estimation-program-interface>

Human Health Hazard Literature Search Results

On Topic

- U.S. EPA. (2012). Hexabromocyclododecane. [CAS 003194-55-6] Exposure assessment tools and models: Estimation program interface (EPI) suite. Version 4.11 [Fact Sheet]. Washington, DC: Office of Prevention, Pesticides and Toxic Substances. <http://www.epa.gov/oppt/exposure/pubs/episuite.htm>.
- U.S. EPA. (2014). Flame retardant alternatives for hexabromocyclododecane (HBCD) [EPA Report]. (EPA/740/R-14/001). Washington, D.C. <http://www2.epa.gov/saferchoice/partnership-evaluate-flame-retardant-alternatives-hbcd-publications>.
- U.S. EPA. (2014). Substance registry services [Database]. Washington, D.C. Retrieved from https://ofmpub.epa.gov/sor_internet/registry/substreg/searchandretrieve/substancesearch/search.do
- U.S. EPA. (2015). 1,2,5,6,9,10-Hexabromocyclododecane [Database]. Washington, D.C. Retrieved from https://ofmpub.epa.gov/sor_internet/registry/substreg/searchandretrieve/substancesearch/search.do?details=displayDetails&selecte dSubstanceId=40215
- U.S. EPA. (2015). Cyclododecane, hexabromo [Database]. Washington, D.C. Retrieved from https://ofmpub.epa.gov/sor_internet/registry/substreg/searchandretrieve/substancesearch/search.do?details=displayDetails&selecte dSubstanceId=58592
- U.S. EPA. (2015). Hexabromocyclododecane, alpha [Database]. Washington, D.C. Retrieved from https://ofmpub.epa.gov/sor_internet/registry/substreg/searchandretrieve/substancesearch/search.do?details=displayDetails&selecte dSubstanceId=101441
- U.S. EPA. (2015). Hexabromocyclododecane, beta [Database]. Washington, D.C. Retrieved from https://ofmpub.epa.gov/sor_internet/registry/substreg/searchandretrieve/substancesearch/search.do?details=displayDetails&selecte dSubstanceId=101442
- U.S. EPA. (2015). Hexabromocyclododecane, gamma [Database]. Washington, D.C. Retrieved from https://ofmpub.epa.gov/sor_internet/registry/substreg/searchandretrieve/substancesearch/search.do?details=displayDetails&selecte dSubstanceId=101443
- U.S. EPA. (2015). Significant new use rule for hexabromocyclododecane and 1,2,5,6,9,10-hexabromocyclododecane. 80: 57293-57302.
- Ueno, D; Isobe, T; Ramu, K; Tanabe, S; Alae, M; Marvin, C; Inoue, K; Someya, T; Miyajima, T; Kodama, H; Nakata, H. (2010). Spatial distribution of hexabromocyclododecanes (HBCDs), polybrominated diphenyl ethers (PBDEs) and organochlorines in bivalves from Japanese coastal waters. *Chemosphere*. 78: 1213-1219. <http://dx.doi.org/10.1016/j.chemosphere.2009.12.058>.
- UNEP. (2009). Listing of POPs in the Stockholm Convention [Website]. Geneva, Switzerland: Stockholm Convention Clearing House. Retrieved from <http://chm.pops.int/Convention/ThePOPs/ListingofPOPs/tabid/2509/Default.aspx>
- UNEP. (2009). Summary of the proposal to list hexabromocyclododecane (HBCD) in Annex A to the Convention. (UNEP/POPS/POPRC.5/INF/16). Geneva, Switzerland: Stockholm Convention Clearing House. <http://chm.pops.int/Convention/POPsReviewCommittee/hrPOPRCMeetings/POPRC5/POPRC5Followupcommunications/HBCDAnnexEI nformationRequest/tabid/645/language/en-US/Default.aspx>.
- van den Dungen, MW; Rijk, JC; Kampman, E; Steegenga, WT; Murk, AJ. (2015). Steroid hormone related effects of marine persistent organic pollutants in human H295R adrenocortical carcinoma cells. *Toxicol In Vitro*. 29: 769-778. <http://dx.doi.org/10.1016/j.tiv.2015.03.002>.
- van der Ven, LT; Verhoef, A; van de Kuil, T; Slob, W; Leonards, PE; Visser, TJ; Hamers, T; Herlin, M; Håkansson, H; Olausson, H; Piersma, AH; Vos, JG. (2006). A 28-day oral dose toxicity study enhanced to detect endocrine effects of hexabromocyclododecane in Wistar rats. *Toxicol Sci*. 94: 281-292. <http://dx.doi.org/10.1093/toxsci/kfl113>.
- van der Ven, LT; Verhoef, A; van de Kuil, T; Slob, W; Leonards, PE; Visser, TJ; Hamers, T; Herlin, M; Håkansson, H; Olausson, H; Piersma, AH; Vos, JG. (2006). Electronic supplementary data. Table 1a – Table 10 [Supplemental Data]. *Toxicol Sci*. 94.
- van der Ven, LTM; van de Kuil, T; Leonards, PEG; Slob, W; Lilienthal, H; Litens, S; Herlin, M; Håkansson, H; Cantón, RF; van den Berg, M; Visser, TJ; van Loveren, H; Vos, JG; Piersma, AH. (2009). Electronic supplementary material. Table 1- Table 16 [Supplemental Data]. *Toxicol Lett*. 185.
- van der Ven, LTM; van de Kuil, T; Leonards, PEG; Slob, W; Lilienthal, H; Litens, S; Herlin, M; Håkansson, H; Cantón, RF; van den Berg, M; Visser, TJ; van Loveren, H; Vos, JG; Piersma, AH. (2009). Endocrine effects of hexabromocyclododecane (HBCD) in a one-generation reproduction study in Wistar rats. *Toxicol Lett*. 185: 51-62. <http://dx.doi.org/10.1016/j.toxlet.2008.12.003>.
- Veith, GD; Defoe, DL; Bergstedt, BV. (1979). Measuring and estimating the bioconcentration factor of chemicals in fish. *J Fish Res Board Can*. 36: 1040-1048. <http://dx.doi.org/10.1139/f79-146>.
- Veith, GD; Defoe, DL; Bergstedt, BV. (1979). Measuring and estimating the bioconcentration factor of chemicals in fish : Supplemental materials [Supplemental Data]. *J Fish Res Board Can*. 36: 1040-1048.
- Wang, D; Zhang, P; Wang, X; Wang, Y; Zhou, Z; Zhu, W. (2016). NMR- and LC-MS/MS-based urine metabolomic investigation of the subacute effects of hexabromocyclododecane in mice. *Environ Sci Pollut Res Int*. 23: 8500-8507. <http://dx.doi.org/10.1007/s11356-015-5940-2>.
- Wang, F; Zhang, H; Geng, N; Zhang, B; Ren, X; Chen, J. (2016). New Insights into the Cytotoxic Mechanism of Hexabromocyclododecane from a Metabolomic Approach. *Environ Sci Technol*. 50: 3145-3153. <http://dx.doi.org/10.1021/acs.est.5b03678>.
- Watanabe, W; Shimizu, T; Sawamura, R; Hino, A; Konno, K; Hirose, A; Kurokawa, M. (2010). Effects of tetrabromobisphenol A, a brominated flame retardant, on the immune response to respiratory syncytial virus infection in mice. *Int Immunopharmacol*. 10: 393-397. <http://dx.doi.org/10.1016/j.intimp.2009.12.014>.
- Weiss, J; Wallin, E; Axmon, A; Jönsson, BA; Akesson, H; Janák, K; Hagmar, L; Bergman, A. (2006). Hydroxy-PCBs, PBDEs, and HBCDDs in serum from an elderly population of Swedish fishermen's wives and associations with bone density. *Environ Sci Technol*. 40: 6282-6289. <http://dx.doi.org/10.1021/es0610941>.
- WHO. (2012). Guidance for immunotoxicity risk assessment for chemicals. (Harmonization Project Document No. 10). Geneva, Switzerland. <http://www.inchem.org/documents/harmproj/harmproj/harmproj10.pdf>.

Human Health Hazard Literature Search Results

On Topic

- WIL Research. (1997). A 28-day repeated dose oral toxicity study of hexabromocyclododecane (HBCD) in rats with cover letter dated 03/18/1997 [TSCA Submission]. (TSCATS/452972. OTS0001289. FYI-OTS-0397-1289). Washington, DC: Chemical Manufacturers Association. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0001289>.
- WIL Research. (1997). Twenty-eight day repeated dose oral toxicity study of HBCD in rats, with cover letter dated 3/18/1997 [TSCA Submission]. (TSCATS/445005. OTS0558957. Doc I.D. #86970000747). Washington, DC: Chemical Manufacturers Association. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0558957>.
- WIL Research. (1998). Addendum to final report (thyroid histopathology), a 28-day repeated dose oral toxicity study of HBCD in rats, with cover letter dated 6/18/1998 [TSCA Submission]. (TSCATS/445634. OTS0559493. Doc #86-980000155). Washington, DC: Chemical Manufacturers Association. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0559493>.
- WIL Research. (1998). Support: Report addendum, a 28-day repeated dose oral toxicity study of HBCD in rats, with cover letter dated 06/19/1998 [TSCA Submission]. (TSCATS/445950. OTS00012891. FYI-OTS-0898-1289). Washington, DC: Chemical Manufacturers Association. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS00012891>.
- WIL Research. (2001). 90-Day oral (gavage) toxicity study of HBCD in rats. (WIL-186012). Washington, DC: Chemical Manufacturers Association.
- WIL Research. (2002). Hexabromocyclododecane (HBCD): A 90-day oral (gavage) toxicity study of HBCD in rats - final report, with cover letter dated 010302. (TSCATS/454746. OTS0001424. FYI-OTS-0102-001424). Washington, DC: Chemical Manufacturers Association.
- Williams, AL; Desesso, JM. (2010). The potential of selected brominated flame retardants to affect neurological development [Review]. *J Toxicol Environ Health B Crit Rev.* 13: 411-448. <http://dx.doi.org/10.1080/10937401003751630>.
- Wong, CS. (2006). Environmental fate processes and biochemical transformations of chiral emerging organic pollutants [Review]. *Anal Bioanal Chem.* 386: 544-558. <http://dx.doi.org/10.1007/s00216-006-0424-3>.
- Woolhiser, MR; Anderson, PK. (2003). Hexabromocyclododecane: Contact sensitization potential via the local lymph node assay (including a primary irritancy screen) using CBA/J mice [TSCA Submission]. (Dow Study ID 031013; FYI-1103-01472A). Midland, MI: Dow Chemical Company. http://www.epa.gov/opptintr/tscas8e/pubs/8ehq/2003/nov03/fyi_1103_01472a.pdf.
- Wu, J; Zhang, Y; Luo, X; She, Y; Yu, L; Chen, S; Mai, B. (2012). A review of polybrominated diphenyl ethers and alternative brominated flame retardants in wildlife from China: levels, trends, and bioaccumulation characteristics [Review]. *J Environ Sci.* 24: 183-194. [http://dx.doi.org/10.1016/S1001-0742\(11\)60758-4](http://dx.doi.org/10.1016/S1001-0742(11)60758-4).
- Wu, M; Wu, D; Wang, C; Guo, Z; Li, B; Zuo, Z. (2016). Hexabromocyclododecane exposure induces cardiac hypertrophy and arrhythmia by inhibiting miR-1 expression via up-regulation of the homeobox gene Nkx2.5. *J Hazard Mater.* 302: 304-313. <http://dx.doi.org/10.1016/j.jhazmat.2015.10.004>.
- Wu, M; Zuo, Z; Li, B; Huang, L; Chen, M; Wang, C. (2013). Effects of low-level hexabromocyclododecane (HBCD) exposure on cardiac development in zebrafish embryos. *Ecotoxicology.* 22: 1200-1207. <http://dx.doi.org/10.1007/s10646-013-1107-4>.
- XiaoJun, L; SheJun, C; BiXian, M; JiaMo, F. (2010). Advances in the study of current-use non-PBDE brominated flame retardants and dechlorane plus in the environment and humans. *Science China Chemistry.* 53: 961-973. <http://dx.doi.org/10.1007/s11426-010-0174-0>.
- Xu, W; Wang, X; Cai, Z. (2013). Analytical chemistry of the persistent organic pollutants identified in the Stockholm Convention: A review. *Anal Chim Acta.* 790: 1-13. <http://dx.doi.org/10.1016/j.aca.2013.04.026>.
- Yamada-Okabe, T; Sakai, H; Kashima, Y; Yamada-Okabe, H. (2005). Modulation at a cellular level of the thyroid hormone receptor-mediated gene expression by 1,2,5,6,9,10-hexabromocyclododecane (HBCD), 4,4'-diiodobiphenyl (DIB), and nitrofen (NIP). *Toxicol Lett.* 155: 127-133. <http://dx.doi.org/10.1016/j.toxlet.2004.09.005>.
- Yanagisawa, R; Koike, E; Win-Shwe, TT; Yamamoto, M; Takano, H. (2014). Impaired lipid and glucose homeostasis in hexabromocyclododecane-exposed mice fed a high-fat diet. *Environ Health Perspect.* 122: 277-283. <http://dx.doi.org/10.1289/ehp.1307421>.
- Yanagisawa, R; Koike, E; Win-Shwe, TT; Yamamoto, M; Takano, H. (2014). Supplemental material. Impaired lipid and glucose homeostasis in hexabromocyclododecane-exposed mice fed a high-fat diet [Supplemental Data]. *Environ Health Perspect.* 122.
- Yu, CC; Atallah, YH. (1980). Pharmacokinetics of HBCD in rats [unpublished]. Rosemont, IL: Vesicol Chemical Corporation.
- Yufang, Z; Cen, C; Xiu, W; Panpan, G; Xinyu, Z; Zhiqiang, Y; Jing, A. (2015). HBCD and PCBs enhance the cell migration and invasion of HepG2 via the PI3 K/Akt pathway. *Toxicology Research.* 4: 677-685. <http://dx.doi.org/10.1039/c4tx00108g>.
- Zegers, BN; Mets, A; Van Bommel, R; Minkenber, C; Hamers, T; Kamstra, JH; Pierce, GJ; Boon, JP. (2005). Levels of hexabromocyclododecane in harbor porpoises and common dolphins from western European seas, with evidence for stereoisomer-specific biotransformation by cytochrome p450. *Environ Sci Technol.* 39: 2095-2100. <http://dx.doi.org/10.1021/es049209t>.
- Zeiger, E; Anderson, B; Haworth, S; Lawlor, T; Mortelmans, K; Speck, W. (1987). Salmonella mutagenicity tests: III. Results from the testing of 255 chemicals. *Environ Mutagen.* 9: 1-109. <http://dx.doi.org/10.1002/em.2860090602>.
- Zhang, H, ui; Pan, L; Tao, Y; Tian, S; Hu, Y. (2013). Identification and expression of differentially expressed genes in clam *Venerupis philippinarum* in response to environmental pollutant hexabromocyclododecane (HBCD). *Exp Mar Bio Ecol.* 445: 166-173. <http://dx.doi.org/10.1016/j.jembe.2013.03.002>.
- Zhang, J; Abdallah, MA; Williams, TD; Harrad, S; Chipman, JK; Viant, MR. (2016). Gene expression and metabolic responses of HepG2/C3A cells exposed to flame retardants and dust extracts at concentrations relevant to indoor environmental exposures. *Chemosphere.* 144: 1996-2003. <http://dx.doi.org/10.1016/j.chemosphere.2015.10.014>.
- Zhang, J; Williams, TD; Abdallah, MA; Harrad, S; Chipman, JK; Viant, MR. (2015). Transcriptomic and metabolomic approaches to investigate the molecular responses of human cell lines exposed to the flame retardant hexabromocyclododecane (HBCD). *Toxicol In Vitro.* 29: 2116-2123. <http://dx.doi.org/10.1016/j.tiv.2015.08.017>.
- Zhang, X; Yang, F; Xu, C; Liu, W; Wen, S; Xu, Y. (2008). Cytotoxicity evaluation of three pairs of hexabromocyclododecane (HBCD) enantiomers on Hep G2 cell. *Toxicol In Vitro.* 22: 1520-1527. <http://dx.doi.org/10.1016/j.tiv.2008.05.006>.

Human Health Hazard Literature Search Results

On Topic

- Zhang, X; Yang, F; Zhang, X; Xu, Y; Liao, T; Song, S; Wang, J. (2008). Induction of hepatic enzymes and oxidative stress in Chinese rare minnow (*Gobiocypris rarus*) exposed to waterborne hexabromocyclododecane (HBCDD). *Aquat Toxicol.* 86: 4-11. <http://dx.doi.org/10.1016/j.aquatox.2007.07.002>.
- Zheng, X; Erratico, C; Abdallah, MA; Negreira, N; Luo, X; Mai, B; Covaci, A. (2015). In vitro metabolism of BDE-47, BDE-99, and α -, β -, γ -HBCD isomers by chicken liver microsomes. *Environ Res.* 143: 221-228. <http://dx.doi.org/10.1016/j.envres.2015.10.023>.
- Zoeller, RT; Tan, SW; Tyl, RW. (2007). General background on the hypothalamic-pituitary-thyroid (HPT) axis [Review]. *Crit Rev Toxicol.* 37: 11-53. <http://dx.doi.org/10.1080/10408440601123446>.
- Zou, W; Chen, C; Zhong, Y; An, J; Zhang, X; Yu, Y; Yu, Z; Fu, J. (2013). PI3K/Akt pathway mediates Nrf2/ARE activation in human L02 hepatocytes exposed to low-concentration HBCDs. *Environ Sci Technol.* 47: 12434-12440. <http://dx.doi.org/10.1021/es401791s>.

Human Health Hazard Literature Search Results

Off Topic

- Abb, M; Stahl, B; Lorenz, W. (2011). Analysis of brominated flame retardants in house dust. *Chemosphere.* 85: 1657-1663. <http://dx.doi.org/10.1016/j.chemosphere.2011.06.022>.
- Abbasi, NA; Malik, RN; Frantz, A; Jaspers, VL. (2016). A review on current knowledge and future prospects of organohalogen contaminants (OHCs) in Asian birds [Review]. *Sci Total Environ.* 542: 411-426. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.088>.
- Abdallah, MA; Harrad, S. (2009). Personal exposure to HBCDs and its degradation products via ingestion of indoor dust. *Environ Int.* 35: 870-876. <http://dx.doi.org/10.1016/j.envint.2009.03.002>.
- Abdallah, MA; Harrad, S. (2011). Tetrabromobisphenol-A, hexabromocyclododecane and its degradation products in UK human milk: relationship to external exposure. *Environ Int.* 37: 443-448. <http://dx.doi.org/10.1016/j.envint.2010.11.008>.
- Abdallah, MA; Harrad, S; Covaci, A. (2008). Hexabromocyclododecanes and tetrabromobisphenol-A in indoor air and dust in Birmingham, U.K: implications for human exposure. *Environ Sci Technol.* 42: 6855-6861. <http://dx.doi.org/10.1021/es801110a>.
- Abdallah, MA; Ibarra, C; Neels, H; Harrad, S; Covaci, A. (2008). Comparative evaluation of liquid chromatography-mass spectrometry versus gas chromatography-mass spectrometry for the determination of hexabromocyclododecanes and their degradation products in indoor dust. *J Chromatogr A.* 1190: 333-341. <http://dx.doi.org/10.1016/j.chroma.2008.03.006>.
- Abdallah, MAE; Harrad, S. (2010). Modification and Calibration of a Passive Air Sampler for Monitoring Vapor and Particulate Phase Brominated Flame Retardants in Indoor Air: Application to Car Interiors. *Environ Sci Technol.* 44: 3059-3065. <http://dx.doi.org/10.1021/es100146r>.
- Abdallah, MAE; Harrad, S. (2014). Polybrominated diphenyl ethers in UK human milk: Implications for infant exposure and relationship to external exposure. *Environ Int.* 63: 130-136. <http://dx.doi.org/10.1016/j.envint.2013.11.009>.
- Abdallah, MAE; Harrad, S; Ibarra, C; Diamond, M; Melymuk, L; Robson, M; Covaci, A. (2008). Hexabromocyclododecanes in indoor dust from Canada, the United Kingdom, and the United States. *Environ Sci Technol.* 42: 459-464. <http://dx.doi.org/10.1021/es702378t>.
- Abou-Elwafa Abdallah, M; Drage, D; Harrad, S. (2013). A one-step extraction/clean-up method for determination of PCBs, PBDEs and HBCDs in environmental solid matrices. *Environ Sci Process Impacts.* 15: 2279-2287. <http://dx.doi.org/10.1039/c3em00395g>.
- ACC. (2000). LETTER FROM AMER CHEM CNCL SUBMITTING FLOW-THROUGH BIOCONCENTRATION TEST W/RAINBOW TROUT and END-USER SURVEY-PHASE 1 STUDY OF BROMINATED FLAME RETARDANT, W/ATTCHMNTS and DATED 8/28/00. (TSCATS/446539). American Chemistry Council.
- ACC. (2002). INITIAL SUBMISSION: LTR FR ACC TO USEPA SUBMITTING ENVIRONMENTAL EFFECTS STUDIES WITH HEXABROMOCYCLODODECANE and DECABROMODIPHENYL OXIDE, W/ATTACHMENTS and DATED 121101. (TSCATS/454513). WILDLIFE INTERNATIONAL LTD.
- ACC. (2002). SUPPORT: LTR FR AMER CHEM COUNCIL TO USEPA SUBMITTING 2 ENV EFFCTS STDIES ON TETRABROMOBISPHENOL A and AN ADDENDUM TO A 90-DAY TOX STDY ON HBCD IN RATS, W/ATTCHMNTS and DTD 072502. (TSCATS/454846). WILDLIFE INTERNATIONAL LTD.
- Akiyama, E, ma; Kakutani, H; Nakao, T; Motomura, Y; Takano, Y; Sorakubo, R; Mizuno, A; Aozasa, O; Tachibana, K; Doi, T; Ohta, S. (2015). Facilitation of adipocyte differentiation of 3T3-L1 cells by debrominated tetrabromobisphenol A compounds detected in Japanese breast milk. *Environ Res.* 140: 157-164. <http://dx.doi.org/10.1016/j.envres.2015.03.035>.
- Alaee, M. (2003). An overview of commercially used brominated flame retardants, their applications, their use patterns in different countries/regions and possible modes of release [Review]. *Environ Int.* 29: 683-689. [http://dx.doi.org/10.1016/s0160-4120\(03\)00121-1](http://dx.doi.org/10.1016/s0160-4120(03)00121-1).
- Albemarle. (2000). Saytex ® HP-900 Flame Retardant [Fact Sheet]. Baton Rouge, LA. http://www.albemarle.com/_filelib/FileCabinet/Products/Fire_Safety/SAYTEX_PURshield_online.pdf.
- Alcock, RE; Busby, J. (2006). Risk migration and scientific advance: The case of flame-retardant compounds. *Risk Anal.* 26: 369-381. <http://dx.doi.org/10.1111/j.1539-6924.2006.00739.x>.
- Ali, N; Dirtu, AC; Van Den Eede, N; Goosey, E; Harrad, S; Neels, H; 'T Mannelje, A; Coakley, J; Douwes, J; Covaci, A. (2012). Occurrence of alternative flame retardants in indoor dust from New Zealand: indoor sources and human exposure assessment. *Chemosphere.* 88: 1276-1282. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.100>.
- Allen, JG; Stapleton, HM; Vallarino, J; Mcneely, E; Mcclean, MD; Harrad, SJ; Rauert, CB; Spengler, JD. (2013). Exposure to flame retardant chemicals on commercial airplanes. *Environ Health.* 12: 17. <http://dx.doi.org/10.1186/1476-069X-12-17>.
- Allgood, JM; Jimah, T; Mcclasky, CM; La Guardia, MJ; Hammel, SC; Zeineddine, MM; Tang, IW; Runnerstrom, MG; Ogunseitan, OA. (2016). Potential human exposure to halogenated flame-retardants in elevated surface dust and floor dust in an academic environment. *Environ Res.* 153: 55-62. <http://dx.doi.org/10.1016/j.envres.2016.11.010>.

Human Health Hazard Literature Search Results

Off Topic

- Almroth, BC; Sturve, J; Berglund, A; Forlin, L. (2005). Oxidative damage in eelpout (*Zoarces viviparus*), measured as protein carbonyls and TBARS, as biomarkers. *Aquat Toxicol.* 73: 171-180. <http://dx.doi.org/10.1016/j.aquatox.2005.03.007>.
- Almughamsi, H; Whalen, M. (2015). Hexabromocyclododecane and tetrabromobisphenol A alter secretion of interferon gamma (IFN gamma) from human immune cells [Abstract]. *FASEB J.* 29: 726.724.
- Al-Odaini, NA; Shim, WJ; Han, GM; Jang, M; Hong, SH. (2015). Enrichment of hexabromocyclododecanes in coastal sediments near aquaculture areas and a wastewater treatment plant in a semi-enclosed bay in South Korea. *Sci Total Environ.* 505: 290-298. <http://dx.doi.org/10.1016/j.scitotenv.2014.10.019>.
- Al-Zaidan, AS; Al-Sarawi, HA; Massoud, MS; Al-Enezi, M; Smith, AJ; Bignell, JP; Green, MJ; Askem, C; Bolam, TP; Barber, JL; Bersuder, P; Lyons, BP. (2015). Histopathology and contaminant concentrations in fish from Kuwait's marine environment. *Mar Pollut Bull.* 100: 637-645. <http://dx.doi.org/10.1016/j.marpolbul.2015.07.030>.
- An, J; Wang, X; Guo, P; Zhong, Y; Zhang, X; Yu, Z. (2014). Hexabromocyclododecane and polychlorinated biphenyls increase resistance of hepatocellular carcinoma cells to cisplatin through the phosphatidylinositol 3-kinase/protein kinase B pathway. *Toxicol Lett.* 229: 265-272. <http://dx.doi.org/10.1016/j.toxlet.2014.06.025>.
- Andersen, MS; Fuglei, E; König, M; Lipasti, I; Pedersen, ÅØ; Polder, A; Yoccoz, NG; Routti, H. (2015). Levels and temporal trends of persistent organic pollutants (POPs) in arctic foxes (*Vulpes lagopus*) from Svalbard in relation to dietary habits and food availability. *Sci Total Environ.* 511: 112-122. <http://dx.doi.org/10.1016/j.scitotenv.2014.12.039>.
- Andersen, S; Pedersen, KM; Bruun, NH; Laurberg, P. (2002). Narrow individual variations in serum T4 and T3 in normal subjects: a clue to the understanding of subclinical thyroid disease. *J Clin Endocrinol Metab.* 87: 1068-1072. <http://dx.doi.org/10.1210/jcem.87.3.8165>.
- Andersson, PL; Oberg, K; Orn, U. (2006). Chemical characterization of brominated flame retardants and identification of structurally representative compounds. *Environ Toxicol Chem.* 25: 1275-1282. <http://dx.doi.org/10.1897/05-342R.1>.
- ANON. (1998). HEXABROMOCYCLODODECANE (HBCD): A FLOW-THROUGH LIFE-CYCLE TOXICITY TEST WITH THE CLADOCERAN (*DAPHNIA MAGNA*), WITH COVER LETTER DATED 5/18/1998. (TSCATS/445631). WILDLIFE INTERNATIONAL LTD.
- Anon. (2015). Substance Monograph for 1,2,5,6,9,10-Hexabromocyclododecane (HBCDD) - HBM-levels for HBCDD in the Fatty Component of Breast Milk or of Blood Plasma. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz.* 58: 889-907. <http://dx.doi.org/10.1007/s00103-015-2193-7>.
- Anselmo, HMR; Koerting, L; Devito, S; van den Berg, JHJ; Dubbeldam, M; Kwadijk, C; Murk, AJ. (2011). Early life developmental effects of marine persistent organic pollutants on the sea urchin *Psammechinus miliaris*. *Ecotoxicol Environ Saf.* 74: 2182-2192. <http://dx.doi.org/10.1016/j.ecoenv.2011.07.037>.
- Antignac, JP; Cariou, R; Maume, D; Marchand, P; Monteau, F; Zalko, D; Berrebi, A; Cravedi, JP; Andre, F; Le Bizec, B. (2008). Exposure assessment of fetus and newborn to brominated flame retardants in France: preliminary data. *Mol Nutr Food Res.* 52: 258-265. <http://dx.doi.org/10.1002/mnfr.200700077>.
- Arinaitwe, K; Muir, DC; Kiremire, BT; Fellin, P; Li, H; Teixeira, C. (2014). Polybrominated diphenyl ethers and alternative flame retardants in air and precipitation samples from the northern Lake Victoria region, East Africa. *Environ Sci Technol.* 48: 1458-1466. <http://dx.doi.org/10.1021/es403600a>.
- Arnot, JA; Armitage, JM; Mccarty, LS; Wania, F; Cousins, IT; Toose-Reid, L. (2011). Toward a Consistent Evaluative Framework for POP Risk Characterization. *Environ Sci Technol.* 45: 97-103. <http://dx.doi.org/10.1021/es102551d>.
- Arsenault, G; Chittim, B; Mcalees, A; Mccrindle, R. (2007). Nuclear magnetic resonance spectral characterization and semi-empirical calculations of conformations of alpha- and gamma-1,2,5,6,9,10-hexabromocyclododecane. *Chemosphere.* 67: 1684-1694. <http://dx.doi.org/10.1016/j.chemosphere.2006.05.122>.
- Arsenault, G; Konstantinov, A; Marvin, CH; Macinnis, G; Mcalees, A; Mccrindle, R; Riddell, N; Tomy, GT; Yeo, B. (2007). Synthesis of the two minor isomers, delta- and epsilon-1,2,5,6,9,10-hexabromocyclododecane, present in commercial hexabromocyclododecane. *Chemosphere.* 68: 887-892. <http://dx.doi.org/10.1016/j.chemosphere.2007.02.005>.
- Asante, KA; Adu-Kumi, S; Nakahiro, K; Takahashi, S; Isobe, T; Sudaryanto, A; Devanathan, G; Clarke, E; Ansa-Asare, OD; Dapaah-Siakwan, S; Tanabe, S. (2011). Human exposure to PCBs, PBDEs and HBCDs in Ghana: Temporal variation, sources of exposure and estimation of daily intakes by infants. *Environ Int.* 37: 921-928. <http://dx.doi.org/10.1016/j.envint.2011.03.011>.
- Asante, KA; Takahashi, S; Itai, T; Isobe, T; Devanathan, G; Muto, M; Agyakwah, SK; Adu-Kumi, S; Subramanian, A; Tanabe, S. (2013). Occurrence of halogenated contaminants in inland and coastal fish from Ghana: levels, dietary exposure assessment and human health implications. *Ecotoxicol Environ Saf.* 94: 123-130. <http://dx.doi.org/10.1016/j.ecoenv.2013.05.008>.
- Asnake, S; Pradhan, A; Banjop-Kharlyngdoh, J; Modig, C; Olsson, P. (2014). 1,2-dibromo-4-(1,2 dibromoethyl) cyclohexane (TBECH)-mediated steroid hormone receptor activation and gene regulation in chicken LMH cells. *Environ Toxicol Chem.* 33: 891-899. <http://dx.doi.org/10.1002/etc.2509>.
- Aurell, M; Cramér, K. (1966). Serum lipids and lipoproteins in human pregnancy. *Clin Chim Acta.* 13: 278-284. [http://dx.doi.org/10.1016/0009-8981\(66\)90206-3](http://dx.doi.org/10.1016/0009-8981(66)90206-3).
- Ausó, E; Lavado-Autric, R; Cuevas, E; Del Rey, FE; Morreale De Escobar, G; Berbel, P. (2004). A moderate and transient deficiency of maternal thyroid function at the beginning of fetal neocortico-genesis alters neuronal migration. *Endocrinology.* 145: 4037-4047. <http://dx.doi.org/10.1210/en.2004-0274>.
- Badea, SL; Niculescu, VC; Ionete, RE; Eljarrat, E. (2016). Advances in enantioselective analysis of chiral brominated flame retardants. Current status, limitations and future perspectives [Review]. *Sci Total Environ.* 566-567: 1120-1130. <http://dx.doi.org/10.1016/j.scitotenv.2016.05.148>.
- Bailey, SA; Zidell, RH; Perry, RW. (2004). Relationships between organ weight and body/brain weight in the rat: What is the best analytical endpoint? *Toxicol Pathol.* 32: 448-466. <http://dx.doi.org/10.1080/01926230490465874>.

Human Health Hazard Literature Search Results

Off Topic

- Balch, GC; Vélez-Espino, LA; Sweet, C; Alae, M; Metcalfe, CD. (2006). Inhibition of metamorphosis in tadpoles of *Xenopus laevis* exposed to polybrominated diphenyl ethers (PBDEs). *Chemosphere*. 64: 328-338. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.019>.
- Barghi, M; Shin, ES; Son, MH; Choi, SD; Pyo, H; Chang, YS. (2016). Hexabromocyclododecane (HBCD) in the Korean food basket and estimation of dietary exposure. *Environ Pollut*. 213: 268-277. <http://dx.doi.org/10.1016/j.envpol.2016.02.026>.
- Barker, DJP. (2007). The origins of the developmental origins theory. *J Intern Med*. 261: 412-417. <http://dx.doi.org/10.1111/j.1365-2796.2007.01809.x>.
- Baron, E; Bosch, C; Manez, M; Andreu, A; Sergio, F; Hiraldo, F; Eljarrat, E; Barcelo, D. (2015). Temporal trends in classical and alternative flame retardants in bird eggs from Donana Natural Space and surrounding areas (south-western Spain) between 1999 and 2013. *Chemosphere*. 138: 316-323. <http://dx.doi.org/10.1016/j.chemosphere.2015.06.013>.
- Baron, E; Gimenez, J; Verborgh, R; Gauffier, P; De Stephanis, R; Eljarrat, E; Barcelo, D. (2015). Bioaccumulation and biomagnification of classical flame retardants, related halogenated natural compounds and alternative flame retardants in three delphinids from Southern European waters. *Environ Pollut*. 203: 107-115. <http://dx.doi.org/10.1016/j.envpol.2015.03.041>.
- Barontini, F; Cozzani, V; Cuzzola, A; Petarca, L. (2001). Investigation of hexabromocyclododecane thermal degradation pathways by gas chromatography/mass spectrometry. *Rapid Commun Mass Spectrom*. 15: 690-698. <http://dx.doi.org/10.1002/rcm.281>.
- BASF. (1990). Determination of the acute toxicity of hexabromid S to the waterflea *Daphnia magna* straus with cover letter dated 040590. (EPA/OTS Doc #86-90000392). Wyandotte, MI.
- BASF CORP. (1990). ALGAL GROWTH INHIBITION TEST WITH COVER LETTER DATED 031290. (TSCATS/406648).
- BASF CORP. (1990). OXYGEN CONSUMPTION TEST (USING PSEUDOMONAS PUTIDA BY THE TEST METHOD OF ROBRA) WITH COVER LETTER DATED 031290. (TSCATS/406650).
- Becher, G. (2005). The stereochemistry of 1,2,5,6,9,10-hexabromocyclododecane and its graphic representation. *Chemosphere*. 58: 989-991. <http://dx.doi.org/10.1016/j.chemosphere.2004.09.071>.
- Behall, KM; Scholfield, DJ; Hallfrisch, JG; Kelsay, JL; Reiser, S. (1984). Seasonal variation in plasma glucose and hormone levels in adult men and women. *Am J Clin Nutr*. 40: 1352-1356.
- Bennett, DH; Moran, RE; Wu, XM; Tulve, NS; Clifton, MS; Colón, M; Weathers, W; Sjödin, A; Jones, R; Hertz-Picciotto, I. (2014). Polybrominated diphenyl ether (PBDE) concentrations and resulting exposure in homes in California: relationships among passive air, surface wipe and dust concentrations, and temporal variability. *Indoor Air*. 25: 220-229. <http://dx.doi.org/10.1111/ina.12130>.
- Berger, RD; Kasper, EK; Baughman, KL; Marban, E; Calkins, H; Tomaselli, GF. (1997). Beat-to-beat QT interval variability: novel evidence for repolarization lability in ischemic and nonischemic dilated cardiomyopathy. *Circulation*. 96: 1557-1565.
- Berger, RG; Lefèvre, PL; Ernest, SR; Wade, MG; Ma, YQ; Rawn, DF; Gaertner, DW; Robaire, B; Hales, BF. (2014). Exposure to an environmentally relevant mixture of brominated flame retardants affects fetal development in Sprague-Dawley rats. *Toxicology*. 320: 56-66. <http://dx.doi.org/10.1016/j.tox.2014.03.005>.
- Berntssen, MH; Valdernes, S; Rosenlund, G; Torstensen, BE; Zeilmaker, MJ; van Eijkeren, JC. (2011). Toxicokinetics and carry-over model of α -hexabromocyclododecane (HBCD) from feed to consumption-sized Atlantic salmon (*Salmo salar*). *Food Addit Contam Part A Chem Anal Control Expo Risk Assess*. 28: 1274-1286. <http://dx.doi.org/10.1080/19440049.2011.587029>.
- Besis, A; Katsoyiannis, A; Botsaropoulou, E; Samara, C. (2014). Concentrations of polybrominated diphenyl ethers (PBDEs) in central air-conditioner filter dust and relevance of non-dietary exposure in occupational indoor environments in Greece. *Environ Pollut*. 188: 64-70. <http://dx.doi.org/10.1016/j.envpol.2014.01.021>.
- Bester, K; Vorkamp, K. (2013). A two-dimensional HPLC separation for the enantioselective determination of hexabromocyclododecane (HBCD) isomers in biota samples. *Anal Bioanal Chem*. 405: 6519-6527. <http://dx.doi.org/10.1007/s00216-013-7100-1>.
- Betts, K. (2003). More flame-proofed fish. *Environ Sci Technol*. 37: 380A-382A.
- Betts, K. (2005). More clues to HBCD isomer mystery. *Environ Sci Technol*. 39: 146A-147A.
- Betts, K. (2008). More flame retardants found in house dust [Comment]. *Environ Sci Technol*. 42: 337.
- Bezares-Cruz, J; Jafvert, CT; Hua, I. (2004). Solar photodecomposition of decabromodiphenyl ether: products and quantum yield. *Environ Sci Technol*. 38: 4149-4156. <http://dx.doi.org/10.1021/es0498608o>.
- Björklund, JA; Sellström, U; de Wit, CA; Aune, M; Lignell, S; Darnerud, PO. (2012). Comparisons of polybrominated diphenyl ether and hexabromocyclododecane concentrations in dust collected with two sampling methods and matched breast milk samples. *Indoor Air*. 22: 279-288. <http://dx.doi.org/10.1111/j.1600-0668.2011.00765.x>.
- Björklund, JA; Thuresson, K, aj; Cousins, AP; Sellstrom, U; Emenius, G; de Wit, CA. (2012). Indoor Air Is a Significant Source of Tri-decabrominated Diphenyl Ethers to Outdoor Air via Ventilation Systems. *Environ Sci Technol*. 46: 5876-5884. <http://dx.doi.org/10.1021/es204122v>.
- Boerescu, I. (1991). Interrelationships between the metabolism of thyroid hormones and the liver. Part one [Review]. 28: 123-132.
- Bogdal, C; Naef, M; Schmid, P; Kohler, M; Zennegg, M; Bernet, D; Scheringer, M; Hungerbühler, K. (2009). Unexplained gonad alterations in whitefish (*Coregonus* spp.) from Lake Thun, Switzerland: levels of persistent organic pollutants in different morphs. *Chemosphere*. 74: 434-440. <http://dx.doi.org/10.1016/j.chemosphere.2008.09.058>.
- Bogdal, C; Schmid, P; Kohler, M; Müller, CE; Iozza, S; Bucheli, TD; Scheringer, M; Hungerbühler, K. (2008). Sediment record and atmospheric deposition of brominated flame retardants and organochlorine compounds in Lake Thun, Switzerland: lessons from the past and evaluation of the present. *Environ Sci Technol*. 42: 6817-6822. <http://dx.doi.org/10.1021/es800964z>.
- Bongers-Schokking, JJ; Koot, HM; Wiersma, D; Verkerk, PH; de Muinck Keizer-Schrama, SM. (2000). Influence of timing and dose of thyroid hormone replacement on development in infants with congenital hypothyroidism. *J Pediatr*. 136: 292-297. <http://dx.doi.org/10.1067/mpd.2000.103351>.
- Boyles, E; Tan, H; Wu, Y; Nielsen, CK; Shen, L; Reiner, EJ; Chen, D. (2017). Halogenated flame retardants in bobcats from the midwestern United States. *Environ Pollut*. 221: 191-198. <http://dx.doi.org/10.1016/j.envpol.2016.11.063>.

Human Health Hazard Literature Search Results

Off Topic

- Brabant, G; Prank, K; Hoang-Vu, C; Hesch, RD; von Zur Mühlen, A. (1991). Hypothalamic regulation of pulsatile thyrotropin secretion. *J Clin Endocrinol Metab.* 72: 145-150. <http://dx.doi.org/10.1210/jcem-72-1-145>.
- Bradley, PW; Wan, Y, i; Jones, PD; Wiseman, S; Chang, H; Lam, MHW; Long, DT; Giesy, JP. (2011). PBDES AND METHOXYLATED ANALOGUES IN SEDIMENT CORES FROM TWO MICHIGAN, USA, INLAND LAKES. *Environ Toxicol Chem.* 30: 1236-1242. <http://dx.doi.org/10.1002/etc.500>.
- Bradshaw, C; Näslund, J; Hansen, J; Kozłowski-Suzuki, B; Sundström, B; Gustafsson, K. (2015). Hexabromocyclododecane affects benthic-pelagic coupling in an experimental ecosystem. *Environ Pollut.* 206: 306-314. <http://dx.doi.org/10.1016/j.envpol.2015.07.012>.
- Bradshaw, C; Strid, A; von Stedingk, H; Gustafsson, K. (2015). Effects of benthos, temperature, and dose on the fate of hexabromocyclododecane in experimental coastal ecosystems. *Environ Toxicol Chem.* 34: 1246-1257. <http://dx.doi.org/10.1002/etc.2947>.
- Branchi, I; Alleva, E; Costa, LG. (2002). Effects of perinatal exposure to a polybrominated diphenyl ether (PBDE 99) on mouse neurobehavioural development. *Neurotoxicology.* 23: 375-384. [http://dx.doi.org/10.1016/S0161-813X\(02\)00078-5](http://dx.doi.org/10.1016/S0161-813X(02)00078-5).
- Brandli, RC; Kupper, T; Bucheli, TD; Zennegg, M; Huber, S; Ortelli, D; Müller, J; Schaffner, C; Iozza, S; Schmid, P; Berger, U; Edder, P; Oehme, M; Stadelmann, FX; Tarradellas, J. (2007). Organic pollutants in compost and digestate. Part 2. Polychlorinated dibenzo-p-dioxins, and -furans, dioxin-like polychlorinated biphenyls, brominated flame retardants, perfluorinated alkyl substances, pesticides, and other compounds. *J Environ Monit.* 9: 465-472. <http://dx.doi.org/10.1039/b617103f>.
- Brandsma, SH; Leonards, PE; Leslie, HA; de Boer, J. (2014). Tracing organophosphorus and brominated flame retardants and plasticizers in an estuarine food web. *Sci Total Environ.* 505C: 22-31. <http://dx.doi.org/10.1016/j.scitotenv.2014.08.072>.
- Braune, BM; Letcher, RJ; Gaston, AJ; Mallory, ML. (2015). Trends of polybrominated diphenyl ethers and hexabromocyclododecane in eggs of Canadian Arctic seabirds reflect changing use patterns. *Environ Res.* 142: 651-661. <http://dx.doi.org/10.1016/j.envres.2015.08.010>.
- Braune, BM; Mallory, ML; Grant Gilchrist, H; Letcher, RJ; Drouillard, KG. (2007). Levels and trends of organochlorines and brominated flame retardants in ivory gull eggs from the Canadian Arctic, 1976 to 2004. *Sci Total Environ.* 378: 403-417. <http://dx.doi.org/10.1016/j.scitotenv.2007.03.003>.
- Bu, D, an; Zhuang, H; Zhou, X; Yang, G. (2014). A heterogeneous biotin-streptavidin-amplified enzyme-linked immunosorbent assay for detecting tris(2,3-dibromopropyl) isocyanurate in natural samples. *Anal Biochem.* 462: 51-59. <http://dx.doi.org/10.1016/j.ab.2014.06.003>.
- Budakowski, W; Tomy, G. (2003). Congener-specific analysis of hexabromocyclododecane by high-performance liquid chromatography/electrospray tandem mass spectrometry. *Rapid Commun Mass Spectrom.* 17: 1399-1404. <http://dx.doi.org/10.1002/rcm.1066>.
- Bustnes, JO; Borgå, K; Dempster, T; Lie, E; Nygård, T; Uglem, I. (2012). Latitudinal distribution of persistent organic pollutants in pelagic and demersal marine fish on the Norwegian Coast. *Environ Sci Technol.* 46: 7836-7843. <http://dx.doi.org/10.1021/es301191t>.
- Bustnes, JO; Lie, E; Herzke, D; Dempster, T; Bjørn, PA; Nygård, T; Uglem, I. (2010). Salmon farms as a source of organohalogenated contaminants in wild fish. *Environ Sci Technol.* 44: 8736-8743. <http://dx.doi.org/10.1021/es102195d>.
- Bustnes, JO; Yoccoz, NG; Bangjord, G; Polder, A; Skaare, JU. (2007). Temporal trends (1986-2004) of organochlorines and brominated flame retardants in tawny owl eggs from northern Europe. *Environ Sci Technol.* 41: 8491-8497. <http://dx.doi.org/10.1021/es071581w>.
- Butt, CM; Miranda, ML; Stapleton, HM. (2016). Development of an analytical method to quantify PBDEs, OH-BDEs, HBCDs, 2,4,6-TBP, EH-TBB, and BEH-TEBP in human serum. *Anal Bioanal Chem.* 408: 2449-2459. <http://dx.doi.org/10.1007/s00216-016-9340-3>.
- Canbaz, D; Hamers, T; Logiantara, A; van Ree, R; van Rijt, L. (2012). Indoor pollutant hexabromocyclododecane promotes interleukin-17A production in a mouse model for house dust mite driven allergic asthma. *Allergy.* 67: 598-598.
- Canton, RF; Bovee, T; Daamen, F; van Duursen, M; van Den Berg, M. (2007). In Vitro antiandrogenicity of PBDEs, HBCD, TBP and hydroxylated and methoxylated PBDEs based on a yeast bioassay. *Chem Biol Interact.* 169: 133-133. <http://dx.doi.org/10.1016/j.cbi.2007.06.007>.
- Canton, RF; Sanderson, T; Letcher, R; Bergman, A; Berg, M. (2004). Effects Of Brominated Flame Retardants On The Activity Of The Steroidogenic Enzyme Aromatase (CYP19) In H295R Human Adrenocortical Carcinoma Cells In Culture. *Toxicologist.* 78.
- Cao, Z; Xu, F; Li, W; Sun, J; Shen, M; Su, X; Feng, J; Yu, G; Covaci, A. (2015). Seasonal and Particle Size-Dependent Variations of Hexabromocyclododecanes in Settled Dust: Implications for Sampling. *Environ Sci Technol.* 49: 11151-11157. <http://dx.doi.org/10.1021/acs.est.5b01717>.
- Cariou, R; Antignac, JP; Marchand, P; Berrebi, A; Zalko, D; Andre, F; Le Bizec, B. (2005). New multiresidue analytical method dedicated to trace level measurement of brominated flame retardants in human biological matrices. *J Chromatogr A.* 1100: 144-152. <http://dx.doi.org/10.1016/j.chroma.2005.09.040>.
- Champoux, L; Rail, JF; Lavoie, RA. (2017). Polychlorinated dibenzo-p-dioxins, dibenzofurans, and flame retardants in northern gannet (*Morus bassanus*) eggs from Bonaventure Island, Gulf of St. Lawrence, 1994-2014. *Environ Pollut.* 222: 600-608. <http://dx.doi.org/10.1016/j.envpol.2016.09.055>.
- Chandra, S; Gupta, LK. (2004). Spectroscopic characterization of tetradentate macrocyclic ligand: its transition metal complexes. *Spectrochim Acta A Mol Biomol Spectrosc.* 60: 2767-2774. <http://dx.doi.org/10.1016/j.saa.2004.01.015>.
- Cheaib, Z; Grandjean, D; Kupper, T; de Alencastro, LF. (2009). Brominated flame retardants in fish of Lake Geneva (Switzerland). *Bull Environ Contam Toxicol.* 82: 522-527. <http://dx.doi.org/10.1007/s00128-008-9628-x>.
- Chen, C; Staudinger, JL; Klaassen, CD. (2003). Nuclear receptor, pregnane X receptor, is required for induction of UDP-glucuronosyltransferases in mouse liver by pregnenolone-16 alpha-carbonitrile. *Drug Metab Dispos.* 31: 908-915. <http://dx.doi.org/10.1124/dmd.31.7.908>.
- Chen, D; Hale, RC; La Guardia, MJ; Luellen, D; Kim, S; Geisz, HN. (2015). Hexabromocyclododecane flame retardant in Antarctica: Research stations as sources. *Environ Pollut.* 206: 611-618. <http://dx.doi.org/10.1016/j.envpol.2015.08.024>.
- Chen, D; La Guardia, MJ; Harvey, E; Amaral, M; Wohlfort, K; Hale, RC. (2008). Polybrominated diphenyl ethers in peregrine falcon (*Falco peregrinus*) eggs from the northeastern U.S. *Environ Sci Technol.* 42: 7594-7600. <http://dx.doi.org/10.1021/es8010749>.

Human Health Hazard Literature Search Results

Off Topic

- Chen, D; La Guardia, MJ; Luellen, DR; Harvey, E; Mainor, TM; Hale, RC. (2011). Do temporal and geographical patterns of HBCD and PBDE flame retardants in U.S. fish reflect evolving industrial usage? *Environ Sci Technol.* 45: 8254-8261. <http://dx.doi.org/10.1021/es201444w>.
- Chen, D; Letcher, RJ; Burgess, NM; Champoux, L; Elliott, JE; Hebert, CE; Martin, P; Wayland, M; Chip Weseloh, DV; Wilson, L. (2012). Flame retardants in eggs of four gull species (Laridae) from breeding sites spanning Atlantic to Pacific Canada [Review]. *Environ Pollut.* 168: 1-9. <http://dx.doi.org/10.1016/j.envpol.2012.03.040>.
- Chen, D; Mai, B; Song, J; Sun, Q; Luo, Y; Luo, X; Zeng, EY; Hale, RC. (2007). Polybrominated diphenyl ethers in birds of prey from Northern China. *Environ Sci Technol.* 41: 1828-1833. <http://dx.doi.org/10.1021/es062045r>.
- Chen, MYY; Tang, ASP; Ho, YY; Xiao, Y. (2010). Dietary exposure of secondary school students in Hong Kong to polybrominated diphenyl ethers from foods of animal origin. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 27: 521-529. <http://dx.doi.org/10.1080/19440040903419723>.
- Choi, SS; Danielewska-Nikiel, B; Ohdan, K; Kojima, I; Takata, H; Kuriki, T. (2009). Safety evaluation of highly-branched cyclic dextrin and a 1,4-alpha-glucan branching enzyme from *Bacillus stearothermophilus*. *Regul Toxicol Pharmacol.* 55: 281-290. <http://dx.doi.org/10.1016/j.yrtph.2009.07.011>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2012). Optimization and Simultaneous Determination of Alkyl Phenol Ethoxylates and Brominated Flame Retardants in Water after SPE and Heptafluorobutyric Anhydride Derivatization followed by GC/MS. *Chromatographia.* 75: 1165-1176. <http://dx.doi.org/10.1007/s10337-012-2293-6>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2014). Improved derivatization protocol for simultaneous determination of alkylphenol ethoxylates and brominated flame retardants followed by gas chromatography-mass spectrometry analyses. *Water Sci Technol.* 69: 2389-2396. <http://dx.doi.org/10.2166/wst.2014.144>.
- Chokwe, TB; Okonkwo, JO; Sibali, LL; Ncube, EJ. (2015). Alkylphenol ethoxylates and brominated flame retardants in water, fish (carp) and sediment samples from the Vaal River, South Africa. *Environ Sci Pollut Res Int.* 22: 11922-11929. <http://dx.doi.org/10.1007/s11356-015-4430-x>.
- Chokwe, TB; Okonkwo, OJ; Sibali, LL; Mpoetjji, SM. (2016). Occurrence and Distribution Pattern of Alkylphenol Ethoxylates and Brominated Flame Retardants in Sediment Samples from Vaal River, South Africa. *Bull Environ Contam Toxicol.* 97: 353-358. <http://dx.doi.org/10.1007/s00128-016-1886-4>.
- Chu, S; Gauthier, LT; Letcher, RJ. (2012). Alpha and Beta Isomers of Tetrabromoethylcyclohexane (TBECH) Flame Retardant: Depletion and Metabolite Formation In Vitro Using a Model Rat Microsomal Assay. *Environ Sci Technol.* 46: 10263-10270. <http://dx.doi.org/10.1021/es301546h>.
- Coelho, SD; Sousa, A, naCA; Isobe, T; Tanabe, S; Nogueira, AJA. (2014). Flame Retardants in Indoor Dust - A Review on the Levels of Polybrominated Diphenyl Ethers and Hexabromocyclododecanes. *Current Organic Chemistry.* 18: 2218-2230.
- Coelho, SD; Sousa, AC; Isobe, T; Kim, JW; Kunisue, T; Nogueira, AJ; Tanabe, S. (2016). Brominated, chlorinated and phosphate organic contaminants in house dust from Portugal. *Sci Total Environ.* 569-570: 442-449. <http://dx.doi.org/10.1016/j.scitotenv.2016.06.137>.
- Coelho, SD; Sousa, AC; Isobe, T; Kunisue, T; Nogueira, AJ; Tanabe, S. (2016). Brominated flame retardants and organochlorine compounds in duplicate diet samples from a Portuguese academic community. *Chemosphere.* 160: 89-94. <http://dx.doi.org/10.1016/j.chemosphere.2016.06.038>.
- Colles, A; Koppen, G; Hanot, V; Nelen, V; Dewolf, MC; Noël, E; Malisch, R; Kotz, A; Kypke, K; Biot, P; Vinkx, C; Schoeters, G. (2008). Fourth WHO-coordinated survey of human milk for persistent organic pollutants (POPs): Belgian results. *Chemosphere.* 73: 907-914. <http://dx.doi.org/10.1016/j.chemosphere.2008.07.002>.
- Connell, DW; Schueuermann, G. (1988). EVALUATION OF VARIOUS MOLECULAR PARAMETERS AS PREDICTORS OF BIOCONCENTRATION IN FISH. *Ecotoxicol Environ Saf.* 15: 324-335.
- Cooper, G; Lunn, R; Agerstrand, M; Glenn, B; Kraft, A; Luke, A; Ratcliffe, J. (2016). Study sensitivity: Evaluating the ability to detect effects in systematic reviews of chemical exposures. *Environ Int.* 92-93: 605-610. <http://dx.doi.org/10.1016/j.envint.2016.03.017>.
- Covaci, A; Abdallah, M; Roosens, L; Harrad, S. (2010). Hexabromocyclododecane (HBCD) complex chemistry: Detection and analytical methods. *Toxicol Lett.* 196: S33-S33. <http://dx.doi.org/10.1016/j.toxlet.2010.03.149>.
- Covaci, A; Gerecke, AC; Law, RJ; Voorspoels, S; Kohler, M; Heeb, NV; Leslie, H; Allchin, CR; De Boer, J. (2006). Hexabromocyclododecanes (HBCDs) in the environment and humans: a review [Review]. *Environ Sci Technol.* 40: 3679-3688. <http://dx.doi.org/10.1021/es0602492>.
- Covaci, A; Harrad, S; Abdallah, MA; Ali, N; Law, RJ; Herzke, D; de Wit, CA. (2011). Novel brominated flame retardants: a review of their analysis, environmental fate and behaviour [Review]. *Environ Int.* 37: 532-556. <http://dx.doi.org/10.1016/j.envint.2010.11.007>.
- Covaci, A; Losada, S; Roosens, L; Vetter, W; Santos, FJ; Neels, H; Storelli, A; Storelli, MM. (2008). Anthropogenic and naturally occurring organobrominated compounds in two deep-sea fish species from the Mediterranean Sea. *Environ Sci Technol.* 42: 8654-8660. <http://dx.doi.org/10.1021/es8016528>.
- Covaci, A; Roosens, L; Dirtu, AC; Waegeneers, N; Van Overmeire, I; Neels, H; Goeyens, L. (2009). Brominated flame retardants in Belgian home-produced eggs: levels and contamination sources. *Sci Total Environ.* 407: 4387-4396. <http://dx.doi.org/10.1016/j.scitotenv.2008.09.057>.
- Covaci, A; Voorspoels, S; de Boer, J. (2003). Determination of brominated flame retardants, with emphasis on polybrominated diphenyl ethers (PBDEs) in environmental and human samples--a review [Review]. *Environ Int.* 29: 735-756. [http://dx.doi.org/10.1016/S0160-4120\(03\)00114-4](http://dx.doi.org/10.1016/S0160-4120(03)00114-4).
- Croes, K; Colles, A; Koppen, G; Govarts, E; Bruckers, L; Van de Mieroop, E; Nelen, V; Covaci, A; Dirtu, AC; Thomsen, C; Haug, LS; Becher, G; Mampaey, M; Schoeters, G; Van Larebeke, N; Baeyens, W. (2012). Persistent organic pollutants (POPs) in human milk: a biomonitoring study in rural areas of Flanders (Belgium). *Chemosphere.* 89: 988-994. <http://dx.doi.org/10.1016/j.chemosphere.2012.06.058>.

Human Health Hazard Literature Search Results

Off Topic

- Crump, D; Chiu, S; Kennedy, SW. (2012). Effects of tris(1,3-dichloro-2-propyl) phosphate and tris(1-chloropropyl) phosphate on cytotoxicity and mRNA expression in primary cultures of avian hepatocytes and neuronal cells. *Toxicol Sci.* 126: 140-148. <http://dx.doi.org/10.1093/toxsci/kfs015>.
- Daniels, JL; Pan, I; Jones, R; Anderson, S; Patterson, DG, Jr; Needham, LL; Sjodin, A. (2010). Individual characteristics associated with PBDE levels in us human milk samples. *Environ Health Perspect.* 118: 155-160. <http://dx.doi.org/10.1289/ehp.0900759>.
- Darnerud, P; Lignell, S; Aune, M; Isaksson, M; Cantillana, T; Redeby, J; Glynn, A. (2015). Time trends of polybrominated diphenylether (PBDE) congeners in serum of Swedish mothers and comparisons to breast milk data. *Environ Res.* 138: 352-360. <http://dx.doi.org/10.1016/j.envres.2015.02.031>.
- Darnerud, PO; Aune, M; Larsson, L; Lignell, S; Mutshatshi, T; Okonkwo, J; Botha, B; Agyei, N. (2011). Levels of brominated flame retardants and other persistent organic pollutants in breast milk samples from Limpopo Province, South Africa. *Sci Total Environ.* 409: 4048-4053. <http://dx.doi.org/10.1016/j.scitotenv.2011.05.054>.
- Davis, JW; Gonsior, S; Marty, G; Ariano, J. (2005). The transformation of hexabromocyclododecane in aerobic and anaerobic soils and aquatic sediments. *Water Res.* 39: 1075-1084. <http://dx.doi.org/10.1016/j.watres.2004.11.024>.
- Davis, JW; Gonsior, SJ; Markham, DA; Friederich, U; Hunziker, RW; Ariano, JM. (2006). Biodegradation and product identification of [14C]hexabromocyclododecane in wastewater sludge and freshwater aquatic sediment. *Environ Sci Technol.* 40: 5395-5401. <http://dx.doi.org/10.1021/es060009m>.
- de Ceaurriz, J; Ban, M. (1990). Role of gamma-glutamyltranspeptidase and beta-lyase in the nephrotoxicity of hexachloro-1,3-butadiene and methyl mercury in mice. *Toxicol Lett.* 50: 249-256.
- De Vito, P; Balducci, V; Leone, S; Percario, Z; Mangino, G; Davis, PJ; Davis, FB; Affabris, E; Luly, P; Pedersen, JZ; Incerpi, S. (2012). Nongenomic effects of thyroid hormones on the immune system cells: New targets, old players [Review]. *Steroids.* 77: 988-995. <http://dx.doi.org/10.1016/j.steroids.2012.02.018>.
- De Vito, P; Incerpi, S; Pedersen, JZ; Luly, P; Davis, FB; Davis, PJ. (2011). Thyroid hormones as modulators of immune activities at the cellular level [Review]. *Thyroid.* 21: 879-890. <http://dx.doi.org/10.1089/thy.2010.0429>.
- de Wit, CA; Alaeae, M; Muir, DC. (2006). Levels and trends of brominated flame retardants in the Arctic. *Chemosphere.* 64: 209-233. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.029>.
- de Wit, CA; Björklund, JA; Thuresson, K. (2012). Tri-decabrominated diphenyl ethers and hexabromocyclododecane in indoor air and dust from Stockholm microenvironments 2: indoor sources and human exposure. *Environ Int.* 39: 141-147. <http://dx.doi.org/10.1016/j.envint.2011.11.001>.
- de Wit, CA; Herzke, D; Vorkamp, K. (2010). Brominated flame retardants in the Arctic environment -- trends and new candidates [Review]. *Sci Total Environ.* 408: 2885-2918. <http://dx.doi.org/10.1016/j.scitotenv.2009.08.037>.
- Debenest, T; Gagné, F; Petit, AN; André, C; Kohli, M; Blaise, C. (2010). Ecotoxicity of a brominated flame retardant (tetrabromobisphenol A) and its derivatives to aquatic organisms. *Comp Biochem Physiol C Toxicol Pharmacol.* 152: 407-412. <http://dx.doi.org/10.1016/j.cbpc.2010.06.009>.
- Deshpande, AD; Dockum, BW. (2013). Polybrominated diphenyl ether congeners in the young-of-the-year bluefish, *Pomatomus saltatrix*, from several nursery habitats along the US Atlantic coastline. *Mar Pollut Bull.* 77: 237-250. <http://dx.doi.org/10.1016/j.marpolbul.2013.09.051>.
- Desmet, K; Schelfaut, M; Sandra, P. (2005). Determination of bromophenols as dioxin precursors in combustion gases of fire retarded extruded polystyrene by sorptive sampling-capillary gas chromatography-mass spectrometry. *J Chromatogr A.* 1071: 125-129.
- Devanathan, G; Subramanian, A; Sudaryanto, A; Takahashi, S; Isobe, T; Tanabe, S. (2012). Brominated flame retardants and polychlorinated biphenyls in human breast milk from several locations in India: potential contaminant sources in a municipal dumping site. *Environ Int.* 39: 87-95. <http://dx.doi.org/10.1016/j.envint.2011.10.005>.
- D'Hollander, W; Roosens, L; Covaci, A; Cornelis, C; Reynders, H; Campenhout, KV; Voogt, P, d; Bervoets, L. (2010). Brominated flame retardants and perfluorinated compounds in indoor dust from homes and offices in Flanders, Belgium. *Chemosphere.* 81: 478-487. <http://dx.doi.org/10.1016/j.chemosphere.2010.07.043>.
- Dietz, R; Rigét, FF; Sonne, C; Born, EW; Bechshøft, T; Mckinney, MA; Drimmie, RJ; Muir, DC; Letcher, RJ. (2013). Three decades (1983-2010) of contaminant trends in East Greenland polar bears (*Ursus maritimus*). Part 2: Brominated flame retardants. *Environ Int.* 59: 494-500. <http://dx.doi.org/10.1016/j.envint.2012.09.008>.
- Ding, WW; Tian, Y; Jin, J; Wang, Y; Cui, C; Zhang, L; Gao, Y; Wang, XJ; Shi, R. (2011). [Levels of hexabromocyclododecane in human breast milk and the daily intake of newborns in a Shanghai hospital]. *Zhonghua Yufang Yixue Zazhi.* 45: 498-501.
- Dirtu, AC; Ali, N; Van den Eede, N; Neels, H; Covaci, A. (2012). Country specific comparison for profile of chlorinated, brominated and phosphate organic contaminants in indoor dust. Case study for Eastern Romania, 2010. *Environ Int.* 49: 1-8. <http://dx.doi.org/10.1016/j.envint.2012.08.002>.
- Dirtu, AC; Covaci, A. (2010). Estimation of daily intake of organohalogenated contaminants from food consumption and indoor dust ingestion in Romania. *Environ Sci Technol.* 44: 6297-6304. <http://dx.doi.org/10.1021/es101233z>.
- Dodder, NG; Maruya, KA; Lee Ferguson, P; Grace, R; Klosterhaus, S; La Guardia, MJ; Lauenstein, GG; Ramirez, J. (2014). Occurrence of contaminants of emerging concern in mussels (*Mytilus* spp.) along the California coast and the influence of land use, storm water discharge, and treated wastewater effluent. *Mar Pollut Bull.* 81: 340-346. <http://dx.doi.org/10.1016/j.marpolbul.2013.06.041>.
- Dodder, NG; Peck, AM; Kucklick, JR; Sander, LC. (2006). Analysis of hexabromocyclododecane diastereomers and enantiomers by liquid chromatography/tandem mass spectrometry: chromatographic selectivity and ionization matrix effects. *J Chromatogr A.* 1135: 36-42. <http://dx.doi.org/10.1016/j.chroma.2006.09.024>.

Human Health Hazard Literature Search Results

Off Topic

- Dominguez-Romero, E; Cariou, R; Omer, E; Marchand, P; Dervilly-Pinel, G; Le Bizec, B; Travel, A; Jondreville, C. (2016). Tissue Distribution and Transfer to Eggs of Ingested α -Hexabromocyclododecane (α -HBCDD) in Laying Hens (*Gallus domesticus*). *J Agric Food Chem*. 64: 2112-2119. <http://dx.doi.org/10.1021/acs.jafc.5b05574>.
- Dong, L; Zheng, L; Yang, S; Yan, Z; Jin, W; Yan, Y. (2017). Deriving freshwater safety thresholds for hexabromocyclododecane and comparison of toxicity of brominated flame retardants. *Ecotoxicol Environ Saf*. 139: 43-49. <http://dx.doi.org/10.1016/j.ecoenv.2017.01.005>.
- Dong, Z; Hu, Z; Zhu, H; Li, N; Zhao, H; Mi, W, ei; Jiang, W; Hu, X; Ye, L. (2015). Tris-(2,3-dibromopropyl) isocyanurate induces depression-like behaviors and neurotoxicity by oxidative damage and cell apoptosis in vitro and in vivo. *J Toxicol Sci*. 40: 701-709.
- Dorosh, A; Ded, L; Elzeinova, F; Peknicova, J. (2009). Hexabromocyclododecane but not tetrabromobisphenol A promotes MCF-7 proliferation and TFF1 gene upregulation. *J Reprod Immunol*. 81: 153-153. <http://dx.doi.org/10.1016/j.jri.2009.06.212>.
- Drage, D; Mueller, JF; Birch, G; Eaglesham, G; Hearn, LK; Harrad, S. (2015). Historical trends of PBDEs and HBCDs in sediment cores from Sydney estuary, Australia. *Sci Total Environ*. 512-513: 177-184. <http://dx.doi.org/10.1016/j.scitotenv.2015.01.034>.
- Drage, DS; Mueller, JF; Hobson, P; Harden, FA; Toms, LL. (2017). Demographic and temporal trends of hexabromocyclododecanes (HBCDD) in an Australian population. *Environ Res*. 152: 192-198. <http://dx.doi.org/10.1016/j.envres.2016.10.015>.
- Drage, DS; Newton, S; de Wit, CA; Harrad, S. (2016). Concentrations of legacy and emerging flame retardants in air and soil on a transect in the UK West Midlands. *Chemosphere*. 148: 195-203. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.034>.
- Driffield, M; Harmer, N; Bradley, E; Fernandes, AR; Rose, M; Mortimer, D; Dicks, P. (2008). Determination of brominated flame retardants in food by LC-MS/MS: diastereoisomer-specific hexabromocyclododecane and tetrabromobisphenol A. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess*. 25: 895-903. <http://dx.doi.org/10.1080/02652030701882999>.
- Drohmann, D. (2006). HBCD: facts and insinuations [Letter]. *Environ Sci Technol*. 40: 1; author reply 2.
- Drottar, KR; Krueger, HO. (2000). Hexabromocyclododecane (HBCD): A flow-through bioconcentration test with the rainbow trout (*Oncorhynchus mykiss*). Easton, MD: Wildlife International Ltd.
- Du, M; Fang, C; Qiu, L; Dong, S; Zhang, X; Yan, C. (2015). Diastereoisomer-specific effects of hexabromocyclododecanes on hepatic aryl hydrocarbon receptors and cytochrome P450s in zebrafish (*Danio rerio*). *Chemosphere*. 132: 24-31. <http://dx.doi.org/10.1016/j.chemosphere.2015.02.049>.
- Du, M; Lin, L; Yan, C; Wang, C; Zhang, X. (2013). Enantiomer-specific bioaccumulation and depuration of hexabromocyclododecanes in zebrafish (*Danio rerio*). *J Hazard Mater*. 248-249: 167-171. <http://dx.doi.org/10.1016/j.jhazmat.2012.12.046>.
- Du, M; Lin, L; Yan, C; Zhang, X. (2012). Diastereoisomer- and enantiomer-specific accumulation, depuration, and bioisomerization of hexabromocyclododecanes in zebrafish (*Danio rerio*). *Environ Sci Technol*. 46: 11040-11046. <http://dx.doi.org/10.1021/es302166p>.
- Du, M; Zhang, D; Yan, C; Zhang, X. (2012). Developmental toxicity evaluation of three hexabromocyclododecane diastereoisomers on zebrafish embryos. *Aquat Toxicol*. 112-113: 1-10. <http://dx.doi.org/10.1016/j.aquatox.2012.01.013>.
- Dufour, DR; Lott, JA; Nolte, FS; Gretch, DR; Koff, RS; Seeff, LB. (2000). Diagnosis and monitoring of hepatic injury. I. Performance characteristics of laboratory tests [Review]. *Clin Chem*. 46: 2027-2049.
- Dumler, R; Thoma, H; Lenoir, D; Hutzinger, O. (1989). PBDF and PBDD from the Combustion of Bromine Containing Flame Retarded Polymers: A Survey. *Chemosphere*. 19: 2023-2031.
- Durmaz, V; Schmidt, S; Sabri, P; Piechotta, C; Weber, M. (2013). Hands-off Linear Interaction Energy Approach to Binding Mode and Affinity Estimation of Estrogens. *J Chem Inf Model*. 53: 2681-2688. <http://dx.doi.org/10.1021/ci400392p>.
- Durmaz, V; Weber, M; Becker, R. (2012). How to simulate affinities for host-guest systems lacking binding mode information: application to the liquid chromatographic separation of hexabromocyclododecane stereoisomers. *J Mol Model*. 18: 2399-2408. <http://dx.doi.org/10.1007/s00894-011-1239-5>.
- EFSA. (2011). Scientific opinion on hexabromocyclododecanes (HBCDDS) in food. *EFSA J*. 9: 2296. <http://dx.doi.org/10.2903/j.efsa.2011.2296>.
- Eguchi, A; Isobe, T; Ramu, K; Tue, NM; Sudaryanto, A; Devanathan, G; Viet, PH; Tana, RS; Takahashi, S; Subramanian, A; Tanabe, S. (2013). Soil contamination by brominated flame retardants in open waste dumping sites in Asian developing countries. *Chemosphere*. 90: 2365-2371. <http://dx.doi.org/10.1016/j.chemosphere.2012.10.027>.
- Eljarrat, E; de la Cal, A; Raldua, D; Duran, C; Barcelo, D. (2005). Brominated flame retardants in *Alburnus alburnus* from Cinca River Basin (Spain). *Environ Pollut*. 133: 501-508. <http://dx.doi.org/10.1016/j.envpol.2004.06.017>.
- Eljarrat, E; de la Cal, A; Raldua, D; Duran, C; Barceló, D. (2004). Occurrence and bioavailability of polybrominated diphenyl ethers and hexabromocyclododecane in sediment and fish from the Cinca River, a tributary of the Ebro River (Spain). *Environ Sci Technol*. 38: 2603-2608.
- Eljarrat, E; Gorga, M; Gasser, M; Díaz-Ferrero, J; Barceló, D. (2014). Dietary exposure assessment of Spanish citizens to hexabromocyclododecane through the diet. *J Agric Food Chem*. 62: 2462-2468. <http://dx.doi.org/10.1021/jf405007x>.
- Eljarrat, E; Guerra, P; Martínez, E; Farré, M; Alvarez, JG; López-Teijón, M; Barceló, D. (2009). Hexabromocyclododecane in human breast milk: levels and enantiomeric patterns. *Environ Sci Technol*. 43: 1940-1946. <http://dx.doi.org/10.1021/es802919e>.
- Elliott, JE; Wilson, LK; Wakeford, B. (2005). Polybrominated diphenyl ether trends in eggs of marine and freshwater birds from British Columbia, Canada, 1979-2002. *Environ Sci Technol*. 39: 5584-5591. <http://dx.doi.org/10.1021/es050496q>.
- EMA. (2008). Non-clinical guideline on drug induced hepatotoxicity. (Doc. Ref. EMA/CHMP/SWP/150115/2006). London, UK. http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2009/09/WC500003355.pdf.
- Environment Canada. (2010). Draft screening assessment: Cyclododecane, 1,2,5,6,9,10-hexabromo-: Chemical abstracts service registry number 3194-55-6. Ottawa, Canada: Environment Canada, Health Canada. http://www.ec.gc.ca/lcpe-cepa/documents/substances/hbcd/draft_screening_assessment_hbcd-eng.pdf.
- Environment Canada. (2011). Proposed risk management approach for hexabromocyclododecane (HBCD) Chemical Abstracts Service Registry Number 3194-55-6. Environment Canada, Health Canada.

Human Health Hazard Literature Search Results

Off Topic

- Environment Canada. (2012). Consultation document. Proposed risk management measure for hexabromocyclododecane (HBCD). Chemical abstracts service registry number (CAS RN): 3194-55-6. Gatineau, QC, Canada. <http://ec.gc.ca/ese-ees/default.asp?lang=En&n=6668F8BC-1>.
- Eriksson, P; Jakobsson, E; Fredriksson, A. (2001). Brominated flame retardants: a novel class of developmental neurotoxicants in our environment. *Environ Health Perspect.* 109: 903-908.
- Ernest, SR; Wade, MG; Lalancette, C; Ma, YQ; Berger, RG; Robaire, B; Hales, BF. (2012). Effects of chronic exposure to an environmentally relevant mixture of brominated flame retardants on the reproductive and thyroid system in adult male rats. *Toxicol Sci.* 127: 496-507. <http://dx.doi.org/10.1093/toxsci/kfs098>.
- Eshraghian, A; Jahromi, AH. (2014). Non-alcoholic fatty liver disease and thyroid dysfunction: A systematic review. *World J Gastroenterol.* 20: 8102-8109. <http://dx.doi.org/10.3748/wjg.v20.i25.8102>.
- Esslinger, S; Becker, R; Jung, C; Schröter-Kermani, C; Bremser, W; Nehls, I. (2011). Temporal trend (1988-2008) of hexabromocyclododecane enantiomers in herring gull eggs from the German coastal region. *Chemosphere.* 83: 161-167. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.047>.
- Esslinger, S; Becker, R; Müller-Belecke, A; Bremser, W; Jung, C; Nehls, I. (2010). HBCD stereoisomer pattern in mirror carps following dietary exposure to pure gamma-HBCD enantiomers. *J Agric Food Chem.* 58: 9705-9710. <http://dx.doi.org/10.1021/jf101469q>.
- Eulaers, I; Jaspers, VL; Pinxten, R; Covaci, A; Eens, M. (2014). Legacy and current-use brominated flame retardants in the Barn Owl. *Sci Total Environ.* 472: 454-462. <http://dx.doi.org/10.1016/j.scitotenv.2013.11.054>.
- Evenset, A; Christensen, GN; Carroll, J; Zaborska, A; Berger, U; Herzke, D; Gregor, D. (2007). Historical trends in persistent organic pollutants and metals recorded in sediment from Lake Ellasjoen, Bjornoya, Norwegian Arctic. *Environ Pollut.* 146: 196-205. <http://dx.doi.org/10.1016/j.envpol.2006.04.038>.
- Fång, J; Nyberg, E; Winnberg, U; Bignert, A; Bergman, Å. (2015). Spatial and temporal trends of the Stockholm Convention POPs in mothers' milk - a global review. *Environ Sci Pollut Res Int.* 22: 8989-9041. <http://dx.doi.org/10.1007/s11356-015-4080-z>.
- Fangstrom, B; Athanasiadis, M; Athanasiadis, I; Bignert, A; Grandjean, P; Weihe, P; Bergman, A. (2005). Polybrominated diphenyl ethers and traditional organochlorine pollutants in fulmars (*Fulmarus glacialis*) from the Faroe Islands. *Chemosphere.* 60: 836-843. <http://dx.doi.org/10.1016/j.chemosphere.2005.01.065>.
- Feng, AH; Chen, SJ; Chen, MY; He, MJ; Luo, XJ; Mai, BX. (2012). Hexabromocyclododecane (HBCD) and tetrabromobisphenol A (TBBPA) in riverine and estuarine sediments of the Pearl River Delta in southern China, with emphasis on spatial variability in diastereoisomer- and enantiomer-specific distribution of HBCD. *Mar Pollut Bull.* 64: 919-925. <http://dx.doi.org/10.1016/j.marpolbul.2012.03.008>.
- Feng, J; Shi, Z; Wu, Y; Li, J; Zhao, Y. (2009). DIETARY EXPOSURE ASSESSMENT OF CHINESE ADULTS AND NURSING INFANTS TO TETRABROMOBISPHENOL-A AND HEXABROMOCYCLODODECANES: OCCURRENCE MEASUREMENTS IN FOODS AND HUMAN MILK. *Ann Nutr Metab.* 55: 523-523.
- Feng, J; Wang, Y; Ruan, T; Qu, G; Jiang, G. (2010). Simultaneous determination of hexabromocyclododecanes and tris (2,3-dibromopropyl) isocyanurate using LC-APCI-MS/MS. *Talanta.* 82: 1929-1934. <http://dx.doi.org/10.1016/j.talanta.2010.08.014>.
- Feng, M; Li, Y; Qu, R; Wang, L; Wang, Z. (2013). Oxidative stress biomarkers in freshwater fish *Carassius auratus* exposed to decabromodiphenyl ether and ethane, or their mixture. *Ecotoxicology.* 22: 1101-1110. <http://dx.doi.org/10.1007/s10646-013-1097-2>.
- Feng, M; Qu, R; Li, Y; Wei, Z; Wang, Z. (2014). Biochemical Biomarkers in Liver and Gill Tissues of Freshwater Fish *Carassius auratus* Following In Vivo Exposure to Hexabromobenzene. *Environ Toxicol.* 29: 1460-1470. <http://dx.doi.org/10.1002/tox.21876>.
- Feng, M; Qu, R; Wang, C; Wang, L; Wang, Z. (2013). Comparative antioxidant status in freshwater fish *Carassius auratus* exposed to six current-use brominated flame retardants: A combined experimental and theoretical study. *Aquat Toxicol.* 140-141: 314-323. <http://dx.doi.org/10.1016/j.aquatox.2013.07.001>.
- Fernandes, A; Dicks, P; Mortimer, D; Gem, M; Smith, F; Driffield, M; White, S; Rose, M. (2008). Brominated and chlorinated dioxins, PCBs and brominated flame retardants in Scottish shellfish: methodology, occurrence and human dietary exposure. *Mol Nutr Food Res.* 52: 238-249. <http://dx.doi.org/10.1002/mnfr.200700135>.
- Fernandes, AR; Mortimer, D; Rose, M; Smith, F; Panton, S; Garcia-Lopez, M. (2016). Bromine content and brominated flame retardants in food and animal feed from the UK. *Chemosphere.* 150: 472-478. <http://dx.doi.org/10.1016/j.chemosphere.2015.12.042>.
- Fernandez Canton, R; Sanderson, T; Nijmeijer, S; Bergman, A; Van Den Berg, M. (2005). In vitro effects of brominated flame retardants on the adrenocortical enzyme CYP17. A novel endocrine mechanism of action? [Abstract]. *Toxicologist.* 84: 356.
- Fernie, KJ; Letcher, RJ. (2010). Historical contaminants, flame retardants, and halogenated phenolic compounds in peregrine Falcon (*Falco peregrinus*) nestlings in the Canadian Great Lakes Basin. *Environ Sci Technol.* 44: 3520-3526. <http://dx.doi.org/10.1021/es100400n>.
- Fernie, KJ; Martinson, SC; Bird, DM; Ritchie, IJ; Letcher, RJ. (2011). Reproductive changes in American kestrels (*Falco sparverius*) in relation to exposure to technical hexabromocyclododecane flame retardant. *Environ Toxicol Chem.* 30: 2570-2575. <http://dx.doi.org/10.1002/etc.652>.
- Fernie, KJ; Shutt, JL; Letcher, RJ; Ritchie, IJ; Bird, DM. (2009). Environmentally relevant concentrations of DE-71 and HBCD alter eggshell thickness and reproductive success of American kestrels. *Environ Sci Technol.* 43: 2124-2130. <http://dx.doi.org/10.1021/es8027346>.
- Finken, MJ; van Eijdsden, M; Loomans, EM; Vrijkotte, TG; Rotteveel, J. (2013). Maternal hypothyroxinemia in early pregnancy predicts reduced performance in reaction time tests in 5- to 6-year-old offspring. *J Clin Endocrinol Metab.* 98: 1417-1426. <http://dx.doi.org/10.1210/jc.2012-3389>.
- Fisher, DA; Nelson, JC. (2012). Application of TSH and free thyroxine measurements to thyroid diagnosis: Laboratory support of diagnosis and management. Fisher, DA; Nelson, JC. http://www.questdiagnostics.com/testcenter/testguide.action?dc=WP_AppTSH.
- Fliedner, A; Lohmann, N; Rüdell, H; Teubner, D; Wellnitz, J; Koschorreck, J. (2016). Current levels and trends of selected EU Water Framework Directive priority substances in freshwater fish from the German environmental specimen bank. *Environ Pollut.* 216: 866-876. <http://dx.doi.org/10.1016/j.envpol.2016.06.060>.

Human Health Hazard Literature Search Results

Off Topic

- Foekema, EM; Lopez Parron, M; Mergia, MT; Carolus, ER; Vd Berg, JH; Kwadijk, C; Dao, Q; Murk, AJ. (2014). Internal effect concentrations of organic substances for early life development of egg-exposed fish. *Ecotoxicol Environ Saf.* 101: 14-22. <http://dx.doi.org/10.1016/j.ecoenv.2013.12.006>.
- Forhead, AJ; Fowden, AL. (2014). Thyroid hormones in fetal growth and prepartum maturation [Review]. *J Endocrinol.* 221: R87-R103. <http://dx.doi.org/10.1530/JOE-14-0025>.
- Fournier, A; Feidt, C; Marchand, P; Vénisseau, A; Le Bizec, B; Sellier, N; Engel, E; Ratel, J; Travel, A; Jondreville, C. (2012). Kinetic study of γ -hexabromocyclododecane orally given to laying hens (*Gallus domesticus*). "Transfer of HBCD in laying hens". *Environ Sci Pollut Res Int.* 19: 440-447. <http://dx.doi.org/10.1007/s11356-011-0573-6>.
- François, A; Técher, R; Houde, M; Spear, P; Verreault, J. (2016). Relationships between polybrominated diphenyl ethers and transcription and activity of type 1 deiodinase in a gull highly exposed to flame retardants. *Environ Toxicol Chem.* 35: 2215-2222. <http://dx.doi.org/10.1002/etc.3372>.
- Frith, SD; Eales, JG. (1996). Thyroid hormone deiodination pathways in brain and liver of rainbow trout, *Oncorhynchus mykiss*. *Gen Comp Endocrinol.* 101: 323-332. <http://dx.doi.org/10.1006/gcen.1996.0035>.
- Fromme, H; Hilger, B; Albrecht, M; Gries, W; Leng, G; Völkel, W. (2016). Occurrence of chlorinated and brominated dioxins/furans, PCBs, and brominated flame retardants in blood of German adults. *Int J Hyg Environ Health.* 219: 380-388. <http://dx.doi.org/10.1016/j.ijheh.2016.03.003>.
- Fromme, H; Hilger, B; Kopp, E; Misserok, M; Völkel, W. (2014). Polybrominated diphenyl ethers (PBDEs), hexabromocyclododecane (HBCD) and "novel" brominated flame retardants in house dust in Germany. *Environ Int.* 64: 61-68. <http://dx.doi.org/10.1016/j.envint.2013.11.017>.
- Fu, J; Suuberg, EM. (2012). Vapor pressure of three brominated flame retardants determined by using the Knudsen effusion method. *Environ Toxicol Chem.* 31: 574-578. <http://dx.doi.org/10.1002/etc.1736>.
- Fujimoto, H; Woo, G, yeH; Inoue, K; Igarashi, K; Kanno, J, un; Hirose, M; Nishikawa, A; Shibutani, M. (2012). Increased cellular distribution of vimentin and Ret in the cingulum induced by developmental hypothyroidism in rat offspring maternally exposed to anti-thyroid agents. *Reprod Toxicol.* 34: 93-100. <http://dx.doi.org/10.1016/j.reprotox.2012.03.005>.
- Fujimoto, H; Woo, G, yeH; Inoue, K; Igarashi, K; Kanno, J, un; Hirose, M; Nishikawa, A; Shibutani, M. (2012). Increased cellular distribution of vimentin and Ret in the cingulum induced by developmental hypothyroidism in rat offspring maternally exposed to anti-thyroid agents : Supplemental materials [Review]. *Reprod Toxicol.* 34: 93-100.
- Furlow, JD; Yang, HY; Hsu, M; Lim, W; Ermio, DJ; Chiellini, G; Scanlan, TS. (2004). Induction of larval tissue resorption in *Xenopus laevis* tadpoles by the thyroid hormone receptor agonist GC-1. *J Biol Chem.* 279: 26555-26562. <http://dx.doi.org/10.1074/jbc.M402847200>.
- Furuyashiki, T; Tanimoto, H; Yokoyama, Y; Kitaura, Y; Kuriki, T; Shimomura, Y. (2014). Effects of ingesting highly branched cyclic dextrin during endurance exercise on rating of perceived exertion and blood components associated with energy metabolism. *Biosci Biotechnol Biochem.* 78: 2117-2119. <http://dx.doi.org/10.1080/09168451.2014.943654>.
- Galantino-Homer, HL; Zeng, WX; Megee, SO; Dallmeyer, M; Voelkl, D; Dobrinski, I. (2006). Effects of 2-hydroxypropyl-beta-cyclodextrin and cholesterol on porcine sperm viability and capacitation status following cold shock or incubation. *Mol Reprod Dev.* 73: 638-650. <http://dx.doi.org/10.1002/mrd.20437>.
- Galbraith, WM; Voytek, P; Ryon, MS. (1983). *Advances in Modern Environmental Toxicology Assessment of risks to human reproduction and development of the human conceptus from exposure to environmental substances.* Princeton, NJ: Princeton Scientific Publishing.
- Galindo-Iranzo, P; Quintanilla-López, JE; Lebrón-Aguilar, R; Gómara, B. (2009). Improving the sensitivity of liquid chromatography-tandem mass spectrometry analysis of hexabromocyclododecanes by chlorine adduct generation. *J Chromatogr A.* 1216: 3919-3926. <http://dx.doi.org/10.1016/j.chroma.2009.02.086>.
- Gallen, C; Drage, D; Kaserzon, S; Baduel, C; Gallen, M; Banks, A; Broomhall, S; Mueller, JF. (2016). Occurrence and distribution of brominated flame retardants and perfluoroalkyl substances in Australian landfill leachate and biosolids. *J Hazard Mater.* 312: 55-64. <http://dx.doi.org/10.1016/j.jhazmat.2016.03.031>.
- Gao, S; Wang, J; Yu, Z; Guo, Q; Sheng, G; Fu, J. (2011). Hexabromocyclododecanes in surface soils from E-waste recycling areas and industrial areas in South China: concentrations, diastereoisomer- and enantiomer-specific profiles, and inventory. *Environ Sci Technol.* 45: 2093-2099. <http://dx.doi.org/10.1021/es1033712>.
- García-Alcega, S; Rauert, C; Harray, S; Collins, CD. (2016). Does the source migration pathway of HBCDs to household dust influence their bio-accessibility? *Sci Total Environ.* 569-570: 244-251. <http://dx.doi.org/10.1016/j.scitotenv.2016.04.178>.
- García-Valcárcel, AI; Tadeo, JL. (2009). Determination of hexabromocyclododecane isomers in sewage sludge by LC-MS/MS. *J Sep Sci.* 32: 3890-3897. <http://dx.doi.org/10.1002/jssc.200900424>.
- Gard, MN; Reiter, RC; Stevenson, CD. (2004). Anion radicals of di-trans-[12]annulene and heptalene in a one-pot synthesis from a common fire retardant. *Org Lett.* 6: 393-396. <http://dx.doi.org/10.1021/ol0362921>.
- Gauthier, LT; Hebert, CE; Weseloh, DV; Letcher, RJ. (2007). Current-use flame retardants in the eggs of herring gulls (*Larus argentatus*) from the Laurentian Great Lakes. *Environ Sci Technol.* 41: 4561-4567. <http://dx.doi.org/10.1021/es0630487>.
- Gauthier, LT; Hebert, CE; Weseloh, DVC; Letcher, RJ. (2008). Dramatic changes in the temporal trends of polybrominated diphenyl ethers (PBDEs) in herring gull eggs from the Laurentian Great Lakes: 1982-2006. *Environ Sci Technol.* 42: 1524-1530. <http://dx.doi.org/10.1021/es702382k>.
- Gebbink, WA; Sonne, C; Dietz, R; Kirkegaard, M; Born, EW; Muir, DC; Letcher, RJ. (2008). Target tissue selectivity and burdens of diverse classes of brominated and chlorinated contaminants in polar bears (*Ursus maritimus*) from East Greenland. *Environ Sci Technol.* 42: 752-759. <http://dx.doi.org/10.1021/es071941f>.

Human Health Hazard Literature Search Results

Off Topic

- Gereben, B; Zeöld, A; Dentice, M; Salvatore, D; Bianco, AC. (2008). Activation and inactivation of thyroid hormone by deiodinases: local action with general consequences [Review]. *Cell Mol Life Sci.* 65: 570-590. <http://dx.doi.org/10.1007/s00018-007-7396-0>.
- Gerecke, AC; Giger, W; Hartmann, PC; Heeb, NV; Kohler, HP; Schmid, P; Zennegg, M; Kohler, M. (2006). Anaerobic degradation of brominated flame retardants in sewage sludge. *Chemosphere.* 64: 311-317. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.016>.
- Gerecke, AC; Schmid, P; Bogdal, C; Kohler, M; Zennegg, M; Heeb, NV. (2008). Brominated flame retardants - Endocrine-disrupting chemicals in the Swiss environment. *Chimia.* 62: 352-357. <http://dx.doi.org/10.2533/chimia.2008.352>.
- Germer, S; van der Ven, L; Piersma, AH; Schrenk, D. (2005). Effect of hexabromocyclododecane (HBCDD), a flame retardant, on expression of cytochrome P450 enzymes in rat liver [Abstract]. *Naunyn Schmiedebergs Arch Pharmacol.* 371: R109-R109.
- Ghanem, R; Delmani, FA. (2012). Kinetics of thermal and photolytic degradation of decabromodiphenyl ether (BDE 209) in backcoated textile samples. *J Anal Appl Pyrol.* 98: 79-85. <http://dx.doi.org/10.1016/j.jaap.2012.09.001>.
- Gilbert, ME. (2011). Impact of low-level thyroid hormone disruption induced by propylthiouracil on brain development and function. *Toxicol Sci.* 124: 432-445. <http://dx.doi.org/10.1093/toxsci/kfr244>.
- Gilbert, ME; Hedge, JM; Valentin-Blasini, L; Blount, BC; Kannan, K; Tietge, J; Zoeller, RT; Crofton, KM; Jarrett, JM; Fisher, JW. (2013). An animal model of marginal iodine deficiency during development: The thyroid axis and neurodevelopmental outcome. *Toxicol Sci.* 132: 177-195. <http://dx.doi.org/10.1093/toxsci/kfs335>.
- Gilbert, ME; Ramos, RL; Mccloskey, DP; Goodman, JH. (2014). Subcortical band heterotopia in rat offspring following maternal hypothyroxinaemia: structural and functional characteristics. *J Neuroendocrinol.* 26: 528-541. <http://dx.doi.org/10.1111/jne.12169>.
- Gilbert, ME; Ramos, RL; Mccloskey, DP; Goodman, JH. (2014). Subcortical band heterotopia in rat offspring following maternal hypothyroxinaemia: structural and functional characteristics : Supplemental material [Supplemental Data]. *J Neuroendocrinol.* 26: 528-541.
- Gilbert, ME; Rovet, J; Chen, Z; Koibuchi, N. (2012). Developmental thyroid hormone disruption: prevalence, environmental contaminants and neurodevelopmental consequences. *Neurotoxicology.* 33: 842-852. <http://dx.doi.org/10.1016/j.neuro.2011.11.005>.
- Gilbert, ME; Sanchez-Huerta, K; Wood, C. (2016). Mild thyroid hormone insufficiency during development compromises activity-dependent neuroplasticity in the hippocampus of adult male rats. *Endocrinology.* 157: 774-787. <http://dx.doi.org/10.1210/en.2015-1643>.
- Gilbert, ME; Sanchez-Huerta, K; Wood, C. (2016). Mild thyroid hormone insufficiency during development compromises activity-dependent neuroplasticity in the hippocampus of adult male rats : Supplemental data [Supplemental Data]. *Endocrinology.* 157: 774-787.
- Gilbert, ME; Zoeller, RT. (2010). Chapter 4. Thyroid hormones—Impact on the developing brain. In GJ Harry; HA Tilson (Eds.), *Target organ toxicology series (3rd ed., pp. 79-111)*. New York, NY: CRC Press.
- Gilchrist, TT; Letcher, RJ; Thomas, P; Fernie, KJ. (2014). Polybrominated diphenyl ethers and multiple stressors influence the reproduction of free-ranging tree swallows (*Tachycineta bicolor*) nesting at wastewater treatment plants. *Sci Total Environ.* 472: 63-71. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.090>.
- GLCC. (1990). INTERNAL MEMO FROM MICHIGAN CHEMICAL CORPORATION REGARDING HBCD BIODEGRADATION STUDY WITH TEST DATA AND COVER LETTER. (TSCATS/407264). Great Lakes Chemical Corporation,.
- GLCC. (1994). INITIAL SUBMISSION: LETTER FROM GREAT LAKES CHEM CORP TO DYNAMAC CORP/USEPA SUBMITTING INFO RE HEXABROMOCYCLODODECANE AND BIS(TRIBROMOPHENOXY) ETHANE W/ATTCHMTS, DATED 2/13/89. (TSCATS/443687).
- Glynn, A; Lignell, S; Darnerud, PO; Aune, M; Halldin Ankarberg, E; Bergdahl, IA; Barregård, L; Bensryd, I. (2011). Regional differences in levels of chlorinated and brominated pollutants in mother's milk from primiparous women in Sweden. *Environ Int.* 37: 71-79. <http://dx.doi.org/10.1016/j.envint.2010.07.003>.
- Gnatta, E; Zaninotto, M; Epifani, MG; Padoan, A; Gjini, R; Plebani, M. (2014). A new sampling device for faecal immunochemical testing: haemoglobin stability is still an open issue. *Clin Chem Lab Med.* 52: 1203-1209. <http://dx.doi.org/10.1515/cclm-2013-1074>.
- Gómara, B; Lebrón-Aguilar, R; Quintanilla-López, JE; González, MJ. (2007). Development of a new method for the enantiomer specific determination of HBCD using an ion trap mass spectrometer. *Anal Chim Acta.* 605: 53-60. <http://dx.doi.org/10.1016/j.aca.2007.10.019>.
- Gong, W; Zhu, L; Hao, Y. (2016). Lethal and Sublethal Toxicity Comparison of BFRs to Three Marine Planktonic Copepods: Effects on Survival, Metabolism and Ingestion. *PLoS ONE.* 11: e0147790. <http://dx.doi.org/10.1371/journal.pone.0147790>.
- Gorga, M; Martínez, E; Ginebreda, A; Eljarrat, E; Barceló, D. (2013). Determination of PBDEs, HBB, PBEB, DBDPE, HBCD, TBBPA and related compounds in sewage sludge from Catalonia (Spain). *Sci Total Environ.* 444: 51-59. <http://dx.doi.org/10.1016/j.scitotenv.2012.11.066>.
- Gosciny, S; Vandevijvere, S; Maleki, M; Van Overmeire, I; Windal, I; Hanot, V; Blaude, MN; Vleminckx, C; Van Loco, J. (2011). Dietary intake of hexabromocyclododecane diastereoisomers (α -, β -, and γ -HBCD) in the Belgian adult population. *Chemosphere.* 84: 279-288. <http://dx.doi.org/10.1016/j.chemosphere.2011.04.048>.
- GREAT LAKES CHEM CORP. (1990). THE ACUTE TOXICITY OF HBCD LOT 990-17 TO THE BLUEGILL SUNFISH LEPOMIS MACROCHIRUS RAFINESQUE WITH TEST DATA AND COVER LETTER. (TSCATS/407260). UNION CARBIDE CORP.
- Great Lakes Chemical Corporation. (2007). CD-75P™ Halogenated flame retardant. Technical information. Middlebury, CT. <http://greatlakes.com/deployedfiles/ChemturaV8/GreatLakes/Flame%20Retardants/FR%20Products/CD-75P%20TDS.pdf>.
- Gregoraszczyk, EL; Milczarek, K; Wojtowicz, AK; Berg, V; Skaare, JU; Ropstad, E. (2008). Steroid secretion following exposure of ovarian follicular cells to three different natural mixtures of persistent organic pollutants (POPs). *Reprod Toxicol.* 25: 58-66. <http://dx.doi.org/10.1016/j.reprotox.2007.10.00>.
- Gronstal, A; Pearson, V; Kappler, A; Dooris, C; Anand, M; Poitrasson, F; Kee, TP; Cockell, CS. (2009). Laboratory experiments on the weathering of iron meteorites and carbonaceous chondrites by iron-oxidizing bacteria. *Meteoritics and Planetary Science.* 44: 233-247.
- Guerra, P; Alae, M; Jiménez, B; Papepavicius, G; Marvin, C; Macinnis, G; Eljarrat, E; Barceló, D; Champoux, L; Fernie, K. (2012). Emerging and historical brominated flame retardants in peregrine falcon (*Falco peregrinus*) eggs from Canada and Spain. *Environ Int.* 40: 179-186. <http://dx.doi.org/10.1016/j.envint.2011.07.014>.

Human Health Hazard Literature Search Results

Off Topic

- Guerra, P; de la Torre, A; Martínez, MA; Eljarrat, E; Barceló, D. (2008). Identification and trace level determination of brominated flame retardants by liquid chromatography/quadrupole linear ion trap mass spectrometry. *Rapid Commun Mass Spectrom.* 22: 916-924. <http://dx.doi.org/10.1002/rcm.3443>.
- Guerra, P; Eljarrat, E; Barceló, D. (2008). Enantiomeric specific determination of hexabromocyclododecane by liquid chromatography-quadrupole linear ion trap mass spectrometry in sediment samples. *J Chromatogr A.* 1203: 81-87. <http://dx.doi.org/10.1016/j.chroma.2008.07.027>.
- Guerra, P; Eljarrat, E; Barceló, D. (2010). Simultaneous determination of hexabromocyclododecane, tetrabromobisphenol A, and related compounds in sewage sludge and sediment samples from Ebro River basin (Spain). *Anal Bioanal Chem.* 397: 2817-2824. <http://dx.doi.org/10.1007/s00216-010-3670-3>.
- Gyalpo, T; Toms, LM; Mueller, JF; Harden, FA; Scheringer, M; Hungerbühler, K. (2015). Insights into PBDE Uptake, Body Burden, and Elimination Gained from Australian Age-Concentration Trends Observed Shortly after Peak Exposure. *Environ Health Perspect.* 123: 978-984. <http://dx.doi.org/10.1289/ehp.1408960>.
- Haddow, JE; Palomaki, GE; Allan, WC; Williams, J. R.; Knight, GJ; Gagnon, J; O'Heir, CE; Mitchell, ML; Hermos, RJ; Waisbren, SE; Faix, JD; Klein, RZ. (1999). Maternal thyroid deficiency during pregnancy and subsequent neuropsychological development of the child. *N Engl J Med.* 341: 549-555. <http://dx.doi.org/10.1056/NEJM199908193410801>.
- Hajslova, J; Pulkralova, J; Poustka, J, an; Cajka, T; Randak, T. (2007). Brominated flame retardants and related chlorinated persistent organic pollutants in fish from river Elbe and its main tributary Vltava. *Chemosphere.* 69: 1195-1203. <http://dx.doi.org/10.1016/j.chemosphere.2007.06.030>.
- Hakk, H. (2010). Different HBCD stereoisomers are metabolized differently. *Toxicol Lett.* 196: S33-S34. <http://dx.doi.org/10.1016/j.toxlet.2010.03.151>.
- Hale, RC; La Guardia, MJ; Harvey, E; Gaylor, MO; Mainor, TM. (2006). Brominated flame retardant concentrations and trends in abiotic media. *Chemosphere.* 64: 181-186. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.006>.
- Hall, AP; Elcombe, CR; Foster, JR; Harada, T; Kaufmann, W; Knippel, A; Küttler, K; Malarkey, DE; Maronpot, RR; Nishikawa, A; Nolte, T; Schulte, A; Strauss, V; York, MJ. (2012). Liver hypertrophy: a review of adaptive (adverse and non-adverse) changes--conclusions from the 3rd International ESTP Expert Workshop [Review]. *Toxicol Pathol.* 40: 971-994. <http://dx.doi.org/10.1177/0192623312448935>.
- Hallgren, S; Darnerud, PO. (2002). Polybrominated diphenyl ethers (PBDEs), polychlorinated biphenyls (PCBs) and chlorinated paraffins (CPs) in rats-testing interactions and mechanisms for thyroid hormone effects. *Toxicology.* 177: 227-243. [http://dx.doi.org/10.1016/S0300-483X\(02\)00222-6](http://dx.doi.org/10.1016/S0300-483X(02)00222-6).
- Han, C; Chen, X; Xie, W; Zhu, Z; Liu, C; Chen, F; Shen, Y. (2010). Determination of hexabromocyclododecane diastereoisomers in *Sargassum fusiforme* and comparison of the extraction efficiency of ultrasonication, microwave-assisted extraction, Soxhlet extraction and pressurised liquid extraction. *J Sep Sci.* 33: 3319-3325. <http://dx.doi.org/10.1002/jssc.201000558>.
- Han, Q; Song, H; Gao, S; Zeng, X; Yu, Z; Yu, Y; Sheng, G; Fu, J. (2014). Determination of ten hexabromocyclododecane diastereoisomers using two coupled reversed-phase columns and liquid chromatography/tandem mass spectrometry. *Rapid Commun Mass Spectrom.* 28: 1473-1478. <http://dx.doi.org/10.1002/rcm.6922>.
- Hardy, ML. (1999). Regulatory status and environmental properties of brominated flame retardants undergoing risk assessment in the EU: DBDPO, OBDPO, PeBDPO and HBCD. *Polym Degrad Stabil.* 64: 545-556.
- Hardy, ML. (2004). A comparison of the fish bioconcentration factors for brominated flame retardants with their nonbrominated analogues. *Environ Toxicol Chem.* 23: 656-661.
- Hardy, ML; ASSOC, FRC. (1997). Status of regulatory activities on brominated flame retardants in Europe and the United States. 237-244.
- Harrad, S; Abdallah, MA. (2008). Calibration of two passive air sampler configurations for monitoring concentrations of hexabromocyclododecanes in indoor air. *J Environ Monit.* 10: 527-531. <http://dx.doi.org/10.1039/b719638e>.
- Harrad, S; Abdallah, MA. (2011). Brominated flame retardants in dust from UK cars--within-vehicle spatial variability, evidence for degradation and exposure implications. *Chemosphere.* 82: 1240-1245. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.038>.
- Harrad, S; Abdallah, MA. (2015). Concentrations of polybrominated diphenyl ethers, hexabromocyclododecanes and tetrabromobisphenol-A in breast milk from United Kingdom women do not decrease over twelve months of lactation. *Environ Sci Technol.* 49: 13899-13903. <http://dx.doi.org/10.1021/acs.est.5b00539>.
- Harrad, S; Abdallah, MA; Covaci, A. (2009). Causes of variability in concentrations and diastereomer patterns of hexabromocyclododecanes in indoor dust. *Environ Int.* 35: 573-579. <http://dx.doi.org/10.1016/j.envint.2008.10.005>.
- Harrad, S; Abdallah, MA; Rose, NL; Turner, SD; Davidson, TA. (2009). Current-use brominated flame retardants in water, sediment, and fish from English lakes. *Environ Sci Technol.* 43: 9077-9083. <http://dx.doi.org/10.1021/es902185u>.
- Harrad, S; de Wit, CA; Abdallah, MA; Bergh, C; Björklund, JA; Covaci, A; Darnerud, PO; de Boer, J; Diamond, M; Huber, S; Leonards, P; Mandalakis, M; Ostman, C; Haug, LS; Thomsen, C; Webster, TF. (2010). Indoor contamination with hexabromocyclododecanes, polybrominated diphenyl ethers, and perfluoroalkyl compounds: an important exposure pathway for people [Review]. *Environ Sci Technol.* 44: 3221-3231. <http://dx.doi.org/10.1021/es903476t>.
- Harrad, S; Goosey, E; Desborough, J; Abdallah, MA; Roosens, L; Covaci, A. (2010). Dust from U.K. primary school classrooms and daycare centers: the significance of dust as a pathway of exposure of young U.K. children to brominated flame retardants and polychlorinated biphenyls. *Environ Sci Technol.* 44: 4198-4202. <http://dx.doi.org/10.1021/es100750s>.
- Harrad, S; Ibarra, C; Abdallah, MAE; Boon, R; Neels, H; Covaci, A. (2008). Concentrations of brominated flame retardants in dust from United Kingdom cars, homes, and offices: causes of variability and implications for human exposure. *Environ Int.* 34: 1170-1175. <http://dx.doi.org/10.1016/j.envint.2008.05.001>.
- Harry, GJ; Tilson, HA. (2010). Neurotoxicology. In *Target organ toxicology series (3rd ed.)*. New York, NY: CRC Press.

Human Health Hazard Literature Search Results

Off Topic

- Haskell Laboratories. (1990). LETTER FROM E I DUPONT DE NEMOURS and CO TO USEPA CONCERNING ENCLOSED STUDIES ON DECABROMODIPHENYL ETHER, HEXABROMOCYCLODODECANE AND 4-VINYLCYCLOHEXANE WITH ATTACHMENTS (SANITIZED). (TSCATS/405773).
- Hassan, Y; Shoeib, T. (2014). Levels of polybrominated diphenyl ethers and novel flame retardants in microenvironment dust from Egypt: An assessment of human exposure. *Sci Total Environ.* 505C: 47-55. <http://dx.doi.org/10.1016/j.scitotenv.2014.09.080>.
- Hattis, D; Goble, R; Russ, A; Chu, M; Ericson, J. (2004). Age-related differences in susceptibility to carcinogenesis: A quantitative analysis of empirical animal bioassay data. *Environ Health Perspect.* 112: 1152-1158. <http://dx.doi.org/10.1289/ehp.6871>.
- Haug, LS; Thomsen, C; Liane, VH; Becher, G. (2008). Comparison of GC and LC determinations of hexabromocyclododecane in biological samples - results from two interlaboratory comparison studies. *Chemosphere.* 71: 1087-1092. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.044>.
- Haukås, M; Hylland, K; Berge, JA; Nygård, T; Mariussen, E. (2009). Spatial diastereomer patterns of hexabromocyclododecane (HBCD) in a Norwegian fjord. *Sci Total Environ.* 407: 5907-5913. <http://dx.doi.org/10.1016/j.scitotenv.2009.08.024>.
- Haukås, M; Hylland, K; Nygård, T; Berge, JA; Mariussen, E. (2010). Diastereomer-specific bioaccumulation of hexabromocyclododecane (HBCD) in a coastal food web, Western Norway. *Sci Total Environ.* 408: 5910-5916. <http://dx.doi.org/10.1016/j.scitotenv.2010.08.026>.
- Haukås, M; Mariussen, E; Ruus, A; Tollefsen, KE. (2009). Accumulation and disposition of hexabromocyclododecane (HBCD) in juvenile rainbow trout (*Oncorhynchus mykiss*). *Aquat Toxicol.* 95: 144-151. <http://dx.doi.org/10.1016/j.aquatox.2009.08.010>.
- Haukås, M; Ruus, A; Hylland, K; Berge, JA; Mariussen, E. (2010). Bioavailability of hexabromocyclododecane to the polychaete *Hediste diversicolor*: exposure through sediment and food from a contaminated fjord. *Environ Toxicol Chem.* 29: 1709-1715. <http://dx.doi.org/10.1002/etc.201>.
- Haynes, WM. (2014). CRC handbook of chemistry and physics. In WM Haynes (Ed.), (95 ed.). Boca Raton, FL: CRC Press. <http://www.hbcpnetbase.com/>.
- Hayward, SJ; Lei, YD; Wania, F. (2006). Comparative evaluation of three high-performance liquid chromatography-based Kow estimation methods for highly hydrophobic organic compounds: polybrominated diphenyl ethers and hexabromocyclododecane. *Environ Toxicol Chem.* 25: 2018-2027.
- He, MJ; Luo, XJ; Yu, LH; Liu, J; Zhang, XL; Chen, SJ; Chen, D; Mai, BX. (2010). Tetrabromobisphenol-A and hexabromocyclododecane in birds from an e-waste region in South China: influence of diet on diastereoisomer- and enantiomer-specific distribution and trophodynamics. *Environ Sci Technol.* 44: 5748-5754. <http://dx.doi.org/10.1021/es101503r>.
- He, MJ; Luo, XJ; Yu, LH; Wu, JP; Chen, SJ; Mai, BX. (2013). Diastereoisomer and enantiomer-specific profiles of hexabromocyclododecane and tetrabromobisphenol A in an aquatic environment in a highly industrialized area, South China: vertical profile, phase partition, and bioaccumulation. *Environ Pollut.* 179: 105-110. <http://dx.doi.org/10.1016/j.envpol.2013.04.016>.
- He, Q, un; Wang, X; Sun, P; Wang, Z; Wang, L. (2015). Acute and chronic toxicity of tetrabromobisphenol A to three aquatic species under different pH conditions. *Aquat Toxicol.* 164: 145-154. <http://dx.doi.org/10.1016/j.aquatox.2015.05.005>.
- Heeb, NV; Graf, H; Bernd Schweizer, W; Lienemann, P. (2010). Isobutoxy-pentabromocyclododecanes (iPBBCDs): a new class of polybrominated compounds. *Chemosphere.* 78: 950-957. <http://dx.doi.org/10.1016/j.chemosphere.2009.12.045>.
- Heeb, NV; Graf, H; Schweizer, WB; Heeb, M; Lienemann, P. (2011). Crystal structure of δ -isobutoxy-pentabromo-cyclododecanes, kinetics and selectivity of their isomerization during thermal treatment of flame-protected polystyrenes. *Chemosphere.* 83: 1568-1574. <http://dx.doi.org/10.1016/j.chemosphere.2011.01.022>.
- Heeb, NV; Graf, H; Schweizer, WB; Lienemann, P. (2010). Thermally-induced transformation of hexabromocyclo dodecanes and isobutoxy-penta bromocyclododecanes in flame-protected polystyrene materials. *Chemosphere.* 80: 701-708. <http://dx.doi.org/10.1016/j.chemosphere.2010.05.034>.
- Heeb, NV; Schweizer, WB; Kohler, M; Gerecke, AC. (2005). Structure elucidation of hexabromocyclododecanes--a class of compounds with a complex stereochemistry. *Chemosphere.* 61: 65-73. <http://dx.doi.org/10.1016/j.chemosphere.2005.03.015>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Gerecke, AC; Kohler, M; Schmid, P; Zennegg, M; Wolfensberger, M. (2007). Solid-state conformations and absolute configurations of (+) and (-) alpha-, beta-, and gamma-hexabromocyclododecanes (HBCDs). *Chemosphere.* 68: 940-950. <http://dx.doi.org/10.1016/j.chemosphere.2007.01.032>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Gerecke, AC; Schmid, P; Zennegg, M; Vonmont, H. (2008). Regio- and stereoselective isomerization of hexabromocyclododecanes (HBCDs): kinetics and mechanism of gamma- to alpha-HBCD isomerization. *Chemosphere.* 73: 1201-1210. <http://dx.doi.org/10.1016/j.chemosphere.2008.07.045>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Kohler, M. (2007). Crystal structure analysis of enantiomerically pure (+) and (-) beta-hexabromocyclododecanes. *Chemosphere.* 66: 1590-1594. <http://dx.doi.org/10.1016/j.chemosphere.2006.09.051>.
- Heeb, NV; Schweizer, WB; Mattrel, P; Haag, R; Kohler, M; Schmid, P; Zennegg, M; Wolfensberger, M. (2008). Regio- and stereoselective isomerization of hexabromocyclododecanes (HBCDs): kinetics and mechanism of beta-HBCD racemization. *Chemosphere.* 71: 1547-1556. <http://dx.doi.org/10.1016/j.chemosphere.2007.11.044>.
- Heeb, NV; Wyss, SA; Geueke, B; Fleischmann, T; Kohler, HP; Bernd Schweizer, W; Moor, H; Lienemann, P. (2015). Stereochemistry of enzymatic transformations of (+) β - and (-) β -HBCD with LinA2--a HCH-degrading bacterial enzyme of *Sphingobium indicum* B90A. *Chemosphere.* 122: 70-78. <http://dx.doi.org/10.1016/j.chemosphere.2014.11.008>.
- Heeb, NV; Wyss, SA; Geueke, B; Fleischmann, T; Kohler, HP; Lienemann, P. (2014). LinA2, a HCH-converting bacterial enzyme that dehydrohalogenates HBCDs. *Chemosphere.* 107: 194-202. <http://dx.doi.org/10.1016/j.chemosphere.2013.12.035>.
- Heeb, NV; Zindel, D; Bernd Schweizer, W; Lienemann, P. (2012). 2,5,6,9,10-Pentabromocyclododecanols (PBBCDOHs): A new class of HBCD transformation products. *Chemosphere.* 88: 655-662. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.052>.
- Heeb, NV; Zindel, D; Geueke, B; Kohler, HP; Lienemann, P. (2012). Biotransformation of Hexabromocyclododecanes (HBCDs) with LinB--an HCH-converting bacterial enzyme. *Environ Sci Technol.* 46: 6566-6574. <http://dx.doi.org/10.1021/es2046487>.

Human Health Hazard Literature Search Results

Off Topic

- Heeb, NV; Zindel, D; Graf, H; Azara, V; Schweizer, WB; Geueke, B; Kohler, HP; Lienemann, P. (2013). Stereochemistry of LinB-catalyzed biotransformation of δ -HBCD to 1R,2R,5S,6R,9R,10S-pentabromocyclododecanol. *Chemosphere*. 90: 1911-1919. <http://dx.doi.org/10.1016/j.chemosphere.2012.10.019>.
- Helgason, LB; Polder, A; Føreid, S; Baek, K; Lie, E; Gabrielsen, GW; Barrett, RT; Skaare, JU. (2009). Levels and temporal trends (1983-2003) of polybrominated diphenyl ethers and hexabromocyclododecanes in seabird eggs from north Norway. *Environ Toxicol Chem*. 28: 1096-1103. <http://dx.doi.org/10.1897/08-404.1>.
- Henny, CJ; Kaiser, JL; Grove, RA; Johnson, BL; Letcher, RJ. (2009). Polybrominated diphenyl ether flame retardants in eggs may reduce reproductive success of ospreys in Oregon and Washington, USA. *Ecotoxicology*. 18: 802-813. <http://dx.doi.org/10.1007/s10646-009-0323-4>.
- Hermanson, MH; Isaksson, E; Forsström, S; Teixeira, C; Muir, DC; Pohjola, VA; van de Wal, RS. (2010). Deposition history of brominated flame retardant compounds in an ice core from Holtedahlfonna, Svalbard, Norway. *Environ Sci Technol*. 44: 7405-7410. <http://dx.doi.org/10.1021/es1016608>.
- Herzke, D; Berger, U; Kallenborn, R; Nygård, T; Vetter, W. (2005). Brominated flame retardants and other organobromines in Norwegian predatory bird eggs. *Chemosphere*. 61: 441-449. <http://dx.doi.org/10.1016/j.chemosphere.2005.01.066>.
- Hloušková, V; Lanková, D; Kalachová, K; Hrádková, P; Poustka, J; Hajšlová, J; Pulkrabová, J. (2013). Occurrence of brominated flame retardants and perfluoroalkyl substances in fish from the Czech aquatic ecosystem. *Sci Total Environ*. 461-462: 88-98. <http://dx.doi.org/10.1016/j.scitotenv.2013.04.081>.
- Hloušková, V; Lanková, D; Kalachová, K; Hrádková, P; Poustka, J; Hajšlová, J; Pulkrabová, J. (2014). Brominated flame retardants and perfluoroalkyl substances in sediments from the Czech aquatic ecosystem. *Sci Total Environ*. 470-471: 407-416. <http://dx.doi.org/10.1016/j.scitotenv.2013.09.074>.
- Hogue, C. (2016). Releases of HBCD tapped for reporting. *Chem Eng News*. 94: 17-17.
- Hoguet, J; Keller, JM; Reiner, JL; Kucklick, JR; Bryan, CE; Moors, AJ; Pugh, RS; Becker, PR. (2013). Spatial and temporal trends of persistent organic pollutants and mercury in beluga whales (*Delphinapterus leucas*) from Alaska. *Sci Total Environ*. 449: 285-294. <http://dx.doi.org/10.1016/j.scitotenv.2013.01.072>.
- Hoh, E; Hites, RA. (2005). Brominated flame retardants in the atmosphere of the East-Central United States. *Environ Sci Technol*. 39: 7794-7802. <http://dx.doi.org/10.1021/es050718k>.
- Hong, H; Li, D; Shen, R; Wang, X; Shi, D. (2014). Mechanisms of hexabromocyclododecanes induced developmental toxicity in marine medaka (*Oryzias melastigma*) embryos. *Aquat Toxicol*. 152: 173-185. <http://dx.doi.org/10.1016/j.aquatox.2014.04.010>.
- Hong, H; Shen, R; Liu, W; Li, D; Huang, L; Shi, D. (2015). Developmental toxicity of three hexabromocyclododecane diastereoisomers in embryos of the marine medaka *Oryzias melastigma*. *Mar Pollut Bull*. 101: 110-118. <http://dx.doi.org/10.1016/j.marpolbul.2015.11.009>.
- Hong, J; Gao, S; Chen, L; Han, Q; Yu, Z; Peng, P; Fu, J. (2016). Hexabromocyclododecanes in the indoor environment of two cities in South China: their occurrence and implications of human inhalation exposure. *Indoor Built Environ*. 25: 41-49. <http://dx.doi.org/10.1177/1420326X13499170>.
- Hong, SH; Shim, WJ; Han, GM; Ha, SY; Jang, M; Rani, M; Hong, S; Yeo, GY. (2014). Levels and profiles of persistent organic pollutants in resident and migratory birds from an urbanized coastal region of South Korea. *Sci Total Environ*. 470-471: 1463-1470. <http://dx.doi.org/10.1016/j.scitotenv.2013.07.089>.
- Houde, M; Wang, X; Ferguson, SH; Gagnon, P; Brown, TM; Tanabe, S; Kunito, T; Kwan, M; Muir, DC. (2017). Spatial and temporal trends of alternative flame retardants and polybrominated diphenyl ethers in ringed seals (*Phoca hispida*) across the Canadian Arctic. *Environ Pollut*. <http://dx.doi.org/10.1016/j.envpol.2017.01.023>.
- Hrádková, P; Pulkrabová, J; Kalachová, K; Hloušková, V; Tomaniová, M; Poustka, J; Hajšlová, J. (2012). Occurrence of halogenated contaminants in fish from selected river localities and ponds in the Czech Republic. *Arch Environ Contam Toxicol*. 62: 85-96. <http://dx.doi.org/10.1007/s00244-011-9681-z>.
- Hu, F; Pan, L; Xiu, M; Jin, Q; Wang, G; Wang, C. (2015). Bioaccumulation and detoxification responses in the scallop *Chlamys farreri* exposed to tetrabromobisphenol A (TBBPA). *Environ Toxicol Pharmacol*. 39: 997-1007. <http://dx.doi.org/10.1016/j.etap.2015.03.006>.
- Hu, J; Jin, J; Wang, Y; Ma, Z; Zheng, W. (2011). Levels of polybrominated diphenyl ethers and hexabromocyclododecane in the atmosphere and tree bark from Beijing, China. *Chemosphere*. 84: 355-360. <http://dx.doi.org/10.1016/j.chemosphere.2011.04.002>.
- Hu, X; Hu, D; Song, Q; Li, J; Wang, P. (2011). Determinations of hexabromocyclododecane (HBCD) isomers in channel catfish, crayfish, hen eggs and fish feeds from China by isotopic dilution LC-MS/MS. *Chemosphere*. 82: 698-707. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.096>.
- Huang, H; Zhang, S; Lv, J; Wen, B; Wang, S; Wu, T. (2016). Experimental and Theoretical Evidence for Diastereomer- and Enantiomer-Specific Accumulation and Biotransformation of HBCD in Maize Roots. *Environ Sci Technol*. 50: 12205-12213. <http://dx.doi.org/10.1021/acs.est.6b03223>.
- Hühnerfuss, H; Shah, MR. (2009). Enantioselective chromatography-a powerful tool for the discrimination of biotic and abiotic transformation processes of chiral environmental pollutants [Review]. *J Chromatogr A*. 1216: 481-502. <http://dx.doi.org/10.1016/j.chroma.2008.09.043>.
- Hwang, IK; Kang, HH; Lee, IS; Oh, JE. (2012). Assessment of characteristic distribution of PCDD/Fs and BFRs in sludge generated at municipal and industrial wastewater treatment plants. *Chemosphere*. 88: 888-894. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.098>.
- Ichihara, M; Yamamoto, A; Takakura, K; Kakutani, N; Sudo, M. (2014). Distribution and pollutant load of hexabromocyclododecane (HBCD) in sewage treatment plants and water from Japanese Rivers. *Chemosphere*. 110: 78-84. <http://dx.doi.org/10.1016/j.chemosphere.2014.03.074>.

Human Health Hazard Literature Search Results

Off Topic

- Ilyas, M; Sudaryanto, A; Setiawan, IE; Riyadi, AS; Isobe, T; Ogawa, S; Takahashi, S; Tanabe, S. (2011). Characterization of polychlorinated biphenyls and brominated flame retardants in surface soils from Surabaya, Indonesia. *Chemosphere*. 83: 783-791. <http://dx.doi.org/10.1016/j.chemosphere.2011.02.067>.
- Ilyas, M; Sudaryanto, A; Setiawan, IE; Riyadi, AS; Isobe, T; Takahashi, S; Tanabe, S. (2011). Characterization of polychlorinated biphenyls and brominated flame retardants in sediments from riverine and coastal waters of Surabaya, Indonesia. *Mar Pollut Bull*. 62: 89-98. <http://dx.doi.org/10.1016/j.marpolbul.2010.09.006>.
- Ilyas, M; Sudaryanto, A; Setiawan, IE; Riyadi, AS; Isobe, T; Tanabe, S. (2013). Characterization of polychlorinated biphenyls and brominated flame retardants in sludge, sediment and fish from municipal dumpsite at Surabaya, Indonesia. *Chemosphere*. 93: 1500-1510. <http://dx.doi.org/10.1016/j.chemosphere.2013.07.048>.
- Ilyina, T; Hunziker, RW. (2010). Scenarios of temporal and spatial evolution of hexabromocyclododecane in the North Sea. *Environ Sci Technol*. 44: 4622-4628. <http://dx.doi.org/10.1021/es9034599>.
- Ionas, AC; Covaci, A. (2013). Simplifying multi-residue analysis of flame retardants in indoor dust. *Int J Environ Anal Chem*. 93: 1074-1083. <http://dx.doi.org/10.1080/03067319.2013.763248>.
- Ismail, N; Gewurtz, SB; Pleskach, K; Whittle, DM; Helm, PA; Marvin, CH; Tomy, GT. (2009). Brominated and chlorinated flame retardants in Lake Ontario, Canada, lake trout (*Salvelinus namaycush*) between 1979 and 2004 and possible influences of food-web changes. *Environ Toxicol Chem*. 28: 910-920. <http://dx.doi.org/10.1897/08-162.1>.
- Isobe, T; Ochi, Y; Ramu, K; Yamamoto, T; Tajima, Y; Yamada, TK; Amano, M; Miyazaki, N; Takahashi, S; Tanabe, S. (2009). Organohalogen contaminants in striped dolphins (*Stenella coeruleoalba*) from Japan: present contamination status, body distribution and temporal trends (1978-2003). *Mar Pollut Bull*. 58: 396-401. <http://dx.doi.org/10.1016/j.marpolbul.2008.10.008>.
- Isobe, T; Ogawa, SP; Ramu, K; Sudaryanto, A; Tanabe, S. (2012). Geographical distribution of non-PBDE-brominated flame retardants in mussels from Asian coastal waters. *Environ Sci Pollut Res Int*. 19: 3107-3117. <http://dx.doi.org/10.1007/s11356-012-0945-6>.
- Isobe, T; Oshihoi, T; Hamada, H; Nakayama, K; Yamada, TK; Tajima, Y; Amano, M; Tanabe, S. (2011). Contamination status of POPs and BFRs and relationship with parasitic infection in finless porpoises (*Neophocaena phocaenoides*) from Seto Inland Sea and Omura Bay, Japan. *Mar Pollut Bull*. 63: 564-571. <http://dx.doi.org/10.1016/j.marpolbul.2011.01.014>.
- Isobe, T; Ramu, K; Kajiwara, N; Takahashi, S; Lam, PK; Jefferson, TA; Zhou, K; Tanabe, S. (2007). Isomer specific determination of hexabromocyclododecanes (HBCDs) in small cetaceans from the South China Sea--Levels and temporal variation. *Mar Pollut Bull*. 54: 1139-1145. <http://dx.doi.org/10.1016/j.marpolbul.2007.04.017>.
- Iwata, T; Nakai, S. (2011). Exposure Assessment of Hexabromocyclododecane Among Japanese Population. *Epidemiology*. 22: S89-S89.
- Janák, K; Covaci, A; Voorspoels, S; Becher, G. (2005). Hexabromocyclododecane in marine species from the Western Scheldt Estuary: diastereoisomer- and enantiomer-specific accumulation. *Environ Sci Technol*. 39: 1987-1994. <http://dx.doi.org/10.1021/es0484909>.
- Janák, K; Sellström, U; Johansson, AK; Becher, G; de Wit, CA; Lindberg, P; Helander, B. (2008). Enantiomer-specific accumulation of hexabromocyclododecanes in eggs of predatory birds. *Chemosphere*. 73: S193-S200. <http://dx.doi.org/10.1016/j.chemosphere.2007.03.077>.
- Jang, M; Shim, WJ; Han, GM; Rani, M; Song, YK; Hong, SH. (2016). Styrofoam Debris as a Source of Hazardous Additives for Marine Organisms. *Environ Sci Technol*. 50: 4951-4960. <http://dx.doi.org/10.1021/acs.est.5b05485>.
- Jaspers, V; Covaci, A; Maervoet, J; Dauwe, T; Voorspoels, S; Schepens, P; Eens, M. (2005). Brominated flame retardants and organochlorine pollutants in eggs of little owls (*Athene noctua*) from Belgium. *Environ Pollut*. 136: 81-88. <http://dx.doi.org/10.1016/j.envpol.2004.12.003>.
- Jeannerat, D; Pupier, M; Schweizer, S; Mitrev, YN; Favreau, P; Kohler, M. (2016). Discrimination of hexabromocyclododecane from new polymeric brominated flame retardant in polystyrene foam by nuclear magnetic resonance. *Chemosphere*. 144: 1391-1397. <http://dx.doi.org/10.1016/j.chemosphere.2015.10.021>.
- Jenssen, BM; Sørmo, EG; Baek, K; Bytingsvik, J; Gaustad, H; Ruus, A; Skaare, JU. (2007). Brominated flame retardants in North-East Atlantic marine ecosystems. *Environ Health Perspect*. 115 Suppl 1: 35-41. <http://dx.doi.org/10.1289/ehp.9355>.
- Jeong, GH; Hwang, NR; Hwang, EH; Lee, BC; Yoon, J. (2014). Hexabromocyclododecanes in crucian carp and sediment from the major rivers in Korea. *Sci Total Environ*. 470-471: 1471-1478. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.038>.
- Jin, S; Cheng, Q; Wan, P; Liao, T, ao; Huang, Y, an; COMM, CO. (2010). Cytotoxic Effect Of Decabrominated Diphenyl Ether on RTG-2 cells. 346-350.
- Johansson, AK; Sellström, U; Lindberg, P; Bignert, A; de Wit, CA. (2011). Temporal trends of polybrominated diphenyl ethers and hexabromocyclododecane in Swedish Peregrine Falcon (*Falco peregrinus peregrinus*) eggs. *Environ Int*. 37: 678-686. <http://dx.doi.org/10.1016/j.envint.2011.01.010>.
- Johansson, AK; Sellström, U; Lindberg, P; Bignert, A; De Witt, CA. (2009). Polybrominated diphenyl ether congener patterns, hexabromocyclododecane, and brominated biphenyl 153 in eggs of peregrine falcons (*Falco peregrinus*) breeding in Sweden. *Environ Toxicol Chem*. 28: 9-17. <http://dx.doi.org/10.1897/08-142.1>.
- Johnson, PI; Stapleton, HM; Sjödin, A; Meeker, JD. (2010). Relationships between polybrominated diphenyl ether concentrations in house dust and serum. *Environ Sci Technol*. 44: 5627-5632. <http://dx.doi.org/10.1021/es100697q>.
- Johnson-Restrepo, B; Adams, DH; Kannan, K. (2008). Tetrabromobisphenol A (TBBPA) and hexabromocyclododecanes (HBCDs) in tissues of humans, dolphins, and sharks from the United States. *Chemosphere*. 70: 1935-1944. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.002>.
- Jörundsdóttir, H; Löfstrand, K; Svavarsson, J; Bignert, A; Bergman, Å. (2013). Polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) in seven different marine bird species from Iceland. *Chemosphere*. 93: 1526-1532. <http://dx.doi.org/10.1016/j.chemosphere.2013.07.061>.

Human Health Hazard Literature Search Results

Off Topic

- Jung, J; Bale, S; Lee, L; Shin, JK; Choi, J; Lee, S. (2009). Rapid identification of brominated flame retardants by using direct exposure probe mass spectrometry. *Microchem J.* 91: 140-146. <http://dx.doi.org/10.1016/j.microc.2008.09.005>.
- Kadota, K; Senda, A; Ito, T; Tozuka, Y. (2015). Feasibility of highly branched cyclic dextrin as an excipient matrix in dry powder inhalers. *Eur J Pharm Sci.* 79: 79-86. <http://dx.doi.org/10.1016/j.ejps.2015.09.006>.
- Kadota, K; Senda, A; Tagishi, H; Ayorinde, JO; Tozuka, Y. (2017). Evaluation of highly branched cyclic dextrin in inhalable particles of combined antibiotics for the pulmonary delivery of anti-tuberculosis drugs. *Int J Pharm.* 517: 8-18. <http://dx.doi.org/10.1016/j.ijpharm.2016.11.060>.
- Kajiwaru, N; Desborough, J; Harrad, S; Takigami, H. (2013). Photolysis of brominated flame retardants in textiles exposed to natural sunlight. *Environ Sci Process Impacts.* 15: 653-660. <http://dx.doi.org/10.1039/c3em30887a>.
- Kajiwaru, N; Hirata, O; Takigami, H; Noma, Y; Tachifuji, A; Matsufuji, Y. (2014). Leaching of brominated flame retardants from mixed wastes in lysimeters under conditions simulating landfills in developing countries. *Chemosphere.* 116: 46-53. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.025>.
- Kajiwaru, N; Noma, Y; Takigami, H. (2011). Brominated and organophosphate flame retardants in selected consumer products on the Japanese market in 2008. *J Hazard Mater.* 192: 1250-1259. <http://dx.doi.org/10.1016/j.jhazmat.2011.06.043>.
- Kajiwaru, N; Sueoka, M; Ohiwa, T; Takigami, H. (2009). Determination of flame-retardant hexabromocyclododecane diastereomers in textiles. *Chemosphere.* 74: 1485-1489. <http://dx.doi.org/10.1016/j.chemosphere.2008.11.046>.
- Kajiwaru, N; Takigami, H. (2013). Emission behavior of hexabromocyclododecanes and polybrominated diphenyl ethers from flame-retardant-treated textiles. *Environ Sci Process Impacts.* 15: 1957-1963. <http://dx.doi.org/10.1039/c3em00359k>.
- Kakimoto, K; Nagayoshi, H; Yoshida, J; Akutsu, K; Konishi, Y; Toriba, A; Hayakawa, K. (2012). Detection of Dechlorane Plus and brominated flame retardants in marketed fish in Japan. *Chemosphere.* 89: 416-419. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.072>.
- Kalachova, K; Hradkova, P; Lankova, D; Hajslova, J; Pulkrabova, J. (2012). Occurrence of brominated flame retardants in household and car dust from the Czech Republic. *Sci Total Environ.* 441: 182-193. <http://dx.doi.org/10.1016/j.scitotenv.2012.09.061>.
- Kalantzi, OI; Geens, T; Covaci, A; Siskos, PA. (2011). Distribution of polybrominated diphenyl ethers (PBDEs) and other persistent organic pollutants in human serum from Greece. *Environ Int.* 37: 349-353. <http://dx.doi.org/10.1016/j.envint.2010.10.005>.
- Kefeni, KK; Okonkwo, JO; Botha, B. (2014). Concentrations of polybromobiphenyls and polybromodiphenyl ethers in home dust: Relevance to socio-economic status and human exposure rate. *Sci Total Environ.* 470: 1250-1256. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.078>.
- Kefeni, KK; Okonkwo, JO; Olukunle, OI; Botha, B. (2011). Brominated flame retardants: sources, distribution, exposure pathways, and toxicity. *Environ Rev.* 19: 238-253. <http://dx.doi.org/10.1139/A11-010>.
- Kelly, GS. (2000). Peripheral metabolism of thyroid hormones: a review [Review]. *Altern Med Rev.* 5: 306-333.
- Kim, GB; Stapleton, HM. (2010). PBDEs, methoxylated PBDEs and HBCDs in Japanese common squid (*Todarodes pacificus*) from Korean offshore waters. *Mar Pollut Bull.* 60: 935-940. <http://dx.doi.org/10.1016/j.marpolbul.2010.03.025>.
- Kim, JT; Son, MH; Kang, JH; Kim, JH; Jung, JW; Chang, YS. (2015). Occurrence of Legacy and New Persistent Organic Pollutants in Avian Tissues from King George Island, Antarctica. *Environ Sci Technol.* 49: 13628-13638. <http://dx.doi.org/10.1021/acs.est.5b03181>.
- Kim, UJ; Lee, IS; Oh, JE. (2016). Occurrence, removal and release characteristics of dissolved brominated flame retardants and their potential metabolites in various kinds of wastewater. *Environ Pollut.* 218: 551-557. <http://dx.doi.org/10.1016/j.envpol.2016.07.037>.
- Klamer, HJ; Leonards, PE; Lamoree, MH; Villierius, LA; Kerman, JE; Bakker, JF. (2005). A chemical and toxicological profile of Dutch North Sea surface sediments. *Chemosphere.* 58: 1579-1587. <http://dx.doi.org/10.1016/j.chemosphere.2004.11.027>.
- Klammer, H; Schlecht, C; Wuttke, W; Schmutzler, C; Gotthardt, I; Köhrle, J; Jarry, H. (2007). Effects of a 5-day treatment with the UV-filter octyl-methoxycinnamate (OMC) on the function of the hypothalamo-pituitary-thyroid function in rats. *Toxicology.* 238: 192-199. <http://dx.doi.org/10.1016/j.tox.2007.06.088>.
- Kling, P; Forlin, L. (2008). Proteomic studies in zebrafish River ceft suggest an interaction between the brominated flame retardants HBCD and TBBPA. *Mar Environ Res.* 66: 101-101.
- Klosterhaus, SL; Stapleton, HM; La Guardia, MJ; Greig, DJ. (2012). Brominated and chlorinated flame retardants in San Francisco Bay sediments and wildlife. *Environ Int.* 47: 56-65. <http://dx.doi.org/10.1016/j.envint.2012.06.005>.
- Knutsen, HK; Kvalem, HE; Thomsen, C; Frøshaug, M; Haugen, M; Becher, G; Alexander, J; Meltzer, HM. (2008). Dietary exposure to brominated flame retardants correlates with male blood levels in a selected group of Norwegians with a wide range of seafood consumption. *Mol Nutr Food Res.* 52: 217-227. <http://dx.doi.org/10.1002/mnfr.200700096>.
- Kobayashi, A; Kubo, T; Sato, T; Kitahara, Y; Amita, S; Mori, M; Suzuki, S; Otsuka, K; Hosoya, K, en. (2013). Efficient total analyses for bromine type flame retardants by simple NICI-GC/MS. *Analytical Methods.* 5: 866-873. <http://dx.doi.org/10.1039/c2ay25983d>.
- Koch, C; Dundua, A; Aragon-Gomez, J; Nachev, M; Stephan, S; Willach, S; Ulbricht, M; Schmitz, OJ; Schmidt, TC; Sures, B. (2016). Degradation of Polymeric Brominated Flame Retardants: Development of an Analytical Approach Using PolyFR and UV Irradiation. *Environ Sci Technol.* 50: 12912-12920. <http://dx.doi.org/10.1021/acs.est.6b04083>.
- Koci, V. (2012). Hexabromocyclododecane and environment [Review]. *Chem Listy.* 106: 1116-1121.
- Koepfen, R; Becker, R; Emmerling, F; Jung, C; Nehls, I. (2007). Enantioselective preparative HPLC separation of the HBCD-Stereoisomers from the technical product and their absolute structure elucidation using X-ray crystallography. *Chirality.* 19: 214-222. <http://dx.doi.org/10.1002/chir.20366>.
- Kohler, HPE; Angst, W; Giger, W; Kanz, C; Muller, S; Suter, MJF. (1997). Environmental fate of chiral pollutants – the necessity of considering stereochemistry. *Chimia.* 51: 947-951.
- Kohler, M; Zennegg, M; Bogdal, C; Gerecke, AC; Schmid, P; Heeb, NV; Sturm, M; Vonmont, H; Kohler, HP; Giger, W. (2008). Temporal trends, congener patterns, and sources of octa-, nona-, and decabromodiphenyl ethers (PBDE) and hexabromocyclododecanes (HBCD) in Swiss lake sediments. *Environ Sci Technol.* 42: 6378-6384. <http://dx.doi.org/10.1021/es702586r>.

Human Health Hazard Literature Search Results

Off Topic

- Koibuchi, N; Chin, MW. (2000). Thyroid hormone action and brain development. *Trends Endocrinol Metab.* 11: 123-128. [http://dx.doi.org/10.1016/S1043-2760\(00\)00238-1](http://dx.doi.org/10.1016/S1043-2760(00)00238-1).
- Koike, E; Yanagisawa, R; Takigami, H; Takano, H. (2014). Penta- and octa-bromodiphenyl ethers promote proinflammatory protein expression in human bronchial epithelial cells in vitro. *Toxicol In Vitro.* 28: 327-333. <http://dx.doi.org/10.1016/j.tiv.2013.10.014>.
- Kopp, EK; Fromme, H; Voelkel, W. (2012). Analysis of common and emerging brominated flame retardants in house dust using ultrasonic assisted solvent extraction and on-line sample preparation via column switching with liquid chromatography-mass spectrometry. *J Chromatogr A.* 1241: 28-36. <http://dx.doi.org/10.1016/j.chroma.2012.04.022>.
- Köppen, R; Becker, R; Esslinger, S; Nehls, I. (2010). Enantiomer-specific analysis of hexabromocyclododecane in fish from Etnefjorden (Norway). *Chemosphere.* 80: 1241-1245. <http://dx.doi.org/10.1016/j.chemosphere.2010.06.019>.
- Köppen, R; Becker, R; Jung, C; Nehls, I. (2008). On the thermally induced isomerisation of hexabromocyclododecane stereoisomers. *Chemosphere.* 71: 656-662. <http://dx.doi.org/10.1016/j.chemosphere.2007.11.009>.
- Korcz, W; Góralczyk, K; Struciński, P; Hernik, A; Łyczewska, M; Matuszak, M; Czaja, K; Minorczyk, M; Ludwicki, JK. (2016). Levels of polybrominated diphenyl ethers in house dust in central Poland. *Indoor Air.* 27: 128-135. <http://dx.doi.org/10.1111/ina.12293>.
- Korytár, P; Covaci, A; Leonards, PE; de Boer, J; Brinkman, UA. (2005). Comprehensive two-dimensional gas chromatography of polybrominated diphenyl ethers. *J Chromatogr A.* 1100: 200-207. <http://dx.doi.org/10.1016/j.chroma.2005.09.038>.
- Kowalski, B; Mazur, M. (2014). The Simultaneous Determination of Six Flame Retardants in Water Samples Using SPE Pre-concentration and UHPLC-UV Method. *Water Air Soil Pollut.* 225: 1866. <http://dx.doi.org/10.1007/s11270-014-1866-4>.
- Kretschmer, XC; Baldwin, WS. (2005). CAR and PXR: xenosensors of endocrine disrupters? [Review]. *Chem Biol Interact.* 155: 111-128. <http://dx.doi.org/10.1016/j.cbi.2005.06.003>.
- Krivoshiev, BV; Dardenne, F; Blust, R; Covaci, A; Husson, SJ. (2015). Elucidating toxicological mechanisms of current flame retardants using a bacterial gene profiling assay. *Toxicol In Vitro.* 29: 2124-2132. <http://dx.doi.org/10.1016/j.tiv.2015.09.001>.
- Krol, S; Namiesnik, J; Zabiegala, B. (2014). Occurrence and levels of polybrominated diphenyl ethers (PBDEs) in house dust and hair samples from Northern Poland; an assessment of human exposure. *Chemosphere.* 110: 91-96. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.014>.
- Kuang, J; Ma, Y; Harrad, S. (2016). Concentrations of "legacy" and novel brominated flame retardants in matched samples of UK kitchen and living room/bedroom dust. *Chemosphere.* 149: 224-230. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.092>.
- Kuiper, RV; Cantón, RF; Leonards, PE; Jenssen, BM; Dubbeldam, M; Wester, PW; van den Berg, M; Vos, JG; Vethaak, AD. (2007). Long-term exposure of European flounder (*Platichthys flesus*) to the flame-retardants tetrabromobisphenol A (TBBPA) and hexabromocyclododecane (HBCD). *Ecotoxicol Environ Saf.* 67: 349-360. <http://dx.doi.org/10.1016/j.ecoenv.2006.12.001>.
- Kukučka, P; Audy, O; Kohoutek, J; Holt, E; Kalábová, T; Holoubek, I; Klánová, J. (2015). Source identification, spatio-temporal distribution and ecological risk of persistent organic pollutants in sediments from the upper Danube catchment. *Chemosphere.* 138: 777-783. <http://dx.doi.org/10.1016/j.chemosphere.2015.08.001>.
- Kupper, T; de Alencastro, LF; Gatsigazi, R; Furrer, R; Grandjean, D; Tarradellas, J. (2008). Concentrations and specific loads of brominated flame retardants in sewage sludge. *Chemosphere.* 71: 1173-1180. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.019>.
- La Guardia, MJ; Hale, RC. (2015). Halogenated flame-retardant concentrations in settled dust, respirable and inhalable particulates and polyurethane foam at gymnastic training facilities and residences. *Environ Int.* 79: 106-114. <http://dx.doi.org/10.1016/j.envint.2015.02.014>.
- La Guardia, MJ; Hale, RC; Harvey, E; Chen, D. (2010). Flame-retardants and other organohalogen detected in sewage sludge by electron capture negative ion mass spectrometry. *Environ Sci Technol.* 44: 4658-4664. <http://dx.doi.org/10.1021/es9039264>.
- La Guardia, MJ; Hale, RC; Harvey, E; Mainor, TM; Ciparis, S. (2012). In situ accumulation of HBCD, PBDEs, and several alternative flame-retardants in the bivalve (*Corbicula fluminea*) and gastropod (*Elimia proxima*). *Environ Sci Technol.* 46: 5798-5805. <http://dx.doi.org/10.1021/es3004238>.
- La Guardia, MJ; Hale, RC; Newman, B. (2013). Brominated flame-retardants in sub-Saharan Africa: burdens in inland and coastal sediments of the eThekweni metropolitan municipality, South Africa. *Environ Sci Technol.* 47: 9643-9650. <http://dx.doi.org/10.1021/es4020212>.
- Laborie, S; Moreau-Guigon, E; Alliot, F; Desportes, A; Oziol, L; Chevreuil, M. (2016). A new analytical protocol for the determination of 62 endocrine-disrupting compounds in indoor air. *Talanta.* 147: 132-141. <http://dx.doi.org/10.1016/j.talanta.2015.09.028>.
- Labunska, I; Abdallah, MA; Eulaers, I; Covaci, A; Tao, F; Wang, M; Santillo, D; Johnston, P; Harrad, S. (2015). Human dietary intake of organohalogen contaminants at e-waste recycling sites in Eastern China. *Environ Int.* 74: 209-220. <http://dx.doi.org/10.1016/j.envint.2014.10.020>.
- Lam, JC; Lau, RK; Murphy, MB; Lam, PK. (2009). Temporal trends of hexabromocyclododecanes (HBCDs) and polybrominated diphenyl ethers (PBDEs) and detection of two novel flame retardants in marine mammals from Hong Kong, South China. *Environ Sci Technol.* 43: 6944-6949. <http://dx.doi.org/10.1021/es901408t>.
- Lanham, SA; Fowden, AL; Roberts, C; Cooper, C; Oreffo, ROC; Forhead, AJ. (2011). Effects of hypothyroidism on the structure and mechanical properties of bone in the ovine fetus. *J Endocrinol.* 210: 189-198. <http://dx.doi.org/10.1530/JOE-11-0138>.
- Lankova, D; Kockovska, M; Lacina, O; Kalachova, K; Pulkrabova, J; Hajslova, J. (2013). Rapid and simple method for determination of hexabromocyclododecanes and other LC-MS-MS-amenable brominated flame retardants in fish. *Anal Bioanal Chem.* 405: 7829-7839. <http://dx.doi.org/10.1007/s00216-013-7076-x>.
- Lankova, D; Lacina, O; Pulkrabova, J; Hajslova, J. (2013). The determination of perfluoroalkyl substances, brominated flame retardants and their metabolites in human breast milk and infant formula. *Talanta.* 117: 318-325. <http://dx.doi.org/10.1016/j.talanta.2013.08.040>.
- Lankova, D; Svarcova, A; Kalachova, K; Lacina, O; Pulkrabova, J; Hajslova, J. (2015). Multi-analyte method for the analysis of various organohalogen compounds in house dust. *Anal Chim Acta.* 854: 61-69. <http://dx.doi.org/10.1016/j.aca.2014.11.007>.

Human Health Hazard Literature Search Results

Off Topic

- Lara, AB; Caballo, C; Sicilia, MD; Rubio, S. (2012). Enantiomer-specific determination of hexabromocyclododecane in fish by supramolecular solvent-based single-step sample treatment and liquid chromatography-tandem mass spectrometry. *Anal Chim Acta*. 752: 62-68. <http://dx.doi.org/10.1016/j.aca.2012.09.039>.
- Laven, JS; Mulders, AG; Visser, JA; Themmen, AP; De Jong, FH; Fauser, BC. (2004). Anti-Müllerian hormone serum concentrations in normoovulatory and anovulatory women of reproductive age. *J Clin Endocrinol Metab*. 89: 318-323. <http://dx.doi.org/10.1210/jc.2003-030932>.
- Law, K; Halldorson, T; Danell, R; Stern, G; Gewurtz, S; Alaei, M; Marvin, C; Whittle, M; Tomy, G. (2006). Bioaccumulation and trophic transfer of some brominated flame retardants in a Lake Winnipeg (Canada) food web. *Environ Toxicol Chem*. 25: 2177-2186.
- Law, K; Palace, VP; Halldorson, T; Danell, R; Wautier, K; Evans, B; Alaei, M; Marvin, C; Tomy, GT. (2006). Dietary accumulation of hexabromocyclododecane diastereoisomers in juvenile rainbow trout (*Oncorhynchus mykiss*). I: Bioaccumulation parameters and evidence of bioisomerization. *Environ Toxicol Chem*. 25: 1757. <http://dx.doi.org/10.1897/05-445r.1>.
- Law, RJ. (2013). Woodhead Publishing Series in Food Science Technology and Nutrition Brominated flame retardants in foods. <http://dx.doi.org/10.1533/9780857098917.2.261>.
- Law, RJ; Allchin, CR; de Boer, J; Covaci, A; Herzke, D; Lepom, P; Morris, S; Tronczynski, J; de Wit, CA. (2006). Levels and trends of brominated flame retardants in the European environment. *Chemosphere*. 64: 187-208. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.007>.
- Law, RJ; Barry, J; Barber, JL; Bersuder, P; Deaville, R; Reid, RJ; Brownlow, A; Penrose, R; Barnett, J; Loveridge, J; Smith, B; Jepson, PD. (2012). Contaminants in cetaceans from UK waters: status as assessed within the Cetacean Strandings Investigation Programme from 1990 to 2008. *Mar Pollut Bull*. 64: 1485-1494. <http://dx.doi.org/10.1016/j.marpolbul.2012.05.024>.
- Law, RJ; Bersuder, P; Allchin, CR; Barry, J. (2006). Levels of the flame retardants hexabromocyclododecane and tetrabromobisphenol A in the blubber of harbor porpoises (*Phocoena phocoena*) stranded or bycaught in the U.K., with evidence for an increase in HBCD concentrations in recent years. *Environ Sci Technol*. 40: 2177-2183. <http://dx.doi.org/10.1021/es052416o>.
- Law, RJ; Bersuder, P; Barry, J, on; Deaville, R, ob; Reid, RJ; Jepson, PD. (2010). Chlorobiphenyls in the blubber of harbour porpoises (*Phocoena phocoena*) from the UK: Levels and trends 1991-2005. *Mar Pollut Bull*. 60: 470-473. <http://dx.doi.org/10.1016/j.marpolbul.2009.12.003>.
- Law, RJ; Bersuder, P; Barry, J; Wilford, BH; Allchin, CR; Jepson, PD. (2008). A significant downturn in levels of hexabromocyclododecane in the blubber of harbor porpoises (*Phocoena phocoena*) stranded or bycaught in the UK: an update to 2006. *Environ Sci Technol*. 42: 9104-9109. <http://dx.doi.org/10.1021/es8014309>.
- Law, RJ; Covaci, A; Harrad, S; Herzke, D; Abdallah, MA; Fernie, K; Toms, LM; Takigami, H. (2014). Levels and trends of PBDEs and HBCDs in the global environment: status at the end of 2012 [Review]. *Environ Int*. 65: 147-158. <http://dx.doi.org/10.1016/j.envint.2014.01.006>.
- Law, RJ; Herzke, D; Harrad, S; Morris, S; Bersuder, P; Allchin, CR. (2008). Levels and trends of HBCD and BDEs in the European and Asian environments, with some information for other BFRs. *Chemosphere*. 73: 223-241. <http://dx.doi.org/10.1016/j.chemosphere.2008.02.066>.
- Lee, IS; Kang, HH; Kim, UJ; Oh, JE. (2015). Brominated flame retardants in Korean river sediments, including changes in polybrominated diphenyl ether concentrations between 2006 and 2009. *Chemosphere*. 126: 18-24. <http://dx.doi.org/10.1016/j.chemosphere.2015.01.004>.
- Lee, SC; Sverko, E; Harner, T; Pozo, K; Barresi, E; Schachtschneider, J; Zaruk, D; Dejong, M; Narayan, J. (2016). Retrospective analysis of "new" flame retardants in the global atmosphere under the GAPS Network. *Environ Pollut*. 217: 62-69. <http://dx.doi.org/10.1016/j.envpol.2016.01.080>.
- Lefèvre, PL; Berger, RG; Ernest, SR; Gaertner, DW; Rawn, DF; Wade, MG; Robaire, B; Hales, BF. (2016). Exposure of Female Rats to an Environmentally Relevant Mixture of Brominated Flame Retardants Targets the Ovary, Affecting Folliculogenesis and Steroidogenesis. *Biol Reprod*. 94: 9. <http://dx.doi.org/10.1095/biolreprod.115.134452>.
- Leijds, MM; ten Tusscher, GW; Olie, K; van Teunenbroek, T; van Aalderen, WMC; de Voogt, P; Vulsma, T; Bartonova, A; Kraymer von Krauss, M; Mosoiu, C; Riojas-Rodriguez, H; Calamandrei, G; Koppe, JG. (2012). Thyroid hormone metabolism and environmental chemical exposure. *Environ Health*. 11: S10. <http://dx.doi.org/10.1186/1476-069X-11-S1-S10>.
- Leslie, HA; Leonards, PE; Shore, RF; Walker, LA; Bersuder, PR; Morris, S; Allchin, CR; Boer, J, d. (2011). Decabromodiphenylether and hexabromocyclododecane in wild birds from the United Kingdom, Sweden and The Netherlands: Screening and time trends. *Chemosphere*. 82: 88-95. <http://dx.doi.org/10.1016/j.chemosphere.2010.09.073>.
- Letcher, R. (2010). Hexabromocyclododecane (HBCD) flame retardant in the environment, biota and humans: Stereoisomeric paradox. *Toxicol Lett*. 196: S33-S33. <http://dx.doi.org/10.1016/j.toxlet.2010.03.150>.
- Letcher, RJ; Lu, Z; Chu, S; Haffner, GD; Drouillard, K; Marvin, CH; Ciborowski, JJ. (2015). Hexabromocyclododecane Flame Retardant Isomers in Sediments from Detroit River and Lake Erie of the Laurentian Great Lakes of North America. *Bull Environ Contam Toxicol*. 95: 31-36. <http://dx.doi.org/10.1007/s00128-015-1491-y>.
- Letcher, RJ; Mattioli, LC; Martenson, SC; Bird, D; Ritchie, IJ; Fernie, KJ. (2015). Uptake, distribution, depletion, and in ovo transfer of isomers of hexabromocyclododecane flame retardant in diet-exposed American kestrels (*Falco sparverius*). *Environ Toxicol Chem*. 34: 1103-1112. <http://dx.doi.org/10.1002/etc.2903>.
- Lewis, AC; Palanker, AL. (1978). A primary dermal irritation study, a dermal corrosion study, and an ocular irritation study in albino rabbits and an oral LD50 study in albino rats: Test material GLS-S6-41A. (78385-1). *Consumer Product Testing*.
- Li, B; Chen, H; Sun, H; Lan, Z. (2017). Distribution, isomerization and enantiomer selectivity of hexabromocyclododecane (HBCD) diastereoisomers in different tissue and subcellular fractions of earthworms. *Ecotoxicol Environ Saf*. 139: 326-334. <http://dx.doi.org/10.1016/j.ecoenv.2017.01.004>.
- Li, B; Yao, T; Sun, H; Zhang, Y; Yang, J. (2016). Diastereomer- and enantiomer-specific accumulation, depuration, bioisomerization, and metabolism of hexabromocyclododecanes (HBCDs) in two ecologically different species of earthworms. *Sci Total Environ*. 542: 427-434. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.100>.

Human Health Hazard Literature Search Results

Off Topic

- Li, D; Peng, P; Yu, Z; Huang, W; Zhong, Y. (2016). Reductive transformation of hexabromocyclododecane (HBCD) by FeS. *Water Res.* 101: 195-202. <http://dx.doi.org/10.1016/j.watres.2016.05.066>.
- Li, F; Jin, J; Tan, D; Wang, L; Geng, N; Cao, R; Gao, Y; Chen, J. (2016). Hexabromocyclododecane and tetrabromobisphenol A in sediments and paddy soils from Liaohe River Basin, China: Levels, distribution and mass inventory. *J Environ Sci.* 48: 209-217. <http://dx.doi.org/10.1016/j.jes.2016.03.018>.
- Li, H; Mo, L; Yu, Z; Sheng, G; Fu, J. (2012). Levels, isomer profiles and chiral signatures of particle-bound hexabromocyclododecanes in ambient air around Shanghai, China. *Environ Pollut.* 165: 140-146. <http://dx.doi.org/10.1016/j.envpol.2012.02.015>.
- Li, H; Shang, H; Wang, P; Wang, Y; Zhang, H; Zhang, Q; Jiang, G. (2013). Occurrence and distribution of hexabromocyclododecane in sediments from seven major river drainage basins in China. *J Environ Sci.* 25: 69-76. [http://dx.doi.org/10.1016/S1001-0742\(12\)60010-2](http://dx.doi.org/10.1016/S1001-0742(12)60010-2).
- Li, H; Zhang, Q; Wang, P; Li, Y; Lv, J; Chen, W; Geng, D; Wang, Y; Wang, T; Jiang, G. (2012). Levels and distribution of hexabromocyclododecane (HBCD) in environmental samples near manufacturing facilities in Laizhou Bay area, East China. *J Environ Monit.* 14: 2591-2597. <http://dx.doi.org/10.1039/c2em30231d>.
- Li, J; Chen, T; Wang, Y; Shi, Z; Zhou, X; Sun, Z; Wang, D; Wu, Y. (2017). Simple and fast analysis of tetrabromobisphenol A, hexabromocyclododecane isomers, and polybrominated diphenyl ethers in serum using solid-phase extraction or QuEChERS extraction followed by tandem mass spectrometry coupled to HPLC and GC. *J Sep Sci.* 40: 709-716. <http://dx.doi.org/10.1002/jssc.201600969>.
- Li, L; Weber, R; Liu, J; Hu, J. (2016). Long-term emissions of hexabromocyclododecane as a chemical of concern in products in China. *Environ Int.* 91: 291-300. <http://dx.doi.org/10.1016/j.envint.2016.03.007>.
- Li, X; Gao, Y; Wang, Y; Pan, Y. (2014). Emerging persistent organic pollutants in Chinese Bohai Sea and its coastal regions [Review]. *ScientificWorldJournal.* 2014: 608231. <http://dx.doi.org/10.1155/2014/608231>.
- Li, XW; Zeng, H; Ni, HG. (2015). [Indoor Exposure to Particle-Bound BFRs via Inhalation]. *Huanjing Kexue.* 36: 1989-1997.
- Li, Y; Zhou, Q; Wang, Y; Xie, X. (2011). Fate of tetrabromobisphenol A and hexabromocyclododecane brominated flame retardants in soil and uptake by plants. *Chemosphere.* 82: 204-209. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.021>.
- Li, ZH; Zlabek, V; Turek, J; Velisek, J; Pulkrabova, J; Kolarova, J; Sudova, E; Berankova, P; Hradkova, P; Hajslova, J; Randak, T. (2011). Evaluating environmental impact of STPs situated on streams in the Czech Republic: an integrated approach to biomonitoring the aquatic environment. *Water Res.* 45: 1403-1413. <http://dx.doi.org/10.1016/j.watres.2010.10.032>.
- Lilienthal, H; van Der Ven, L, eo; Hack, A; Roth-Harer, A; Piersma, A; Vos, J. (2009). Neurobehavioral Effects in Relation to Endocrine Alterations Caused by Exposure to Brominated Flame Retardants in Rats-Comparison to Polychlorinated Biphenyls. *Hum Ecol Risk Assess.* 15: 76-86. <http://dx.doi.org/10.1080/10807030802615253>.
- Lindberg, P; Sellström, U; Häggberg, L; de Wit, CA. (2004). Higher brominated diphenyl ethers and hexabromocyclododecane found in eggs of peregrine falcons (*Falco peregrinus*) breeding in Sweden. *Environ Sci Technol.* 38: 93-96. <http://dx.doi.org/10.1021/es034614q>.
- Lo, KW; Saha-Roy, SC; Jans, U. (2012). Investigation of the reaction of hexabromocyclododecane with polysulfide and bisulfide in methanol/water solutions. *Chemosphere.* 87: 158-162. <http://dx.doi.org/10.1016/j.chemosphere.2011.12.008>.
- López, P; Brandsma, SA; Leonards, PE; De Boer, J. (2009). Methods for the determination of phenolic brominated flame retardants, and by-products, formulation intermediates and decomposition products of brominated flame retardants in water. *J Chromatogr A.* 1216: 334-345. <http://dx.doi.org/10.1016/j.chroma.2008.08.043>.
- Losada, S; Roach, A; Roosens, L; Santos, FJ; Galceran, MT; Vetter, W; Neels, H; Covaci, A. (2009). Biomagnification of anthropogenic and naturally-produced organobrominated compounds in a marine food web from Sydney Harbour, Australia. *Environ Int.* 35: 1142-1149. <http://dx.doi.org/10.1016/j.envint.2009.07.008>.
- Lower, N; Moore, A. (2007). The impact of a brominated flame retardant on smoltification and olfactory function in Atlantic salmon (*Salmo salar* L.) smolts. *Mar Behav Physiol.* 40: 267-284. <http://dx.doi.org/10.1080/10236240701592104>.
- Luigi, V; Giuseppe, M; Claudio, R. (2015). Emerging and priority contaminants with endocrine active potentials in sediments and fish from the River Po (Italy). *Environ Sci Pollut Res Int.* 22: 14050-14066. <http://dx.doi.org/10.1007/s11356-015-4388-8>.
- Lundstedt-Enkel, K; Asplund, L; Nylund, K; Bignert, A; Tysklind, M; Olsson, M; Orberg, J. (2006). Multivariate data analysis of organochlorines and brominated flame retardants in Baltic Sea guillemot (*Uria aalge*) egg and muscle. *Chemosphere.* 65: 1591-1599. <http://dx.doi.org/10.1016/j.chemosphere.2006.03.051>.
- Lundstedt-Enkel, K; Johansson, AK; Tysklind, M; Asplund, L; Nylund, K; Olsson, M; Orberg, J. (2005). Multivariate data analyses of chlorinated and brominated contaminants and biological characteristics in adult guillemot (*Uria aalge*) from the Baltic Sea. *Environ Sci Technol.* 39: 8630-8637. <http://dx.doi.org/10.1021/es051118o>.
- Luster, MI; Johnson, VJ; Yucesoy, B; Simeonova, PP. (2005). Biomarkers to assess potential developmental immunotoxicity in children. *Toxicol Appl Pharmacol.* 206: 229-236. <http://dx.doi.org/10.1016/j.taap.2005.02.010>.
- Lyons, BP; Barber, JL; Rumney, HS; Bolam, TP; Bersuder, P; Law, RJ; Mason, C; Smith, AJ; Morris, S; Devlin, MJ; Al-Enezi, M; Massoud, MS; Al-Zaidan, AS; Al-Sarawi, HA. (2015). Baseline survey of marine sediments collected from the State of Kuwait: PAHs, PCBs, brominated flame retardants and metal contamination. *Mar Pollut Bull.* 100: 629-636. <http://dx.doi.org/10.1016/j.marpolbul.2015.08.014>.
- Ma, X; Zhang, H; Yao, Z; Zhao, X; Wang, L; Wang, Z; Chen, J; Chen, J. (2013). Bioaccumulation and trophic transfer of polybrominated diphenyl ethers (PBDEs) in a marine food web from Liaodong Bay, North China. *Mar Pollut Bull.* 74: 110-115. <http://dx.doi.org/10.1016/j.marpolbul.2013.07.020>.
- MacGregor, JA; Nixon, WB. (1997). Hexabromocyclododecane (HBCD): Determination of n-octanol/water partition coefficient with cover letter dated 06/27/1997. (TSCATS/453552. OTS0573665. 8697000802). Washington, DC: Wildlife International Limited. U.S. Environmental Protection Agency.
- MacGregor, JA; Nixon, WB. (2004). Determination of water solubility of hexabromocyclododecane (HBCD) using a generator column method. Easton, MD: Wildlife International Ltd.

Human Health Hazard Literature Search Results

Off Topic

- Mackenzie, PI; Gregory, PA; Gardner-Stephen, DA; Lewinsky, RH; Jorgensen, BR; Nishiyama, T; Xie, W; Radomska-Pandya, A. (2003). Regulation of UDP glucuronosyltransferase genes [Review]. *Curr Drug Metab.* 4: 249-257. <http://dx.doi.org/10.2174/1389200033489442#sthash.z8bvGH58.dpuf>.
- Maes, M; Mommen, K; Hendrickx, D; Peeters, D; D'hondt, P; Ranjan, R; De Meyer, F; Scharpe, S. (1997). Components of biological variation, including seasonality, in blood concentrations of TSH, TT3, FT4, PRL, cortisol and testosterone in healthy volunteers. *Clin Endocrinol.* 46: 587-598. <http://dx.doi.org/10.1046/j.1365-2265.1997.1881002.x>.
- Malarvannan, G; Belpaire, C; Geeraerts, C; Eulaers, I; Neels, H; Covaci, A. (2014). Assessment of persistent brominated and chlorinated organic contaminants in the European eel (*Anguilla anguilla*) in Flanders, Belgium: Levels, profiles and health risk. *Sci Total Environ.* 482-483: 222-233. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.127>.
- Malarvannan, G; Belpaire, C; Geeraerts, C; Eulaers, I; Neels, H; Covaci, A. (2015). Organophosphorus flame retardants in the European eel in Flanders, Belgium: Occurrence, fate and human health risk. *Environ Res.* 140: 604-610. <http://dx.doi.org/10.1016/j.envres.2015.05.021>.
- Managaki, S; Enomoto, I; Masunaga, S. (2012). Sources and distribution of hexabromocyclododecanes (HBCDs) in Japanese river sediment. *J Environ Monit.* 14: 901-907. <http://dx.doi.org/10.1039/c2em10621c>.
- Mankidy, R; Ranjan, B; Honaramooz, A; Ii, Giesy, JP. (2014). Effects of novel brominated flame retardants on steroidogenesis in primary porcine testicular cells. *Toxicol Lett.* 224: 141-146. <http://dx.doi.org/10.1016/j.toxlet.2013.10.018>.
- Mankidy, R; Ranjan, B; Honaramooz, A; Giesy, JP. (2014). Effects of novel brominated flame retardants on steroidogenesis in primary porcine testicular cells. *Toxicol Lett.* 224: 141-146. <http://dx.doi.org/10.1016/j.toxlet.2013.10.018>.
- Manna, RN; Dybala-Defratyka, A. (2014). A computational study of the dechlorination of β -hexachlorocyclohexane (β -HCH) catalyzed by the haloalkane dehalogenase LinB. *Arch Biochem Biophys.* 562: 43-50. <http://dx.doi.org/10.1016/j.abb.2014.07.028>.
- Mariussen, E; Haukås, M; Arp, HP; Goss, KU; Borgen, A; Sandanger, TM. (2010). Relevance of 1,2,5,6,9,10-hexabromocyclododecane diastereomer structure on partitioning properties, column-retention and clean-up procedures. *J Chromatogr A.* 1217: 1441-1446. <http://dx.doi.org/10.1016/j.chroma.2009.12.076>.
- Mariussen, E; Steinnes, E; Breivik, K; Nygård, T; Schlabach, M; Kålås, JA. (2008). Spatial patterns of polybrominated diphenyl ethers (PBDEs) in mosses, herbivores and a carnivore from the Norwegian terrestrial biota. *Sci Total Environ.* 404: 162-170. <http://dx.doi.org/10.1016/j.scitotenv.2008.06.005>.
- Mark, FE; Vehlow, J; Dresch, H; Dima, B; Grüttner, W; Horn, J. (2015). Destruction of the flame retardant hexabromocyclododecane in a full-scale municipal solid waste incinerator. *Waste Manag Res.* 33: 165-174. <http://dx.doi.org/10.1177/0734242X14565226>.
- Maron, DM; Ames, BN. (1983). Revised methods for salmonella mutagenicity test. *Mutat Res Environ Mutagen Relat Subj.* 113: 173-215. [http://dx.doi.org/10.1016/0165-1161\(83\)90010-9](http://dx.doi.org/10.1016/0165-1161(83)90010-9).
- Marsh, G; Athanasiadou, M; Athanassiadis, I; Bergman, A; Endo, T; Haraguchi, K. (2005). Identification, quantification, and synthesis of a novel dimethoxylated polybrominated biphenyl in marine mammals caught off the coast of Japan. *Environ Sci Technol.* 39: 8684-8690. <http://dx.doi.org/10.1021/es051153v>.
- Marsili, A; Zavacki, AM; Harney, JW; Larsen, PR. (2011). Physiological role and regulation of iodothyronine deiodinases: a 2011 update [Review]. *J Endocrinol Invest.* 34: 395-407. <http://dx.doi.org/10.1007/BF03347465>.
- Marteinson, SC; Bird, DM; Letcher, RJ; Sullivan, KM; Ritchie, IJ; Fernie, KJ. (2012). Dietary exposure to technical hexabromocyclododecane (HBCD) alters courtship, incubation and parental behaviors in American kestrels (*Falco sparverius*). *Chemosphere.* 89: 1077-1083. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.073>.
- Marteinson, SC; Bird, DM; Shutt, JL; Letcher, RJ; Ritchie, IJ; Fernie, KJ. (2010). Multi-generational effects of polybrominated diphenylethers exposure: embryonic exposure of male American kestrels (*Falco sparverius*) to DE-71 alters reproductive success and behaviors. *Environ Toxicol Chem.* 29: 1740-1747. <http://dx.doi.org/10.1002/etc.200>.
- Marteinson, SC; Eulaers, I; Jaspers, VL; Covaci, A; Eens, M; Letcher, RJ; Fernie, KJ. (2017). Transfer of hexabromocyclododecane flame retardant isomers from captive American kestrel eggs to feathers and their association with thyroid hormones and growth. *Environ Pollut.* 220: 441-451. <http://dx.doi.org/10.1016/j.envpol.2016.09.086>.
- Marteinson, SC; Kimmins, S; Letcher, RJ; Palace, VP; Bird, DM; Ritchie, IJ; Fernie, KJ. (2011). Diet exposure to technical hexabromocyclododecane (HBCD) affects testes and circulating testosterone and thyroxine levels in American kestrels (*Falco sparverius*). *Environ Res.* 111: 1116-1123. <http://dx.doi.org/10.1016/j.envres.2011.08.006>.
- Martín, J; Camacho-Muñoz, D; Santos, JL; Aparicio, I; Alonso, E. (2014). Determination of emerging and priority industrial pollutants in surface water and wastewater by liquid chromatography-negative electrospray ionization tandem mass spectrometry. *Anal Bioanal Chem.* 406: 3709-3716. <http://dx.doi.org/10.1007/s00216-014-7689-8>.
- Martín, J; Santos, JL; Aparicio, I; Alonso, E. (2015). Determination of hormones, a plasticizer, preservatives, perfluoroalkylated compounds, and a flame retardant in water samples by ultrasound-assisted dispersive liquid-liquid microextraction based on the solidification of a floating organic drop. *Talanta.* 143: 335-343. <http://dx.doi.org/10.1016/j.talanta.2015.04.089>.
- Martín, J; Santos, JL; Aparicio, I; Alonso, E. (2016). Analytical method for biomonitoring of endocrine-disrupting compounds (bisphenol A, parabens, perfluoroalkyl compounds and a brominated flame retardant) in human hair by liquid chromatography-tandem mass spectrometry. *Anal Chim Acta.* 945: 95-101. <http://dx.doi.org/10.1016/j.aca.2016.10.004>.
- Marvin, CH; Macinnis, G; Alaei, M; Arsenaault, G; Tomy, GT. (2007). Factors influencing enantiomeric fractions of hexabromocyclododecane measured using liquid chromatography/tandem mass spectrometry. *Rapid Commun Mass Spectrom.* 21: 1925-1930. <http://dx.doi.org/10.1002/rcm.3040>.
- Marvin, CH; Tomy, GT; Alaei, M; Macinnis, G. (2006). Distribution of hexabromocyclododecane in Detroit River suspended sediments. *Chemosphere.* 64: 268-275. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.011>.

Human Health Hazard Literature Search Results

Off Topic

- Mascolo, G; Locaputo, V; Mininni, G. (2010). New perspective on the determination of flame retardants in sewage sludge by using ultrahigh pressure liquid chromatography-tandem mass spectrometry with different ion sources. *J Chromatogr A*. 1217: 4601-4611. <http://dx.doi.org/10.1016/j.chroma.2010.05.003>.
- MCC. (1990). INTERNAL MEMO FROM MICHIGAN CHEMICAL CORPORATION REGARDING HBCD BIODEGRADATION STUDY WITH TEST DATA AND COVER SHEET. (TSCATS/407265). MICHIGAN CHEMICAL CORPORATION,.
- McDonnell, ME. (1972). Human patch test - 20 subjects. (Haskell Laboratory Report 185-72). Haskell Laboratory for Toxicology and Industrial Medicine, E.I. du Pont de Nemours and Company.
- Mchugh, B; Poole, R; Corcoran, J; Anninou, P; Boyle, B; Joyce, E; Barry Foley, M; MCGovern, E. (2010). The occurrence of persistent chlorinated and brominated organic contaminants in the European eel (*Anguilla anguilla*) in Irish waters. *Chemosphere*. 79: 305-313. <http://dx.doi.org/10.1016/j.chemosphere.2010.01.029>.
- Mckinney, MA; Cesh, LS; Elliott, JE; Williams, TD; Garcelon, DK; Letcher, RJ. (2006). Brominated flame retardants and halogenated phenolic compounds in North American west coast bald eaglet (*Haliaeetus leucocephalus*) plasma. *Environ Sci Technol*. 40: 6275-6281. <http://dx.doi.org/10.1021/es061061l>.
- Mckinney, MA; Letcher, RJ; Aars, J; Born, EW; Branigan, M; Dietz, R; Evans, TJ; Gabrielsen, GW; Peacock, E; Sonne, C. (2011). Flame retardants and legacy contaminants in polar bears from Alaska, Canada, East Greenland and Svalbard, 2005-2008. *Environ Int*. 37: 365-374. <http://dx.doi.org/10.1016/j.envint.2010.10.008>.
- Mckinney, MA; Stirling, I; Lunn, NJ; Peacock, E; Letcher, RJ. (2010). The role of diet on long-term concentration and pattern trends of brominated and chlorinated contaminants in western Hudson Bay polar bears, 1991-2007. *Sci Total Environ*. 408: 6210-6222. <http://dx.doi.org/10.1016/j.scitotenv.2010.08.033>.
- Meeker, JD; Singh, NP; Hauser, R. (2008). Serum concentrations of estradiol and free T4 are inversely correlated with sperm DNA damage in men from an infertility clinic. *J Androl*. 29: 379-388. <http://dx.doi.org/10.2164/jandrol.107.004416>.
- Melymuk, L; Goosey, E; Riddell, N; Diamond, ML. (2015). Interlaboratory study of novel halogenated flame retardants: INTERFLAB. *Anal Bioanal Chem*. 407: 6759-6769. <http://dx.doi.org/10.1007/s00216-015-8843-7>.
- Meng, XZ; Duan, YP; Yang, C; Pan, ZY; Wen, ZH; Chen, L. (2011). Occurrence, sources, and inventory of hexabromocyclododecanes (HBCDs) in soils from Chongming Island, the Yangtze River Delta (YRD). *Chemosphere*. 82: 725-731. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.091>.
- Meng, XZ; Xiang, N; Duan, YP; Chen, L; Zeng, EY. (2012). Hexabromocyclododecane in consumer fish from South China: implications for human exposure via dietary intake. *Environ Toxicol Chem*. 31: 1424-1430. <http://dx.doi.org/10.1002/etc.1826>.
- Mercier, F; Gilles, E; Saramito, G; Glorennec, P; Le Bot, B. (2014). A multi-residue method for the simultaneous analysis in indoor dust of several classes of semi-volatile organic compounds by pressurized liquid extraction and gas chromatography/tandem mass spectrometry. *J Chromatogr A*. 1336: 101-111. <http://dx.doi.org/10.1016/j.chroma.2014.02.004>.
- Meyer, T; Muir, DC; Teixeira, C; Wang, X; Young, T; Wania, F. (2012). Deposition of brominated flame retardants to the Devon Ice Cap, Nunavut, Canada. *Environ Sci Technol*. 46: 826-833. <http://dx.doi.org/10.1021/es202900u>.
- Miège, C; Peretti, A; Labadie, P; Budzinski, H; Le Bizec, B; Vorkamp, K; Tronczynski, J; Persat, H; Coquery, M; Babut, M. (2012). Occurrence of priority and emerging organic compounds in fishes from the Rhone River (France). *Anal Bioanal Chem*. 404: 2721-2735. <http://dx.doi.org/10.1007/s00216-012-6187-0>.
- Miller, A; Elliott, JE; Elliott, KH; Guigueno, MF; Wilson, LK; Lee, S; Idrissi, A. (2014). Brominated flame retardant trends in aquatic birds from the Salish Sea region of the west coast of North America, including a mini-review of recent trends in marine and estuarine birds. *Sci Total Environ*. 502C: 60-69. <http://dx.doi.org/10.1016/j.scitotenv.2014.09.006>.
- Miller, A; Elliott, JE; Elliott, KH; Guigueno, MF; Wilson, LK; Lee, S; Idrissi, A. (2014). Spatial and temporal trends in brominated flame retardants in seabirds from the Pacific coast of Canada. *Environ Pollut*. 195C: 48-55. <http://dx.doi.org/10.1016/j.envpol.2014.08.009>.
- Miller, LJ; Puma, BJ. (1979). Analytical characteristics of late-eluting halogenated flame retardants (pp. 1319-1326). (HEEP/80/08576). Miller, LJ; Puma, BJ.
- Miller, MD; Crofton, KM; Rice, DC; Zoeller, RT. (2009). Thyroid-disrupting chemicals: interpreting upstream biomarkers of adverse outcomes [Review]. *Environ Health Perspect*. 117: 1033-1041. <http://dx.doi.org/10.1289/ehp.0800247>.
- Minh, NH; Isobe, T; Ueno, D; Matsumoto, K; Mine, M; Kajiwara, N; Takahashi, S; Tanabe, S. (2007). Spatial distribution and vertical profile of polybrominated diphenyl ethers and hexabromocyclododecanes in sediment core from Tokyo Bay, Japan. *Environ Pollut*. 148: 409-417. <http://dx.doi.org/10.1016/j.envpol.2006.12.011>.
- Montie, EW; Letcher, RJ; Reddy, CM; Moore, MJ; Rubinstein, B; Hahn, ME. (2010). Brominated flame retardants and organochlorine contaminants in winter flounder, harp and hooded seals, and North Atlantic right whales from the Northwest Atlantic Ocean. *Mar Pollut Bull*. 60: 1160-1169. <http://dx.doi.org/10.1016/j.marpolbul.2010.04.002>.
- Morf, L; Buser, AM; Taverna, R; Bader, HP; Scheidegger, R. (2008). Dynamic substance flow analysis as a valuable risk evaluation tool - A case study for brominated flame retardants as an example of potential endocrine disrupters. *Chimia*. 62: 424-431. <http://dx.doi.org/10.2533/chimia.2008.424>.
- Morf, LS; Tremp, J; Gloor, R; Huber, Y; Stengele, M; Zennegg, M. (2005). Brominated flame retardants in waste electrical and electronic equipment: substance flows in a recycling plant. *Environ Sci Technol*. 39: 8691-8699. <http://dx.doi.org/10.1021/es051170k>.
- Morreale de Escobar, G; Obregon, MJ; Escobar del Ray, F. (2000). Is neuropsychological development related to maternal hypothyroidism or to maternal hypothyroxinemia? [Review]. *J Clin Endocrinol Metab*. 85: 3975-3987. <http://dx.doi.org/10.1210/jc.85.11.3975>.
- Morris, S; Allchin, CR; Zegers, BN; Haftka, JJ; Boon, JP; Belpaire, C; Leonards, PE; Van Leeuwen, SP; De Boer, J. (2004). Distribution and fate of HBCD and TBBPA brominated flame retardants in North Sea estuaries and aquatic food webs. *Environ Sci Technol*. 38: 5497-5504. <http://dx.doi.org/10.1021/es049640i>.

Human Health Hazard Literature Search Results

Off Topic

- Morse, DC; Groen, D; Veerman, M; van Amerongen, CJ; Koëter, HB; Smits van Prooije, AE; Visser, TJ; Koeman, JH; Brouwer, A. (1993). Interference of polychlorinated biphenyls in hepatic and brain thyroid hormone metabolism in fetal and neonatal rats. *Toxicol Appl Pharmacol.* 122: 27-33. <http://dx.doi.org/10.1006/taap.1993.1168>.
- Munschy, C; Marchand, P; Venisseau, A; Veyrand, B; Zendong, Z. (2013). Levels and trends of the emerging contaminants HBCDs (hexabromocyclododecanes) and PFCs (perfluorinated compounds) in marine shellfish along French coasts. *Chemosphere.* 91: 233-240. <http://dx.doi.org/10.1016/j.chemosphere.2012.12.063>.
- Munschy, C; Olivier, N; Veyrand, B; Marchand, P. (2015). Occurrence of legacy and emerging halogenated organic contaminants in marine shellfish along French coasts. *Chemosphere.* 118: 329-335. <http://dx.doi.org/10.1016/j.chemosphere.2014.09.106>.
- Murvoll, KM; Skaare, JU; Anderssen, E; Jenssen, BM. (2006). Exposure and effects of persistent organic pollutants in European shag (*Phalacrocorax aristotelis*) hatchlings from the coast of Norway. *Environ Toxicol Chem.* 25: 190-198.
- Murvoll, KM; Skaare, JU; Jensen, H; Jenssen, BM. (2007). Associations between persistent organic pollutants and vitamin status in Brünnich's guillemot and common eider hatchlings. *Sci Total Environ.* 381: 134-145. <http://dx.doi.org/10.1016/j.scitotenv.2007.03.037>.
- Murvoll, KM; Skaare, JU; Moe, B; Anderssen, E; Jenssen, BM. (2006). Spatial trends and associated biological responses of organochlorines and brominated flame retardants in hatchlings of north Atlantic kittiwakes (*Rissa tridactyla*). *Environ Toxicol Chem.* 25: 1648-1656.
- Nakagawa, R; Murata, S; Ashizuka, Y; Shintani, Y; Hori, T; Tsutsumi, T. (2010). Hexabromocyclododecane determination in seafood samples collected from Japanese coastal areas. *Chemosphere.* 81: 445-452. <http://dx.doi.org/10.1016/j.chemosphere.2010.08.015>.
- Nakamura, A; Momma, J; Sekiguchi, H; Noda, T; Yamano, T; Kaniwa, M; Kojima, S; Tsuda, M; Kurokawa, Y. (1994). A new protocol and criteria for quantitative determination of sensitization potencies of chemicals by guinea pig maximization test. *Contact Derm.* 31: 72-85. <http://dx.doi.org/10.1111/j.1600-0536.1994.tb01921.x>.
- Nakao, T; Akiyama, E; ma; Kakutani, H; Mizuno, A; Aozasa, O; Akai, Y; Ohta, S. (2015). Levels of Tetrabromobisphenol A, Tribromobisphenol A, Dibromobisphenol A, Monobromobisphenol A, and Bisphenol A in Japanese Breast Milk. *Chem Res Toxicol.* 28: 722-728. <http://dx.doi.org/10.1021/tx500495j>.
- Nayak, NC; Sathar, SA; Mughal, S; Duttagupta, S; Mathur, M; Chopra, P. (1996). The nature and significance of liver cell vacuolation following hepatocellular injury--an analysis based on observations on rats rendered tolerant to hepatotoxic damage. *Virchows Arch.* 428: 353-365. <http://dx.doi.org/10.1007/BF00202202>.
- Neher, E; Sakaba, T. (2008). Multiple roles of calcium ions in the regulation of neurotransmitter release. *Neuron.* 59: 861-872. <http://dx.doi.org/10.1016/j.neuron.2008.08.019>.
- Newsome, SD; Park, J; Henry, BW; Holden, A; Fogel, ML; Linthicum, J; Chu, V; Hooper, K, im. (2010). Polybrominated Diphenyl Ether (PBDE) Levels in Peregrine Falcon (*Falco peregrinus*) Eggs from California Correlate with Diet and Human Population Density. *Environ Sci Technol.* 44: 5248-5255. <http://dx.doi.org/10.1021/es100658e>.
- Newton, S; Sellstrom, U; de Wit, CA. (2015). Emerging Flame Retardants, PBDEs, and HBCDDs in Indoor and Outdoor Media in Stockholm, Sweden. *Environ Sci Technol.* 49: 2912-2920. <http://dx.doi.org/10.1021/es505946e>.
- Ni, HG; Lu, SY; Mo, T; Zeng, H. (2016). Brominated flame retardant emissions from the open burning of five plastic wastes and implications for environmental exposure in China. *Environ Pollut.* 214: 70-76. <http://dx.doi.org/10.1016/j.envpol.2016.03.049>.
- Ni, HG; Zeng, H. (2013). HBCD and TBBPA in particulate phase of indoor air in Shenzhen, China. *Sci Total Environ.* 458-460: 15-19. <http://dx.doi.org/10.1016/j.scitotenv.2013.04.003>.
- NICNAS. (2005). Current Australian use and regulatory activities on polybrominated flame retardants. Sydney, Australia.
- Nicolau, GY; Haus, E; Pflingă, L; Dumitriu, L; Lakatua, D; Popescu, M; Ungureanu, E; Sackett-Lundeen, L; Petrescu, E. (1992). Chronobiology of pituitary-thyroid functions. *Rom J Endocrinol.* 30: 125-148.
- Nie, Z; Yang, Z; Fang, Y; Yang, Y; Tang, Z; Wang, X; Die, Q; Gao, X; Zhang, F; Wang, Q; Huang, Q. (2015). Environmental risks of HBCDD from construction and demolition waste: a contemporary and future issue. *Environ Sci Pollut Res Int.* 22: 17249-17252. <http://dx.doi.org/10.1007/s11356-015-5487-2>.
- Nordlöf, U; Helander, B; Bignert, A; Asplund, L. (2010). Levels of brominated flame retardants and methoxylated polybrominated diphenyl ethers in eggs of white-tailed sea eagles breeding in different regions of Sweden. *Sci Total Environ.* 409: 238-246. <http://dx.doi.org/10.1016/j.scitotenv.2010.09.042>.
- NRC. (2009). Science and decisions: Advancing risk assessment. Washington, DC: The National Academies Press. <http://dx.doi.org/10.17226/12209>.
- NRC. (2011). National Academies Press
- Review of the Environmental Protection Agency's draft IRIS assessment of formaldehyde. Washington, DC: The National Academies Press. <http://dx.doi.org/10.17226/13142>.
- NTP. (1983). Salmonella mutagenesis test results (pp. 5-6). (EMICBACK/51199). Research Triangle Park, NC.
- Ogata, M; Umemura, S; Sugiyama, N; Kuwano, N; Koizumi, A; Sawada, T; Yanase, M; Takaha, T; Kadokawa, J; Usui, T. (2016). Synthesis of multivalent sialyllactosamine-carrying glyco-nanoparticles with high affinity to the human influenza virus hemagglutinin. *Carbohydr Polymer.* 153: 96-104. <http://dx.doi.org/10.1016/j.carbpol.2016.07.083>.
- Oh, JK; Kotani, K; Managaki, S; Masunaga, S. (2014). Levels and distribution of hexabromocyclododecane and its lower brominated derivative in Japanese riverine environment. *Chemosphere.* 109: 157-163. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.074>.
- Okonski, K; Degrendele, C; Melymuk, L; Landlová, L; Kukučka, P; Vojta, S; Kohoutek, J; Cupr, P; Klánová, J. (2014). Particle size distribution of halogenated flame retardants and implications for atmospheric deposition and transport. *Environ Sci Technol.* 48: 14426-14434. <http://dx.doi.org/10.1021/es5044547>.
- Olatinwo, MB; Ham, K; Mccarney, J; Marathe, S; Ge, J; Knapp, G; Butler, LG. (2016). Analysis of Flame Retardancy in Polymer Blends by Synchrotron X-ray K-edge Tomography and Interferometric Phase Contrast Movies. *J Phys Chem B.* 120: 2612-2624. <http://dx.doi.org/10.1021/acs.jpcc.5b12775>.

Human Health Hazard Literature Search Results

Off Topic

- Olukunle, OI; Okonkwo, OJ. (2015). Concentration of novel brominated flame retardants and HBCD in leachates and sediments from selected municipal solid waste landfill sites in Gauteng Province, South Africa. *Waste Manag.* 43: 300-306. <http://dx.doi.org/10.1016/j.wasman.2015.07.009>.
- Omięciński, CJ; Vanden Heuvel, JP; Perdew, GH; Peters, JM. (2011). Xenobiotic metabolism, disposition, and regulation by receptors: from biochemical phenomenon to predictors of major toxicities [Review]. *Toxicol Sci.* 120: S49-S75. <http://dx.doi.org/10.1093/toxsci/kfq338>.
- Oros, DR; Hoover, D; Rodigari, F; Crane, D; Sericano, J. (2005). Levels and distribution of polybrominated diphenyl ethers in water, surface sediments, and bivalves from the San Francisco Estuary. *Environ Sci Technol.* 39: 33-41. <http://dx.doi.org/10.1021/es048905q>.
- Ortiz, X; Guerra, P; Díaz-Ferrero, J; Eljarrat, E; Barceló, D. (2011). Diastereoisomer- and enantiomer-specific determination of hexabromocyclododecane in fish oil for food and feed. *Chemosphere.* 82: 739-744. <http://dx.doi.org/10.1016/j.chemosphere.2010.10.088>.
- Paine, MRL; Rae, I; Blanksby, SJ. (2014). Direct detection of brominated flame retardants from plastic e-waste using liquid extraction surface analysis mass spectrometry. *Rapid Commun Mass Spectrom.* 28: 1203-1208. <http://dx.doi.org/10.1002/rcm.6889>.
- Palm Cousins, A; Brorström-Lundén, E; Hedlund, B. (2012). Prioritizing organic chemicals for long-term air monitoring by using empirical monitoring data--application to data from the Swedish screening program. *Environ Monit Assess.* 184: 4647-4654. <http://dx.doi.org/10.1007/s10661-011-2292-3>.
- Papachlimitzou, A; Barber, JL; Losada, S; Bersuder, P; Law, RJ. (2012). A review of the analysis of novel brominated flame retardants [Review]. *J Chromatogr A.* 1219: 15-28. <http://dx.doi.org/10.1016/j.chroma.2011.11.029>.
- Partyka, A; Bonarska-Kujawa, D; Sporniak, M; Strojceki, M; Nizański, W. (2016). Modification of membrane cholesterol and its impact on frozen-thawed chicken sperm characteristics. *Zygote.* 24: 1-10. <http://dx.doi.org/10.1017/S0967199416000022>.
- Patel, J; Landers, K; Li, H; Mortimer, RH; Richard, K. (2011). Thyroid hormones and fetal neurological development. *J Endocrinol.* 209: 1-8. <http://dx.doi.org/10.1530/JOE-10-0444>.
- Paul, KB; Hedge, JM; Devito, MJ; Crofton, KM. (2010). Short-term exposure to triclosan decreases thyroxine in vivo via upregulation of hepatic catabolism in Young Long-Evans rats. *Toxicol Sci.* 113: 367-379. <http://dx.doi.org/10.1093/toxsci/kfp271>.
- Pawar, G; Abdallah, MA; de Sáa, EV; Harrad, S. (2016). Dermal bioaccessibility of flame retardants from indoor dust and the influence of topically applied cosmetics. *J Expo Sci Environ Epidemiol.* 27: 100-105. <http://dx.doi.org/10.1038/jes.2015.84>.
- Peled, M; Scharia, R; Sondack, D. (1995). Thermal rearrangement of hexabromo-cyclododecane (HBCD). In JR Desmurs; B Gérard; MJ Godstein (Eds.), (pp. 92-99). New York, NY: Elsevier. [http://dx.doi.org/10.1016/S0926-9614\(05\)80012-7](http://dx.doi.org/10.1016/S0926-9614(05)80012-7).
- Peng, X; Huang, X; Jing, F; Zhang, Z; Wei, D; Jia, X. (2015). Study of novel pure culture HBCD-1, effectively degrading Hexabromocyclododecane, isolated from an anaerobic reactor. *Bioresour Technol.* 185: 218-224. <http://dx.doi.org/10.1016/j.biortech.2015.02.093>.
- Pererira, DN; Procianny, RS. (2003). Effect of perinatal asphyxia on thyroid-stimulating hormone and thyroid hormone levels. *Acta Paediatr.* 92: 339-345. <http://dx.doi.org/10.1111/j.1651-2227.2003.tb00556.x>.
- Peters, RJB; Beeltje, H; van Delft, RJ. (2008). Xeno-estrogenic compounds in precipitation. *J Environ Monit.* 10: 760-769. <http://dx.doi.org/10.1039/b805983g>.
- Pharmakon Research International. (1990). Acute exposure dermal toxicity test in rabbits (82 EPA/OECD) with attachments and cover letter dated 030890 [TSCA Submission]. (86-900000167). <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522238>.
- Pharmakon Research International. (1990). Primary dermal irritation study in rabbits with attachments and cover letter dated 030890 [TSCA Submission]. (86-900000168). <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522239>.
- Plasqui, G; Kester, AD; Westerterp, KR. (2003). Seasonal variation in sleeping metabolic rate, thyroid activity, and leptin. *Am J Physiol Endocrinol Metab.* 285: E338-E343. <http://dx.doi.org/10.1152/ajpendo.00488.2002>.
- Polder, A; Muller, MB; Brynildsrud, OB; de Boer, J; Hamers, T; Kamstra, JH; Lie, E; Mdegela, RH; Moberg, H; Nonga, HE; Sandvik, M; Skaare, JU; Lyche, JL. (2016). Dioxins, PCBs, chlorinated pesticides and brominated flame retardants in free-range chicken eggs from peri-urban areas in Arusha, Tanzania: Levels and implications for human health. *Sci Total Environ.* 551: 656-667. <http://dx.doi.org/10.1016/j.scitotenv.2016.02.021>.
- Polder, A; Venter, B; Skaare, JU; Bouwman, H. (2008). Polybrominated diphenyl ethers and HBCD in bird eggs of South Africa. *Chemosphere.* 73: 148-154. <http://dx.doi.org/10.1016/j.chemosphere.2008.03.021>.
- Poma, G; Binelli, A; Volta, P; Roscioli, C; Guzzella, L. (2014). Evaluation of spatial distribution and accumulation of novel brominated flame retardants, HBCD and PBDEs in an Italian subalpine lake using zebra mussel (*Dreissena polymorpha*). *Environ Sci Pollut Res Int.* 21: 9655-9664. <http://dx.doi.org/10.1007/s11356-014-2826-7>.
- Poma, G; Roscioli, C; Guzzella, L. (2014). PBDE, HBCD, and novel brominated flame retardant contamination in sediments from Lake Maggiore (Northern Italy). *Environ Monit Assess.* 186: 7683-7692. <http://dx.doi.org/10.1007/s10661-014-3959-3>.
- Poma, G; Volta, P; Roscioli, C; Bettinetti, R; Guzzella, L. (2014). Concentrations and trophic interactions of novel brominated flame retardants, HBCD, and PBDEs in zooplankton and fish from Lake Maggiore (Northern Italy). *Sci Total Environ.* 481: 401-408. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.063>.
- Postmes, TJ; Van Hout, JC; Saat, G; Willems, P; Coenegracht, J. (1974). A radioimmunoassay study and comparison of seasonal variation in plasma triiodothyronine and thyroxine concentrations in normal healthy persons. *Clin Chim Acta.* 50: 189-195. [http://dx.doi.org/10.1016/0009-8981\(74\)90366-0](http://dx.doi.org/10.1016/0009-8981(74)90366-0).
- Prudente, MS; Malarvannan, G; Tanabe, S. (2007). Developments in Environmental Science Persistent Toxic Substances in the Philippine Environment. [http://dx.doi.org/10.1016/S1474-8177\(07\)07012-X](http://dx.doi.org/10.1016/S1474-8177(07)07012-X).
- Pucci, E; Chiovato, L; Pinchera, A. (2000). Thyroid and lipid metabolism. *Int J Obes (Lond).* 24: S109-S112.

Human Health Hazard Literature Search Results

Off Topic

- Pulkrabová, J; Hajslová, J; Poustka, J; Kazda, R. (2007). Fish as biomonitors of polybrominated diphenyl ethers and hexabromocyclododecane in Czech aquatic ecosystems: pollution of the Elbe River basin. *Environ Health Perspect.* 115 Suppl 1: 28-34. <http://dx.doi.org/10.1289/ehp.9354>.
- Pursch, M; Buckenmaier, S. (2015). Loop-based multiple heart-cutting two-dimensional liquid chromatography for target analysis in complex matrices. *Anal Chem.* 87: 5310-5317. <http://dx.doi.org/10.1021/acs.analchem.5b00492>.
- Qi, H; Li, WL; Liu, LY; Song, WW; Ma, WL; Li, YF. (2014). Brominated flame retardants in the urban atmosphere of Northeast China: Concentrations, temperature dependence and gas-particle partitioning. *Sci Total Environ.* 491-492: 60-66. <http://dx.doi.org/10.1016/j.scitotenv.2014.03.002>.
- Qi, H; Li, WL; Liu, LY; Zhang, ZF; Zhu, NZ; Song, WW; Ma, WL; Li, YF. (2014). Levels, distribution and human exposure of new non-BDE brominated flame retardants in the indoor dust of China. *Environ Pollut.* 195C: 1-8. <http://dx.doi.org/10.1016/j.envpol.2014.08.008>.
- Qiao, L; Zhang, Y; Chai, F; Tan, Y; Huo, C; Pan, Z. (2016). Chimeric virus-like particles containing a conserved region of the G protein in combination with a single peptide of the M2 protein confer protection against respiratory syncytial virus infection. *Antiviral Res.* 131: 131-140. <http://dx.doi.org/10.1016/j.antiviral.2016.05.001>.
- Qiu, Y; Strid, A; Bignert, A; Zhu, Z; Zhao, J; Athanasiadou, M; Athanassiadis, I; Bergman, Å. (2012). Chlorinated and brominated organic contaminants in fish from Shanghai markets: a case study of human exposure. *Chemosphere.* 89: 458-466. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.099>.
- Ramu, K; Isobe, T; Takahashi, S; Kim, EY; Min, BY; We, SU; Tanabe, S. (2010). Spatial distribution of polybrominated diphenyl ethers and hexabromocyclododecanes in sediments from coastal waters of Korea. *Chemosphere.* 79: 713-719. <http://dx.doi.org/10.1016/j.chemosphere.2010.02.048>.
- Ramu, K; Kajiwara, N; Isobe, T; Takahashi, S; Kim, EY; Min, BY; We, SU; Tanabe, S. (2007). Spatial distribution and accumulation of brominated flame retardants, polychlorinated biphenyls and organochlorine pesticides in blue mussels (*Mytilus edulis*) from coastal waters of Korea. *Environ Pollut.* 148: 562-569. <http://dx.doi.org/10.1016/j.envpol.2006.11.034>.
- Rani, M; Shim, WJ; Han, GM; Jang, M; Song, YK; Hong, SH. (2014). Hexabromocyclododecane in polystyrene based consumer products: An evidence of unregulated use. *Chemosphere.* 110: 111-119. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.022>.
- Rauert, C; Harrad, S; Stranger, M; Lazarov, B. (2014). Test chamber investigation of the volatilization from source materials of brominated flame retardants and their subsequent deposition to indoor dust. *Indoor Air.* 25: 393-404. <http://dx.doi.org/10.1111/ina.12151>.
- Rauert, C; Harrad, S; Suzuki, G; Takigami, H; Uchida, N; Takata, K. (2014). Test chamber and forensic microscopy investigation of the transfer of brominated flame retardants into indoor dust via abrasion of source materials. *Sci Total Environ.* 493: 639-648. <http://dx.doi.org/10.1016/j.scitotenv.2014.06.029>.
- Rauert, C; Kuribara, I; Kataoka, T; Wada, T; Kajiwara, N; Suzuki, G, o; Takigami, H; Harrad, S. (2016). Direct contact between dust and HBCD-treated fabrics is an important pathway of source-to-dust transfer. *Sci Total Environ.* 545: 77-83. <http://dx.doi.org/10.1016/j.scitotenv.2015.12.054>.
- Rauert, C; Lazarov, B; Harrad, S; Covaci, A; Stranger, M. (2014). A review of chamber experiments for determining specific emission rates and investigating migration pathways of flame retardants. *Atmos Environ.* 82: 44-55. <http://dx.doi.org/10.1016/j.atmosenv.2013.10.003>.
- Rawn, DF; Corrigan, C; Ménard, C; Breton, F; Sun, WF. (2016). A method for the analysis of multiple novel halogenated flame retardants in cow's milk. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 33: 1207-1218. <http://dx.doi.org/10.1080/19440049.2016.1198049>.
- Rawn, DF; Gaertner, DW; Weber, D; Curran, IH; Cooke, GM; Goodyer, CG. (2014). Hexabromocyclododecane concentrations in Canadian human fetal liver and placental tissues. *Sci Total Environ.* 468-469: 622-629. <http://dx.doi.org/10.1016/j.scitotenv.2013.08.014>.
- Rawn, DF; Ryan, JJ; Sadler, AR; Sun, WF; Weber, D; Laffey, P; Haines, D; Macey, K; Van Oostdam, J. (2014). Brominated flame retardant concentrations in sera from the Canadian Health Measures Survey (CHMS) from 2007 to 2009. *Environ Int.* 63: 26-34. <http://dx.doi.org/10.1016/j.envint.2013.10.012>.
- Rawn, DF; Sadler, A; Quade, SC; Sun, WF; Lau, BP; Kosarac, I; Hayward, S; Ryan, JJ. (2011). Brominated flame retardants in Canadian chicken egg yolks. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 28: 807-815. <http://dx.doi.org/10.1080/19440049.2010.545443>.
- Reindl, AR; Falkowska, L. (2014). Flame retardants at the top of a simulated baltic marine food web-A case study concerning african penguins from the Gdansk zoo. *Arch Environ Contam Toxicol.* 68: 259-264. <http://dx.doi.org/10.1007/s00244-014-0081-z>.
- Reiner, JL; Becker, PR; Gribble, MO; Lynch, JM; Moors, AJ; Ness, J; Peterson, D; Pugh, RS; Ragland, T; Rimmer, C; Rhoderick, J; Schantz, MM; Trevillian, J; Kucklick, JR. (2015). Organohalogen Contaminants and Vitamins in Northern Fur Seals (*Callorhinus ursinus*) Collected During Subsistence Hunts in Alaska. *Arch Environ Contam Toxicol.* 70: 96-105. <http://dx.doi.org/10.1007/s00244-015-0179-y>.
- Remberger, M; Sternbeck, J; Palm, A; Kaj, L; Strömberg, K; Brorström-Lundén, E. (2004). The environmental occurrence of hexabromocyclododecane in Sweden. *Chemosphere.* 54: 9-21. [http://dx.doi.org/10.1016/S0045-6535\(03\)00758-6](http://dx.doi.org/10.1016/S0045-6535(03)00758-6).
- Reyes, L; Mañalich, R. (2005). Long-term consequences of low birth weight [Review]. *Kidney Int Suppl.* 68: S107-S111. <http://dx.doi.org/10.1111/j.1523-1755.2005.09718.x>.
- Ribeiro, AR; Nunes, OC; Pereira, MF; Silva, AM. (2015). An overview on the advanced oxidation processes applied for the treatment of water pollutants defined in the recently launched Directive 2013/39/EU [Review]. *Environ Int.* 75: 33-51. <http://dx.doi.org/10.1016/j.envint.2014.10.027>.
- Riddell, N; Becker, R; Chittim, B; Emmerling, F; Köppen, R; Lough, A; McAlees, A; Mccrindle, R. (2011). Preparation and X-ray structural characterization of further stereoisomers of 1,2,5,6,9,10-hexabromocyclododecane. *Chemosphere.* 84: 900-907. <http://dx.doi.org/10.1016/j.chemosphere.2011.06.014>.
- Riddell, N; Mullin, LG; van Bavel, B; Ericson Jogsten, I; McAlees, A; Brazeau, A; Synnott, S; Lough, A; Mccrindle, R; Chittim, B. (2016). Enantioselective Analytical- and Preparative-Scale Separation of Hexabromocyclododecane Stereoisomers Using Packed Column Supercritical Fluid Chromatography. *Molecules.* 21. <http://dx.doi.org/10.3390/molecules21111509>.

Human Health Hazard Literature Search Results

Off Topic

- Robson, M; Melymuk, L; Bradley, L; Treen, B; Backus, S. (2013). Wet deposition of brominated flame retardants to the Great Lakes basin - Status and trends. *Environ Pollut.* 182: 299-306. <http://dx.doi.org/10.1016/j.envpol.2013.07.018>.
- Rodriguez, MJ; Adroer, R; de Yebra, L, luísa; Ramonet, D; Mahy, N. (2001). Calcium homeostasis in the central nervous system: Adaptation to neurodegeneration. *Contributions to Science.* 2: 43-61.
- Román, GC; Ghassabian, A; Bongers-Schokking, JJ; Jaddoe, VW; Hofman, A; de Rijke, YB; Verhulst, FC; Tiemeier, H. (2013). Association of gestational maternal hypothyroxinemia and increased autism risk. *Ann Neurol.* 74: 733-742. <http://dx.doi.org/10.1002/ana.23976>.
- Roosens, L; Dirtu, AC; Goemans, G; Belpaire, C; Gheorghe, A; Neels, H; Blust, R; Covaci, A. (2008). Brominated flame retardants and polychlorinated biphenyls in fish from the river Scheldt, Belgium. *Environ Int.* 34: 976-983. <http://dx.doi.org/10.1016/j.envint.2008.02.009>.
- Roosens, L; Geeraerts, C; Belpaire, C; Van Pelt, I; Neels, H; Covaci, A. (2010). Spatial variations in the levels and isomeric patterns of PBDEs and HBCDs in the European eel in Flanders. *Environ Int.* 36: 415-423. <http://dx.doi.org/10.1016/j.envint.2010.03.001>.
- Rosenberg, C; Hämeilä, M; Tornaesus, J; Säkkinen, K; Puttonen, K; Korpi, A; Kiilunen, M; Linnainmaa, M; Hesso, A. (2011). Exposure to flame retardants in electronics recycling sites. *Ann Occup Hyg.* 55: 658-665. <http://dx.doi.org/10.1093/annhyg/mer033>.
- Rosenfeld, JM; Vargas, R; Xie, W; Evans, RM. (2003). Genetic profiling defines the xenobiotic gene network controlled by the nuclear receptor pregnane X receptor. *Mol Endocrinol.* 17: 1268-1282. <http://dx.doi.org/10.1210/me.2002-0421>.
- Rosol, TJ; DeLellis, RA; Harvey, PW; Sutcliffe, C. (2013). Endocrine system. In W Haschek; C Rousseaux; M Wallig (Eds.), (3rd ed., pp. 2391-2492). Waltham, MA: Academic Press. <http://dx.doi.org/10.1016/B978-0-12-415759-0.00058-3>.
- Ross, MS; Wong, CS. (2010). Comparison of electrospray ionization, atmospheric pressure photoionization, and anion attachment atmospheric pressure photoionization for the analysis of hexabromocyclododecane enantiomers in environmental samples. *J Chromatogr A.* 1217: 7855-7863. <http://dx.doi.org/10.1016/j.chroma.2010.09.083>.
- Rüdel, H; Müller, J; Quack, M; Klein, R. (2012). Monitoring of hexabromocyclododecane diastereomers in fish from European freshwaters and estuaries. *Environ Sci Pollut Res Int.* 19: 772-783. <http://dx.doi.org/10.1007/s11356-011-0604-3>.
- Ryan, JJ; Rawn, DF. (2014). The brominated flame retardants, PBDEs and HBCD, in Canadian human milk samples collected from 1992 to 2005; concentrations and trends. *Environ Int.* 70: 1-8. <http://dx.doi.org/10.1016/j.envint.2014.04.020>.
- Ryoyama, K; Kidachi, Y; Yamaguchi, H; Kajiura, H; Takata, H. (2004). Anti-tumor activity of an enzymatically synthesized alpha-1,6 branched alpha-1,4-glucan, glycogen. *Biosci Biotechnol Biochem.* 68: 2332-2340.
- Sagerup, K; Helgason, LB; Polder, A; Strøm, H; Josefsen, TD; Skåre, JU; Gabrielsen, GW. (2009). Persistent organic pollutants and mercury in dead and dying glaucous gulls (*Larus hyperboreus*) at Bjørnøya (Svalbard). *Sci Total Environ.* 407: 6009-6016. <http://dx.doi.org/10.1016/j.scitotenv.2009.08.020>.
- Sahlström, L; Sellström, U; de Wit, CA. (2012). Clean-up method for determination of established and emerging brominated flame retardants in dust. *Anal Bioanal Chem.* 404: 459-466. <http://dx.doi.org/10.1007/s00216-012-6160-y>.
- Sahlström, LM; Sellström, U; de Wit, CA; Lignell, S; Darnerud, PO. (2014). Brominated flame retardants in matched serum samples from Swedish first-time mothers and their toddlers. *Environ Sci Technol.* 48: 7584-7592. <http://dx.doi.org/10.1021/es501139d>.
- Sahlström, LM; Sellström, U; de Wit, CA; Lignell, S; Darnerud, PO. (2015). Estimated intakes of brominated flame retardants via diet and dust compared to internal concentrations in a Swedish mother-toddler cohort. *Int J Hyg Environ Health.* 218: 422-432. <http://dx.doi.org/10.1016/j.ijheh.2015.03.011>.
- Saito, I; Onuki, A; Seto, H. (2007). Indoor organophosphate and polybrominated flame retardants in Tokyo. *Indoor Air.* 17: 28-36. <http://dx.doi.org/10.1111/j.1600-0668.2006.00442.x>.
- Saito, S; Tanoue, A; Matsuo, M. (1992). Applicability of the *i/o*-characters to a quantitative description of bioconcentration of organic chemicals in fish. *Chemosphere.* 24: 81-88.
- Salamova, A; Hites, RA. (2013). Brominated and chlorinated flame retardants in tree bark from around the globe. *Environ Sci Technol.* 47: 349-354. <http://dx.doi.org/10.1021/es303393z>.
- Sales, C; Portolés, T; Sancho, JV; Abad, E; Ábalos, M; Sauló, J; Fiedler, H; Gómara, B; Beltrán, J. (2016). Potential of gas chromatography-atmospheric pressure chemical ionization-tandem mass spectrometry for screening and quantification of hexabromocyclododecane. *Anal Bioanal Chem.* 408: 449-459. <http://dx.doi.org/10.1007/s00216-015-9146-8>.
- Samsonek, J; Puype, F. (2013). Occurrence of brominated flame retardants in black thermo cups and selected kitchen utensils purchased on the European market. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess.* 30: 1976-1986. <http://dx.doi.org/10.1080/19440049.2013.829246>.
- Saunders, DM; Podaima, M; Wiseman, S; Giesy, JP. (2015). Effects of the brominated flame retardant TBCO on fecundity and profiles of transcripts of the HPGL-axis in Japanese medaka. *Aquat Toxicol.* 160: 180-187. <http://dx.doi.org/10.1016/j.aquatox.2015.01.018>.
- Schantz, MM; Cleveland, D; Heckert, NA; Kucklick, JR; Leigh, SD; Long, SE; Lynch, JM; Murphy, KE; Olfaz, R; Pintar, AL; Porter, BJ; Rabb, SA; Pol, SSV; Wise, SA; Zeisler, R. (2016). Development of two fine particulate matter standard reference materials (< 4 µm and < 10 µm) for the determination of organic and inorganic constituents. *Anal Bioanal Chem.* 408: 4257-4266. <http://dx.doi.org/10.1007/s00216-016-9519-7>.
- Schechter, A; Colacino, J; Haffner, D; Patel, K; Opel, M; Pöpke, O; Birnbaum, L. (2010). Perfluorinated compounds, polychlorinated biphenyls, and organochlorine pesticide contamination in composite food samples from Dallas, Texas, USA. *Environ Health Perspect.* 118: 796-802. <http://dx.doi.org/10.1289/ehp.0901347>.
- Schechter, A; Haffner, D; Colacino, J; Patel, K; Pöpke, O; Opel, M; Birnbaum, L. (2010). Polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) in composite U.S. food samples. *Environ Health Perspect.* 118: 357-362. <http://dx.doi.org/10.1289/ehp.0901345>.
- Schechter, A; Harris, TR; Brummitt, S; Shah, N; Paepke, O. (2008). PBDE and HBCD Brominated Flame Retardants in the USA, Update 2008: Levels in Human Milk and Blood, Food, and Environmental Samples. *Epidemiology.* 19: S76-S76.

Human Health Hazard Literature Search Results

Off Topic

- Schechter, A; Szabo, DT; Miller, J; Gent, TL; Malik-Bass, N; Petersen, M; Paepke, O; Colacino, JA; Hynan, LS; Harris, TR; Malla, S; Birnbaum, LS. (2012). Hexabromocyclododecane (HBCD) Stereoisomers in U.S. Food from Dallas, Texas. *Environ Health Perspect.* 120: 1260-1264. <http://dx.doi.org/10.1289/ehp.1204993>.
- Schisterman, EF; Whitcomb, BW; Louis, GM; Louis, TA. (2005). Lipid adjustment in the analysis of environmental contaminants and human health risks. *Environ Health Perspect.* 113: 853-857. <http://dx.doi.org/10.1289/ehp.7640>.
- Schlummer, M; Vogelsang, J; Fiedler, D; Gruber, L; Wolz, G. (2015). Rapid identification of polystyrene foam wastes containing hexabromocyclododecane or its alternative polymeric brominated flame retardant by X-ray fluorescence spectroscopy. *Waste Manag Res.* 33: 662-670. <http://dx.doi.org/10.1177/0734242X15589783>.
- Schreder, ED; La Guardia, MJ. (2014). Flame retardant transfers from u.s. Households (dust and laundry wastewater) to the aquatic environment. *Environ Sci Technol.* 48: 11575-11583. <http://dx.doi.org/10.1021/es502227h>.
- Schriks, M; Vrabie, CM; Gutleb, AC; Faassen, EJ; Rietjens, IM; Murk, AJ. (2006). T-screen to quantify functional potentiating, antagonistic and thyroid hormone-like activities of poly halogenated aromatic hydrocarbons (PHAHs). *Toxicol In Vitro.* 20: 490-498. <http://dx.doi.org/10.1016/j.tiv.2005.09.001>.
- Schussler, GC. (2000). The thyroxine-binding proteins [Review]. *Thyroid.* 10: 141-149. <http://dx.doi.org/10.1089/thy.2000.10.141>.
- Schwarz, S; Rackstraw, A; Behnisch, PA; Brouwer, A; Koehler, HR; Kotz, A; Kuballa, T; Malisch, R; Neugebauer, F; Schilling, F; Schmidt, D; von Der Trenck, KT. (2016). Peregrine falcon egg pollutants Mirror Stockholm POPs list including methylmercury. *Toxicol Environ Chem.* 98: 886-923. <http://dx.doi.org/10.1080/02772248.2015.1126717>.
- Scott, HM; Mason, JI; Sharpe, RM. (2009). Steroidogenesis in the fetal testis and its susceptibility to disruption by exogenous compounds [Review]. *Endocr Rev.* 30: 883-925. <http://dx.doi.org/10.1210/er.2009-0016>.
- Sedlak, D; Dumler-Gradl, R; Thoma, H; Vierle, O. (1998). Polyhalogenated dibenzo-p-dioxins and dibenzofurans in the exhaust air during textile processings. *Chemosphere.* 37: 9-12.
- Sellström, U; Bignert, A; Kierkegaard, A; Häggberg, L; de Wit, CA; Olsson, M; Jansson, B. (2003). Temporal trend studies on tetra- and pentabrominated diphenyl ethers and hexabromocyclododecane in guillemot egg from the Baltic Sea. *Environ Sci Technol.* 37: 5496-5501. <http://dx.doi.org/10.1021/es0300766>.
- Sellstrom, U; Kierkegaard, A; De Wit, C; Jansson, B. (1998). Polybrominated diphenyl ethers and hexabromocyclododecane in sediment and fish from a Swedish River. *Environ Toxicol Chem.* 17: 1065-1072.
- Serrallach Mila, N; Franco Miranda, E; Riera Canals, L; Aguiló Lucía, F; López-Costeá, MA; Martínez Castela, A; Griño Boira, JM; Gil-Vernet Cebrián, S; González Segura, YC. (1996). [Kidney transplantation with donors in heart block. Long-term results]. *Arch Esp Urol.* 49: 1021-1027.
- Shaffer, BM. (1963). The isolated *Xenopus laevis* tail: a preparation for studying the central nervous system and metamorphosis in culture. *J Embryol Exp Morphol.* 11: 77-90.
- Shaw, SD; Berger, ML; Brenner, D; Kannan, K; Lohmann, N; Päpke, O. (2009). Bioaccumulation of polybrominated diphenyl ethers and hexabromocyclododecane in the northwest Atlantic marine food web. *Sci Total Environ.* 407: 3323-3329. <http://dx.doi.org/10.1016/j.scitotenv.2009.02.018>.
- Shaw, SD; Berger, ML; Brenner, D; Kannan, K; Päpke, NL. (2010). Response to Letter to the Editor re "Bioaccumulation of polybrominated diphenyl ethers and hexabromocyclododecane in the northwest Atlantic marine food web" [Letter]. *Sci Total Environ.* 408: 3717-3718. <http://dx.doi.org/10.1016/j.scitotenv.2010.04.044>.
- Shelby, MK; Cherrington, NJ; Vansell, NR; Klaassen, CD. (2003). Tissue mRNA expression of the rat UDP-glucuronosyltransferase gene family. *Drug Metab Dispos.* 31: 326-333. <http://dx.doi.org/10.1124/dmd.31.3.326>.
- SHELL OIL CO. (1982). FLAME RETARDANT POLYPROPYLENE - EVALUATION OF NEW ADDITIVES - TOXICITY AND ENVIRONMENTAL ASPECTS - WITH COVER LETTER. (TSCATS/017888).
- Shi, D; Lv, D; Liu, W; Shen, R; Li, D; Hong, H. (2017). Accumulation and developmental toxicity of hexabromocyclododecanes (HBCDs) on the marine copepod *Tigriopus japonicus*. *Chemosphere.* 167: 155-162. <http://dx.doi.org/10.1016/j.chemosphere.2016.09.160>.
- Shi, L, ei; Feng, H; Zhang, P; Zhou, L; Xie, D; An, D; Cai, Q. (2014). Synthesis of haptens and development of an indirect enzyme-linked immunosorbent assay for tris(2,3-dibromopropyl) isocyanurate. *Anal Biochem.* 447: 15-22. <http://dx.doi.org/10.1016/j.ab.2013.11.004>.
- Shi, YJ; Xu, XB; Zheng, XQ; Lu, YL. (2015). Responses of growth inhibition and antioxidant gene expression in earthworms (*Eisenia fetida*) exposed to tetrabromobisphenol A, hexabromocyclododecane and decabromodiphenyl ether. *Comp Biochem Physiol C Toxicol Pharmacol.* 174-175: 32-38. <http://dx.doi.org/10.1016/j.cbpc.2015.06.005>.
- Shi, Z; Feng, J; Li, J; Zhao, Y; Wu, Y. (2008). [Analysis of hexabromocyclododecane diastereoisomers in foods of animal origin using ultra performance liquid chromatography-mass spectrometry and isotope dilution]. *Sepu.* 26: 1-5.
- Shi, Z; Wang, Y; Niu, P; Wang, J; Sun, Z; Zhang, S; Wu, Y. (2013). Concurrent extraction, clean-up, and analysis of polybrominated diphenyl ethers, hexabromocyclododecane isomers, and tetrabromobisphenol A in human milk and serum. *J Sep Sci.* 36: 3402-3410. <http://dx.doi.org/10.1002/jssc.201300579>.
- Shi, ZX; Wu, YN; Li, JG; Zhao, YF; Feng, JF. (2009). Dietary exposure assessment of Chinese adults and nursing infants to tetrabromobisphenol-A and hexabromocyclododecanes: occurrence measurements in foods and human milk. *Environ Sci Technol.* 43: 4314-4319. <http://dx.doi.org/10.1021/es8035626>.
- Shields, BM; Knight, BA; Hill, A; Hattersley, AT; Vaidya, B. (2011). Fetal thyroid hormone level at birth is associated with fetal growth. *J Clin Endocrinol Metab.* 96: E934-E938. <http://dx.doi.org/10.1210/jc.2010-2814>.
- Shields, BM; Knight, BA; Hill, A; Hattersley, AT; Vaidya, B. (2011). Fetal thyroid hormone level at birth is associated with fetal growth : Supplemental materials [Supplemental Data]. *J Clin Endocrinol Metab.* 96: E934-E938.

Human Health Hazard Literature Search Results

Off Topic

- Shiota, G; Kanki, K. (2013). Retinoids and their target genes in liver functions and diseases [Review]. *J Gastroenterol Hepatol.* 28: 33-37. <http://dx.doi.org/10.1111/jgh.12031>.
- Shoeib, M; Harner, T; Webster, GM; Sverko, E; Cheng, Y. (2012). Legacy and current-use flame retardants in house dust from Vancouver, Canada. *Environ Pollut.* 169: 175-182. <http://dx.doi.org/10.1016/j.envpol.2012.01.043>.
- Simoni, M; Velardo, A; Montanini, V; Faustini Fustini, M; Seghedoni, S; Marrama, P. (1990). Circannual rhythm of plasma thyrotropin in middle-aged and old euthyroid subjects. *Hormone research.* 33: 184-189.
- Sitarek, K; Berlińska, B; Barański, B. (1994). Assessment of the effect of n-butanol given to female rats in drinking water on fertility and prenatal development of their offspring. *Int J Occup Med Environ Health.* 7: 365-370.
- Skrastina, D; Petrovskis, I; Petraityte, R; Sominskaya, I; Ose, V; Lieknina, I; Bogans, J; Sasnauskas, K; Pumpens, P. (2013). Chimeric derivatives of hepatitis B virus core particles carrying major epitopes of the rubella virus E1 glycoprotein. *Clinical and Vaccine Immunology (Online).* 20: 1719-1728. <http://dx.doi.org/10.1128/CVI.00533-13>.
- Smith, K; Liu, CH; El-Hiti, GA; Kang, GS; Jones, E; Clement, SG; Checquer, AD; Howarth, OW; Hursthouse, MB; Coles, SJ. (2005). An extensive study of bromination of cis,trans,trans-1,5,9-cyclododecatriene: product structures and conformations. *Org Biomol Chem.* 3: 1880-1892. <http://dx.doi.org/10.1039/b417156j>.
- Smith, K; Liu, CH; El-Hiti, GA; Kang, GS; Jones, E; Clement, SG; Checquer, AD; Howarth, OW; Hursthouse, MB; Coles, SJ. (2005). An extensive study of bromination of cis,trans,trans-1,5,9-cyclododecatriene: product structures and conformations : Erratum. *Org Biomol Chem.* 3: 1880-1892.
- Smolarz, K; Berger, A. (2009). Long-term toxicity of hexabromocyclododecane (HBCDD) to the benthic clam *Macoma balthica* (L.) from the Baltic Sea. *Aquat Toxicol.* 95: 239-247. <http://dx.doi.org/10.1016/j.aquatox.2009.09.010>.
- Smoluch, M; Silberring, J; Reszke, E; Kuc, J; Grochowalski, A. (2014). Determination of hexabromocyclododecane by flowing atmospheric pressure afterglow mass spectrometry. *Talanta.* 128: 58-62. <http://dx.doi.org/10.1016/j.talanta.2014.04.042>.
- Somoano-Blanco, L; Rodriguez-Gonzalez, P; Centineo, G; Fonseca, SG; Garcia Alonso, JI. (2016). Simultaneous determination of α -, β - and γ -hexabromocyclododecane diastereoisomers in water samples by isotope dilution mass spectrometry using (81)Br-labeled analogs. *J Chromatogr A.* 1429: 230-237. <http://dx.doi.org/10.1016/j.chroma.2015.12.041>.
- Son, MH; Kim, J; Shin, ES; Seo, SH; Chang, YS. (2015). Diastereoisomer- and species-specific distribution of hexabromocyclododecane (HBCD) in fish and marine invertebrates. *J Hazard Mater.* 300: 114-120. <http://dx.doi.org/10.1016/j.jhazmat.2015.06.023>.
- Sørmo, EG; Jenssen, BM; Lie, E; Skaare, JU. (2009). Brominated flame retardants in aquatic organisms from the North Sea in comparison with biota from the high Arctic marine environment. *Environ Toxicol Chem.* 28: 2082-2090. <http://dx.doi.org/10.1897/08-452.1>.
- Sørmo, EG; Lie, E; Ruus, A; Gaustad, H; Skaare, JU; Jenssen, BM. (2011). Trophic level determines levels of brominated flame-retardants in coastal herring gulls. *Ecotoxicol Environ Saf.* 74: 2091-2098. <http://dx.doi.org/10.1016/j.ecoenv.2011.06.012>.
- Sørmo, EG; Salmer, MP; Jenssen, BM; Hop, H; Baek, K; Kovacs, KM; Lydersen, C; Falk-Petersen, S; Gabrielsen, GW; Lie, E; Skaare, JU. (2006). Biomagnification of polybrominated diphenyl ether and hexabromocyclododecane flame retardants in the polar bear food chain in Svalbard, Norway. *Environ Toxicol Chem.* 25: 2502-2511.
- Stapleton, H; Allen, J; Kelly, S; Konstantinov, A; Klosterhaus, S; Watkins, D; Mcclean, M; Webster, T. (2008). Alternate and new brominated flame retardants detected in U.S. house dust. *Environ Sci Technol.* 42: 6910-6916. <http://dx.doi.org/10.1021/es801070p>.
- Stapleton, HM; Dodder, NG; Kucklick, JR; Reddy, CM; Schantz, MM; Becker, PR; Gulland, F; Porter, BJ; Wise, SA. (2006). Determination of HBCD, PBDEs and MeO-BDEs in California sea lions (*Zalophus californianus*) stranded between 1993 and 2003. *Mar Pollut Bull.* 52: 522-531. <http://dx.doi.org/10.1016/j.marpolbul.2005.09.045>.
- Stapleton, HM; Eagle, S; Sjödin, A; Webster, TF. (2012). Serum PBDEs in a North Carolina toddler cohort: Associations with hand wipes, house dust and socioeconomic variables. *Environ Health Perspect.* 120: 1049-1054. <http://dx.doi.org/10.1289/ehp.1104802>.
- Stapleton, HM; Misenheimer, J; Hoffman, K; Webster, TF. (2014). Flame retardant associations between children's handwipes and house dust. *Chemosphere.* 116: 54-60. <http://dx.doi.org/10.1016/j.chemosphere.2013.12.100>.
- Steinmaus, C; Miller, MD; Cushing, L; Blount, BC; Smith, AH. (2013). Combined effects of perchlorate, thiocyanate, and iodine on thyroid function in the National Health and Nutrition Examination Survey 2007-08. *Environ Res.* 123: 17-24. <http://dx.doi.org/10.1016/j.envres.2013.01.005>.
- Stenzel, A; Goss, KU; Endo, S. (2013). Determination of polyparameter linear free energy relationship (pp-LFER) substance descriptors for established and alternative flame retardants. *Environ Sci Technol.* 47: 1399-1406. <http://dx.doi.org/10.1021/es304780a>.
- Stenzel, JI; Nixon, WB. (1997). Hexabromocyclododecane (HBCD): Determination of the vapor pressure using a spinning rotor gauge with cover letter dated 08/15/1997 [TSCA Submission]. (TSCATS/453589. OTS0573702. Doc I.D. 86970000839). Arlington, VA: Wildlife International Ltd. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0573702>.
- Stiborova, H; Kolar, M; Vrkoslavova, J; Pulkrabova, J; Hajslova, J; Demnerova, K; Uhlik, O. (2017). Linking toxicity profiles to pollutants in sludge and sediments. *J Hazard Mater.* 321: 672-680. <http://dx.doi.org/10.1016/j.jhazmat.2016.09.051>.
- Stiborova, H; Vrkoslavova, J; Pulkrabova, J; Poustka, J; Hajslova, J; Demnerova, K. (2015). Dynamics of brominated flame retardants removal in contaminated wastewater sewage sludge under anaerobic conditions. *Sci Total Environ.* 533: 439-445. <http://dx.doi.org/10.1016/j.scitotenv.2015.06.131>.
- Stieger, G; Scheringer, M; Ng, CA; Hungerbühler, K. (2014). Assessing the persistence, bioaccumulation potential and toxicity of brominated flame retardants: Data availability and quality for 36 alternative brominated flame retardants. *Chemosphere.* 116: 118-123. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.083>.
- Strid, A; Smedje, G; Athanassiadis, I; Lindgren, T; Lundgren, H; Jakobsson, K; Bergman, A. (2014). Brominated flame retardant exposure of aircraft personnel. *Chemosphere.* 116: 83-90. <http://dx.doi.org/10.1016/j.chemosphere.2014.03.073>.
- Stubblings, WA; Kajiwar, N; Takigami, H; Harrad, S. (2016). Leaching behaviour of hexabromocyclododecane from treated curtains. *Chemosphere.* 144: 2091-2096. <http://dx.doi.org/10.1016/j.chemosphere.2015.10.121>.

Human Health Hazard Literature Search Results

Off Topic

- Su, G; Letcher, RJ; Moore, JN; Williams, LL; Martin, PA; de Solla, SR; Bowerman, WW. (2015). Spatial and temporal comparisons of legacy and emerging flame retardants in herring gull eggs from colonies spanning the Laurentian Great Lakes of Canada and United States. *Environ Res.* 142: 720-730. <http://dx.doi.org/10.1016/j.envres.2015.08.018>.
- Su, G; Saunders, D; Yu, Y; Yu, H; Zhang, X; Liu, H; Giesy, JP. (2014). Occurrence of additive brominated flame retardants in aquatic organisms from Tai Lake and Yangtze River in Eastern China, 2009-2012. *Chemosphere.* 114: 340-346. <http://dx.doi.org/10.1016/j.chemosphere.2014.05.046>.
- Su, J; Lu, Y; Liu, Z; Gao, S; Zeng, X; Yu, Z; Sheng, G; Fu, JM. (2015). Distribution of polybrominated diphenyl ethers and HBCD in sediments of the Hunhe River in Northeast China. *Environ Sci Pollut Res Int.* 22: 16781-16790. <http://dx.doi.org/10.1007/s11356-015-4779-x>.
- Subramanian, A; Tanabe, S. (2007). Developments in Environmental Science Persistent Toxic Substances in India. [http://dx.doi.org/10.1016/S1474-8177\(07\)07009-X](http://dx.doi.org/10.1016/S1474-8177(07)07009-X).
- Sudaryanto, A; Takahashi, S; Tanabe, S. (2007). Developments in Environmental Science Persistent Toxic Substances in the Environment of Indonesia. [http://dx.doi.org/10.1016/S1474-8177\(07\)07013-1](http://dx.doi.org/10.1016/S1474-8177(07)07013-1).
- Sührling, R; Barber, JL; Wolschke, H; Kötker, D; Ebinghaus, R. (2015). Fingerprint analysis of brominated flame retardants and Dechloranes in North Sea sediments. *Environ Res.* 140: 569-578. <http://dx.doi.org/10.1016/j.envres.2015.05.018>.
- Sührling, R; Busch, F; Fricke, N; Kötker, D; Wolschke, H; Ebinghaus, R. (2016). Distribution of brominated flame retardants and dechloranes between sediments and benthic fish--A comparison of a freshwater and marine habitat. *Sci Total Environ.* 542: 578-585. <http://dx.doi.org/10.1016/j.scitotenv.2015.10.085>.
- Sullivan, KM; Bird, DM; Ritchie, JI; Shutt, JL; Letcher, RJ; Fernie, KJ. (2010). Changes in plasma retinol of American kestrels (*Falco sparverius*) in response to dietary or in ovo exposure to environmentally relevant concentrations of a penta-brominated diphenyl ether mixture, DE-71. *J Toxicol Environ Health A.* 73: 1645-1654. <http://dx.doi.org/10.1080/15287394.2010.501720>.
- Sullivan, KM; Martenson, SC; Letcher, RJ; Bird, DM; Ritchie, JI; Shutt, JL; Fernie, KJ. (2013). Changes in the incubation by American kestrels (*Falco sparverius*) during exposure to the polybrominated diphenyl ether (PBDE) mixture DE-71. *J Toxicol Environ Health A.* 76: 978-989. <http://dx.doi.org/10.1080/15287394.2013.829759>.
- Sun, J; Tang, S; Peng, H; Saunders, DM; Doering, JA; Hecker, M; Jones, PD; Giesy, JP; Wiseman, S. (2016). Combined Transcriptomic and Proteomic Approach to Identify Toxicity Pathways in Early Life Stages of Japanese Medaka (*Oryzias latipes*) Exposed to 1,2,5,6-Tetrabromocyclooctane (TBCO). *Environ Sci Technol.* 50: 7781-7790. <http://dx.doi.org/10.1021/acs.est.6b01249>.
- Sun, YX; Luo, XJ; Mo, L; He, MJ; Zhang, Q; Chen, SJ; Zou, FS; Mai, BX. (2012). Hexabromocyclododecane in terrestrial passerine birds from e-waste, urban and rural locations in the Pearl River Delta, South China: levels, biomagnification, diastereoisomer- and enantiomer-specific accumulation. *Environ Pollut.* 171: 191-198. <http://dx.doi.org/10.1016/j.envpol.2012.07.026>.
- Suominen, K; Verta, M; Marttinen, S. (2014). Hazardous organic compounds in biogas plant end products-Soil burden and risk to food safety. *Sci Total Environ.* 491: 192-199. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.036>.
- Suzuki, K; Shiraishi, K; Yoshitani, K; Sugama, K; Kometani, T. (2014). Effect of a sports drink based on highly-branched cyclic dextrin on cytokine responses to exhaustive endurance exercise. *J Sports Med Phys Fitness.* 54: 622-630.
- Suzuki, S; Hasegawa, A. (2006). Determination of hexabromocyclododecane diastereoisomers and tetrabromobisphenol A in water and sediment by liquid chromatography/mass spectrometry. *Anal Sci.* 22: 469-474.
- Svensen, TC; Camus, L; Hargrave, B; Fisk, A; Muir, DCG; Borga, K. (2007). Polyaromatic hydrocarbons, chlorinated and brominated organic contaminants as tracers of feeding ecology in polar benthic amphipods. *Mar Ecol Prog Ser.* 337: 155-164.
- Svihlikova, V; Lankova, D; Poustka, J; Tomaniova, M; Hajslova, J; Pulkrabova, J. (2015). Perfluoroalkyl substances (PFASs) and other halogenated compounds in fish from the upper Labe River basin. *Chemosphere.* 129: 170-178. <http://dx.doi.org/10.1016/j.chemosphere.2014.09.096>.
- Swaim, SF; Gillette, RL; Sartin, EA; Hinkle, SH; Coolman, SL. (2000). Effects of a hydrolyzed collagen dressing on the healing of open wounds in dogs. *Am J Vet Res.* 61: 1574-1578.
- Takahashi, S; Oshihoi, T; Ramu, K; Isobe, T; Ohmori, K; Kubodera, T; Tanabe, S. (2010). Organohalogen compounds in deep-sea fishes from the western North Pacific, off-Tohoku, Japan: Contamination status and bioaccumulation profiles. *Mar Pollut Bull.* 60: 187-196. <http://dx.doi.org/10.1016/j.marpolbul.2009.09.027>.
- Takata, H; Akiyama, T; Kajiura, H; Kakutani, R, yo; Furuyashiki, T; Tomioka, E; Kojima, I; Kuriki, T. (2010). Application of branching enzyme in starch processing. *Biocatalysis and Biotransformation.* 28: 60-63. <http://dx.doi.org/10.3109/10242420903408393>.
- Takigami, H; Suzuki, G; Hirai, Y; Ishikawa, Y; Sunami, M; Sakai, S. (2009). Flame retardants in indoor dust and air of a hotel in Japan. *Environ Int.* 35: 688-693. <http://dx.doi.org/10.1016/j.envint.2008.12.007>.
- Takigami, H; Suzuki, G; Hirai, Y; Sakai, S. (2008). Transfer of brominated flame retardants from components into dust inside television cabinets. *Chemosphere.* 73: 161-169. <http://dx.doi.org/10.1016/j.chemosphere.2008.06.032>.
- Takigami, H; Suzuki, G; Hirai, Y; Sakai, S. (2009). Brominated flame retardants and other polyhalogenated compounds in indoor air and dust from two houses in Japan. *Chemosphere.* 76: 270-277. <http://dx.doi.org/10.1016/j.chemosphere.2009.03.006>.
- Takigami, H; Watanabe, M; Kajiwara, N. (2014). Destruction behavior of hexabromocyclododecanes during incineration of solid waste containing expanded and extruded polystyrene insulation foams. *Chemosphere.* 116: 24-33. <http://dx.doi.org/10.1016/j.chemosphere.2014.01.082>.
- Takii, H; Ishihara, K; Kometani, T; Okada, S; Fushiki, T. (1999). Enhancement of swimming endurance in mice by highly branched cyclic dextrin. *Biosci Biotechnol Biochem.* 63: 2045-2052.
- Takii, H; Takii Nagao, Y; Kometani, T; Nishimura, T; Nakae, T; Kuriki, T; Fushiki, T. (2005). Fluids containing a highly branched cyclic dextrin influence the gastric emptying rate. *Int J Sports Med.* 26: 314-319.
- Tan, Z; Lu, S; Zhang, J; Jiang, Y; Zhou, J; Zhu, Z; Liu, H; Li, S; Lin, X. (2014). [Determination of hexabromocyclododecanes diastereoisomers in human breast milk by HPLC-MS/MS]. *Wei Sheng Yan Jiu.* 43: 809-813.

Human Health Hazard Literature Search Results

Off Topic

- Tanabe, S. (2008). Temporal trends of brominated flame retardants in coastal waters of Japan and South China: retrospective monitoring study using archived samples from es-Bank, Ehime University, Japan. *Mar Pollut Bull.* 57: 267-274. <http://dx.doi.org/10.1016/j.marpolbul.2007.12.017>.
- Tang, B; Zeng, YH; Luo, XJ; Zheng, XB; Mai, BX. (2015). Bioaccumulative characteristics of tetrabromobisphenol A and hexabromocyclododecanes in multi-tissues of prey and predator fish from an e-waste site, South China. *Environ Sci Pollut Res Int.* 22: 12011-12017. <http://dx.doi.org/10.1007/s11356-015-4463-1>.
- Tang, C. (2010). Quantitative determination of the diastereoisomers of hexabromocyclododecane in human plasma using liquid chromatography coupled with electrospray ionization tandem mass spectrometry. *J Chromatogr B Analyt Technol Biomed Life Sci.* 878: 3317-3322. <http://dx.doi.org/10.1016/j.jchromb.2010.10.015>.
- Tang, J; Feng, J; Li, X; Li, G. (2014). Levels of flame retardants HBCD, TBBPA and TBC in surface soils from an industrialized region of East China. *Environ Sci Process Impacts.* 16: 1015-1021. <http://dx.doi.org/10.1039/c3em00656e>.
- Tang, L; Shao, HY; Zhu, JY; Xu, G; Han, T; Peng, BQ; Wu, MH. (2015). Hexabromocyclododecane diastereoisomers in surface sediments from river drainage basins of Shanghai, China: occurrence, distribution, and mass inventory. *Environ Sci Pollut Res Int.* 22: 11993-12000. <http://dx.doi.org/10.1007/s11356-015-4336-7>.
- Tao, F; Matsukami, H; Suzuki, G; Tue, NM; Viet, PH; Takigami, H; Harrad, S. (2016). Emerging halogenated flame retardants and hexabromocyclododecanes in food samples from an e-waste processing area in Vietnam. *Environ Sci Process Impacts.* 18: 361-370. <http://dx.doi.org/10.1039/c5em00593k>.
- Tappin, AD; Millward, GE. (2015). The English Channel: Contamination status of its transitional and coastal waters. *Mar Pollut Bull.* 95: 529-550. <http://dx.doi.org/10.1016/j.marpolbul.2014.12.012>.
- Taylor, KW; Novak, RF; Anderson, HA; Birnbaum, LS; Blystone, C; Devito, M; Jacobs, D; Köhrle, J; Lee, DH; Rylander, L; Rignell-Hydbom, A; Tornero-Velez, R; Turyk, ME; Boyles, AL; Thayer, KA; Lind, L. (2013). Evaluation of the association between persistent organic pollutants (POPs) and diabetes in epidemiological studies: a national toxicology program workshop review [Review]. *Environ Health Perspect.* 121: 774-783. <http://dx.doi.org/10.1289/ehp.1205502>.
- ten Dam, G; Pardo, O; Traag, W; van der Lee, M; Peters, R. (2012). Simultaneous extraction and determination of HBCD isomers and TBBPA by ASE and LC-MSMS in fish. *J Chromatogr B Analyt Technol Biomed Life Sci.* 898: 101-110. <http://dx.doi.org/10.1016/j.jchromb.2012.04.025>.
- Thomsen, C; Molander, P; Daae, HL; Janák, K; Froshaug, M; Liane, VH; Thorud, S; Becher, G; Dybing, E. (2007). Occupational exposure to hexabromocyclododecane at an industrial plant. *Environ Sci Technol.* 41: 5210-5216. <http://dx.doi.org/10.1021/es0702622>.
- Thuresson, K; Björklund, JA; de Wit, CA. (2012). Tri-decabrominated diphenyl ethers and hexabromocyclododecane in indoor air and dust from Stockholm microenvironments 1: levels and profiles. *Sci Total Environ.* 414: 713-721. <http://dx.doi.org/10.1016/j.scitotenv.2011.11.016>.
- Tian, Y; Liu, A, iF; Qu, G, bo; Liu, CX; Chen, J; Handberg, E; Shi, J, bo; Chen, H, wen; Jiang, G, uibin. (2015). Silver ion post-column derivatization electrospray ionization mass spectrometry for determination of tetrabromobisphenol A derivatives in water samples. *RSC Advances.* 5: 17474-17481. <http://dx.doi.org/10.1039/c4ra16166a>.
- Tobitsuka, K; Miura, M; Kobayashi, S. (2006). Retention of a European pear aroma model mixture using different types of saccharides. *J Agric Food Chem.* 54: 5069-5076. <http://dx.doi.org/10.1021/jf060309n>.
- Tomko, G; McDonald, KM. (2013). Environmental fate of hexabromocyclododecane from a new Canadian electronic recycling facility. *J Environ Manage.* 114: 324-327. <http://dx.doi.org/10.1016/j.jenvman.2012.10.024>.
- Tomy, GT; Budakowski, W; Halldorson, T; Whittle, DM; Keir, MJ; Marvin, C; Macinnis, G; Alae, M. (2004). Biomagnification of alpha- and gamma-hexabromocyclododecane isomers in a Lake Ontario food web. *Environ Sci Technol.* 38: 2298-2303. <http://dx.doi.org/10.1021/es034968h>.
- Tomy, GT; Halldorson, T; Danell, R; Law, K; Arsenault, G; Alae, M; Macinnis, G; Marvin, CH. (2005). Refinements to the diastereoisomer-specific method for the analysis of hexabromocyclododecane. *Rapid Commun Mass Spectrom.* 19: 2819-2826. <http://dx.doi.org/10.1002/rcm.2129>.
- Tomy, GT; Palace, V; Marvin, C; Stapleton, HM; Covaci, A; Harrad, S. (2011). Biotransformation of HBCD in biological systems can confound temporal-trend studies. *Environ Sci Technol.* 45: 364-365. <http://dx.doi.org/10.1021/es1039369>.
- Tomy, GT; Pleskach, K; Ferguson, SH; Hare, J; Stern, G; Macinnis, G; Marvin, CH; Loseto, L. (2009). Trophodynamics of Some PFCs and BFRs in a Western Canadian Arctic Marine Food Web. *Environ Sci Technol.* 43: 4076-4081. <http://dx.doi.org/10.1021/es900162n>.
- Tomy, GT; Pleskach, K; Oswald, T; Halldorson, T; Helm, PA; Macinnis, G; Marvin, CH. (2008). Enantioselective bioaccumulation of hexabromocyclododecane and congener-specific accumulation of brominated diphenyl ethers in an eastern Canadian Arctic marine food web. *Environ Sci Technol.* 42: 3634-3639. <http://dx.doi.org/10.1021/es703083z>.
- Tomy, GT; Thomas, CR; Zidane, TM; Murison, KE; Pleskach, K; Hare, J; Arsenault, G; Marvin, CH; Sverko, E, d. (2008). Examination of isomer specific bioaccumulation parameters and potential in vivo hepatic metabolites of syn- and anti-Dechlorane Plus isomers in juvenile rainbow trout (*Oncorhynchus mykiss*). *Environ Sci Technol.* 42: 5562-5567. <http://dx.doi.org/10.1021/es800220y>.
- Tonacchera, M; Pinchera, A; Dimida, A; Ferrarini, E; Agretti, P; Vitti, P; Santini, F; Crump, K; Gibbs, J. (2004). Relative potencies and additivity of perchlorate, thiocyanate, nitrate, and iodide on the inhibition of radioactive iodide uptake by the human sodium iodide symporter. *Thyroid.* 14: 1012-1019. <http://dx.doi.org/10.1089/thy.2004.14.1012>.
- Törnkvist, A; Glynn, A; Aune, M; Darnerud, PO; Ankarberg, EH. (2011). PCDD/F, PCB, PBDE, HBCD and chlorinated pesticides in a Swedish market basket from 2005--levels and dietary intake estimations. *Chemosphere.* 83: 193-199. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.042>.
- TRL. (1987). Rat oral subchronic toxicity study: Compound: Normal butanol (Final). (TRL study #032-006). Research Triangle Park, NC: Research Triangle Institute.

Human Health Hazard Literature Search Results

Off Topic

- Tso, CP; Shih, YH. (2014). The transformation of hexabromocyclododecane using zerovalent iron nanoparticle aggregates. *J Hazard Mater.* 277: 76-83. <http://dx.doi.org/10.1016/j.jhazmat.2014.04.044>.
- Tue, NM; Takahashi, S; Suzuki, G; Isobe, T; Viet, PH; Kobara, Y; Seike, N; Zhang, G; Sudaryanto, A; Tanabe, S. (2013). Contamination of indoor dust and air by polychlorinated biphenyls and brominated flame retardants and relevance of non-dietary exposure in Vietnamese informal e-waste recycling sites. *Environ Int.* 51: 160-167. <http://dx.doi.org/10.1016/j.envint.2012.11.006>.
- Tung, EW; Yan, H; Lefèvre, PL; Berger, RG; Rawn, DF; Gaertner, DW; Kawata, A; Rigden, M; Robaire, B; Hales, BF; Wade, MG. (2016). Gestational and Early Postnatal Exposure to an Environmentally Relevant Mixture of Brominated Flame Retardants: General Toxicity and Skeletal Variations. *Birth Defects Res B Dev Reprod Toxicol.* 107: 157-168. <http://dx.doi.org/10.1002/bdrb.21180>.
- Tweeddale, AC. (2017). The inadequacies of pre-market chemical risk assessment's toxicity studies-the implications [Review]. *J Appl Toxicol.* 37: 92-104. <http://dx.doi.org/10.1002/jat.3396>.
- U.S EPA. (2000). ECONOMIC ANALYSIS OF PROPOSED TEST RULE FOR FIVE BROMINATED FLAME RETARDANTS WITH COVER LETTER DATED 101690. (TSCATS/417953).
- U.S EPA. (2000). RESPONSES OF UNICELLULAR MARINE ALGAE TO BROMINATED ORGANIC COMPOUND IN SIX GROWTH MEDIA WITH COVER LETTER DATED 121886. (TSCATS/412362).
- U.S EPA; OTS. (1990). CATARACTOGENIC STUDY IN CHICKS WITH TEST DATA AND COVER LETTER. (TSCATS/407256). INTL RES and DEV CORP.
- U.S EPA; OTS. (1990). PILOT CATARACTOGENIC STUDY IN CHICKS WITH TEST DATA AND COVER LETTER. (TSCATS/407255). INTL RES and DEV CORP.
- U.S. EPA. (1988). Recommendations for and documentation of biological values for use in risk assessment (pp. 1-395). (EPA/600/6-87/008). Cincinnati, OH: U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=34855>.
- U.S. EPA. (1990). Acute toxicity studies in rabbits and rats with test data and cover letter dated 03-08-90. (86900000266).
- U.S. EPA. (1991). Guidelines for developmental toxicity risk assessment (pp. 1-71). (EPA/600/FR-91/001). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=23162>.
- U.S. EPA. (1994). Methods for derivation of inhalation reference concentrations and application of inhalation dosimetry [EPA Report] (pp. 1-409). (EPA/600/8-90/066F). Research Triangle Park, NC: U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office. <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=71993&CFID=51174829&CFTOKEN=25006317>.
- U.S. EPA. (1996). Guidelines for reproductive toxicity risk assessment (pp. 1-143). (EPA/630/R-96/009). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum.
- Ueda, A; Hamadeh, HK; Webb, HK; Yamamoto, Y; Sueyoshi, T; Afshari, CA; Lehmann, JM; Negishi, M. (2002). Diverse roles of the nuclear orphan receptor CAR in regulating hepatic genes in response to phenobarbital. *Mol Pharmacol.* 61: 1-6. <http://dx.doi.org/10.1124/mol.61.1.1>.
- Ueno, D; Alae, M; Marvin, C; Muir, DC; Macinnis, G; Reiner, E; Crozier, P; Furdui, VI; Subramanian, A; Fillmann, G; Lam, PK; Zheng, GJ; Muchtar, M; Razak, H; Prudente, M; Chung, KH; Tanabe, S. (2006). Distribution and transportability of hexabromocyclododecane (HBCD) in the Asia-Pacific region using skipjack tuna as a bioindicator. *Environ Pollut.* 144: 238-247. <http://dx.doi.org/10.1016/j.envpol.2005.12.024>.
- Vagula, MC; Kubeldis, N; Nelatury, CF. (2011). Environmental Monitoring of Brominated Flame Retardants. *Proc SPIE.* 8029. <http://dx.doi.org/10.1117/12.887127>.
- van Beusekom, OC; Eljarrat, E; Barceló, D; Koelmans, AA. (2006). Dynamic modeling of food-chain accumulation of brominated flame retardants in fish from the Ebro River Basin, Spain. *Environ Toxicol Chem.* 25: 2553-2560.
- Van den Eede, N; Dirtu, AC; Ali, N; Neels, H; Covaci, A. (2012). Multi-residue method for the determination of brominated and organophosphate flame retardants in indoor dust. *Talanta.* 89: 292-300. <http://dx.doi.org/10.1016/j.talanta.2011.12.031>.
- Van den Eede, N; Dirtu, AC; Neels, H; Covaci, A. (2011). Analytical developments and preliminary assessment of human exposure to organophosphate flame retardants from indoor dust. *Environ Int.* 37: 454-461. <http://dx.doi.org/10.1016/j.envint.2010.11.010>.
- Van der Ven, LT; van de Kuil, T; Leonards, PE; Slob, W; Cantón, RF; Germer, S; Visser, TJ; Litens, S; Håkansson, H; Schrenk, D; van den Berg, M; Piersma, AH; Vos, JG; Opperhuizen, A. (2008). A 28-day oral dose toxicity study in Wistar rats enhanced to detect endocrine effects of decabromodiphenyl ether (decaBDE). *Toxicol Lett.* 179: 6-14. <http://dx.doi.org/10.1016/j.toxlet.2008.03.003>.
- Van der Ven, LT; Van de Kuil, T; Verhoef, A; Verwer, CM; Lilienthal, H; Leonards, PE; Schauer, UM; Cantón, RF; Litens, S; De Jong, FH; Visser, TJ; Dekant, W; Stern, N; Håkansson, H; Slob, W; Van den Berg, M; Vos, JG; Piersma, AH. (2008). Endocrine effects of tetrabromobisphenol-A (TBBPA) in Wistar rats as tested in a one-generation reproduction study and a subacute toxicity study. *Toxicology.* 245: 76-89. <http://dx.doi.org/10.1016/j.tox.2007.12.009>.
- van der Ven, LTM; Lilienthal, H; van de Kuil, A; Piersma, AH. (2007). Endocrine effects of hexabromocyclododecane (HBCD) in a one-generation reproduction study in Wistar rats [Abstract]. *Birth Defects Res A Clin Mol Teratol.* 79: 412.
- van Leeuwen, SP; de Boer, J. (2008). Brominated flame retardants in fish and shellfish - levels and contribution of fish consumption to dietary exposure of Dutch citizens to HBCD. *Mol Nutr Food Res.* 52: 194-203. <http://dx.doi.org/10.1002/mnfr.200700207>.
- van Leeuwen, SP; van Velzen, MJ; Swart, CP; van der Veen, I; Traag, WA; de Boer, J. (2009). Halogenated contaminants in farmed salmon, trout, tilapia, pangasius, and shrimp. *Environ Sci Technol.* 43: 4009-4015. <http://dx.doi.org/10.1021/es803558r>.
- Vansell, NR; Klaassen, CD. (2002). Effect of microsomal enzyme inducers on the biliary excretion of triiodothyronine (T(3)) and its metabolites. *Toxicol Sci.* 65: 184-191. <http://dx.doi.org/10.1093/toxsci/65.2.184>.
- Velsicol Chem Corp. (1978). Industrial hygiene survey, Velsicol Chemical Corporation, El Dorado, Ark Plant, Fire Master 680 Unit and semi-works summary with attachments and cover letter dated 071978 [TSCA Submission]. (EPA/OTS Doc #88-7800228). Chicago, IL. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0200544>.
- Velsicol Chem Corp. (1990). INTERNAL MEMO FROM VELSICOL CHEMICAL CORPORATION REGARDING HYDROLYSIS OF FIREMASTER 100 WITH TEST DATA AND COVER LETTER. (TSCATS/407263).

Human Health Hazard Literature Search Results

Off Topic

- Velsicol Chem Corp. (1990). PARTITION COEFFICIENT OF DICAMBA, ENDRIN VEL 3510 AND SEVERAL INDUSTRIAL CHEMICALS AND FLAME RETARDANTS LABORATORY REPORT WITH TEST DATA AND COVER LETTER. (TSCATS/407261).
- Velsicol Chem Corp. (1990). Water solubility of several industrial chemicals flame retardants and a herbicide vel-3510 laboratory report with test data and cover letter. (TSCATS/407262. OTS0523262. Doc I.D. 8690000270). Washington, DC: U.S. Environmental Protection Agency.
- Venier, M; Hites, RA. (2011). Flame retardants in the serum of pet dogs and in their food. *Environ Sci Technol.* 45: 4602-4608. <http://dx.doi.org/10.1021/es1043529>.
- Venier, M; Wierda, M; Bowerman, WW; Hites, RA. (2010). Flame retardants and organochlorine pollutants in bald eagle plasma from the Great Lakes region. *Chemosphere.* 80: 1234-1240. <http://dx.doi.org/10.1016/j.chemosphere.2010.05.043>.
- Verboven, N; Verreault, J; Letcher, RJ; Gabrielsen, GW; Evans, NP. (2009). DIFFERENTIAL INVESTMENT IN EGGS BY ARCTIC-BREEDING GLAUCOUS GULLS (LARUS HYPERBOREUS) EXPOSED TO PERSISTENT ORGANIC POLLUTANTS. *Auk.* 126: 123-133. <http://dx.doi.org/10.1525/auk.2009.08039>.
- Verreault, J; Gabrielsen, GW; Bustnes, JO. (2010). The Svalbard glaucous gull as bioindicator species in the European arctic: insight from 35 years of contaminants research [Review]. *Rev Environ Contam Toxicol.* 205: 77-116. http://dx.doi.org/10.1007/978-1-4419-5623-1_2.
- Verreault, J; Gabrielsen, GW; Chu, S; Muir, DC; Andersen, M; Hamaed, A; Letcher, RJ. (2005). Flame retardants and methoxylated and hydroxylated polybrominated diphenyl ethers in two Norwegian Arctic top predators: glaucous gulls and polar bears. *Environ Sci Technol.* 39: 6021-6028. <http://dx.doi.org/10.1021/es050738m>.
- Verreault, J; Gebbink, WA; Gauthier, LT; Gabrielsen, GW; Letcher, RJ. (2007). Brominated flame retardants in glaucous gulls from the Norwegian Arctic: more than just an issue of polybrominated diphenyl ethers. *Environ Sci Technol.* 41: 4925-4931. <http://dx.doi.org/10.1021/es070522f>.
- Verreault, J; Shahmiri, S; Gabrielsen, GW; Letcher, RJ. (2007). Organohalogen and metabolically-derived contaminants and associations with whole body constituents in Norwegian Arctic glaucous gulls. *Environ Int.* 33: 823-830. <http://dx.doi.org/10.1016/j.envint.2007.03.013>.
- Verslycke, TA; Vethaak, AD; Arijis, K; Janssen, CR. (2005). Flame retardants, surfactants and organotins in sediment and mysid shrimp of the Scheldt estuary (The Netherlands). *Environ Pollut.* 136: 19-31. <http://dx.doi.org/10.1016/j.envpol.2004.12.008>.
- Vetter, W; Rosenfelder, N. (2008). Gas chromatography retention data of environmentally relevant polybrominated compounds. *Anal Bioanal Chem.* 392: 489-504. <http://dx.doi.org/10.1007/s00216-008-2277-4>.
- Viberg, H; Fredriksson, A; Eriksson, P. (2002). Neonatal exposure to the brominated flame retardant 2,2',4,4',5-pentabromodiphenyl ether causes altered susceptibility in the cholinergic transmitter system in the adult mouse. *Toxicol Sci.* 67: 104-107.
- Viberg, H; Fredriksson, A; Eriksson, P. (2003). Neonatal exposure to polybrominated diphenyl ether (PBDE 153) disrupts spontaneous behaviour, impairs learning and memory, and decreases hippocampal cholinergic receptors in adult mice. *Toxicol Appl Pharmacol.* 192: 95-106. [http://dx.doi.org/10.1016/S0041-008X\(03\)00217-5](http://dx.doi.org/10.1016/S0041-008X(03)00217-5).
- Viberg, H; Fredriksson, A; Eriksson, P. (2004). Investigations of strain and/or gender differences in developmental neurotoxic effects of polybrominated diphenyl ethers in mice. *Toxicol Sci.* 81: 344-353. <http://dx.doi.org/10.1093/toxsci/kfh215>.
- Vilaplana, F; Karlsson, P; Ribes-Greus, A; Ivarsson, P; Karlsson, S. (2008). Analysis of brominated flame retardants in styrenic polymers. Comparison of the extraction efficiency of ultrasonication, microwave-assisted extraction and pressurised liquid extraction. *J Chromatogr A.* 1196-1197: 139-146. <http://dx.doi.org/10.1016/j.chroma.2008.05.001>.
- Villanger, GD; Lydersen, C; Kovacs, KM; Lie, E; Skaare, JU; Jenssen, BM. (2011). Disruptive effects of persistent organohalogen contaminants on thyroid function in white whales (*Delphinapterus leucas*) from Svalbard. *Sci Total Environ.* 409: 2511-2524. <http://dx.doi.org/10.1016/j.scitotenv.2011.03.014>.
- Vorkamp, K; Bester, K; Rigét, FF. (2012). Species-specific time trends and enantiomer fractions of hexabromocyclododecane (HBCD) in biota from East Greenland. *Environ Sci Technol.* 46: 10549-10555. <http://dx.doi.org/10.1021/es301564z>.
- Vorkamp, K; Bossi, R; Bester, K; Bollmann, UE; Boutrup, S. (2014). New priority substances of the European Water Framework Directive: biocides, pesticides and brominated flame retardants in the aquatic environment of Denmark. *Sci Total Environ.* 470-471: 459-468. <http://dx.doi.org/10.1016/j.scitotenv.2013.09.096>.
- Vorkamp, K; Bossi, R; Riget, FF; Skov, H; Sonne, C; Dietz, R. (2015). Novel brominated flame retardants and dechlorane plus in Greenland air and biota. *Environ Pollut.* 196: 284-291. <http://dx.doi.org/10.1016/j.envpol.2014.10.007>.
- Vorkamp, K; Rigét, FF; Bossi, R; Dietz, R. (2011). Temporal trends of hexabromocyclododecane, polybrominated diphenyl ethers and polychlorinated biphenyls in ringed seals from East Greenland. *Environ Sci Technol.* 45: 1243-1249. <http://dx.doi.org/10.1021/es102755x>.
- Vorkamp, K; Thomsen, M; Falk, K; Leslie, H; Møller, S; Sørensen, PB. (2005). Temporal development of brominated flame retardants in peregrine Falcon (*Falco peregrinus*) eggs from South Greenland (1986-2003). *Environ Sci Technol.* 39: 8199-8206. <http://dx.doi.org/10.1021/es0508830>.
- Vos, JG; Becher, G; van den Berg, M; de Boer, J; Leonards, PEG. (2003). Brominated flame retardants and endocrine disruption. *Pure Appl Chem.* 75: 2039-2046.
- Waaijers, SL; Hartmann, J; Soeter, AM; Helmus, R; Kools, SA; de Voogt, P; Admiraal, W; Parsons, JR; Kraak, MH. (2013). Toxicity of new generation flame retardants to *Daphnia magna*. *Sci Total Environ.* 463-464: 1042-1048. <http://dx.doi.org/10.1016/j.scitotenv.2013.06.110>.
- Wäger, PA; Schlupe, M; Müller, E; Gloor, R. (2012). RoHS regulated substances in mixed plastics from waste electrical and electronic equipment. *Environ Sci Technol.* 46: 628-635. <http://dx.doi.org/10.1021/es202518n>.
- Walsh, GE; Yoder, MJ; McLaughlin, LL; Lores, EM. (1987). Responses of marine unicellular algae to brominated organic compounds in six growth media. *Ecotoxicol Environ Saf.* 14: 215-222.
- Waner, T; Nyska, A. (1991). The toxicological significance of decreased activities of blood alanine and aspartate aminotransferase [Review]. *Vet Res Commun.* 15: 73-78. <http://dx.doi.org/10.1007/BF00497793>.

Human Health Hazard Literature Search Results

Off Topic

- Wang, G; Wu, H; Zhang, X; Zhang, H; Yang, X; Tian, X; Li, J; Xiang, W; Li, X. (2013). *Aliidiomarina sanyensis* sp. nov., a hexabromocyclododecane assimilating bacterium from the pool of *Spirulina platensis* cultivation, Sanya, China. *Antonie Van Leeuwenhoek*. 104: 309-314. <http://dx.doi.org/10.1007/s10482-013-9949-6>.
- Wang, H; Xue, Q; Tao, L; Ye, X; Liang, S; Li, Y; Niu, Z. (2013). [Determination of hexabromocyclododecane in coatings by gas chromatography-mass spectrometry]. *Sepu*. 31: 791-794.
- Wang, J, ia; Bever, CRS; Majkova, Z; Dechant, JE; Yang, J, un; Gee, SJ; Xu, T; Hammock, BD. (2014). Heterologous Antigen Selection of Camelid Heavy Chain Single Domain Antibodies against Tetrabromobisphenol A. *Anal Chem*. 86: 8296-8302. <http://dx.doi.org/10.1021/ac5017437>.
- Wang, J; Jia, X; Gao, S; Zeng, X; Li, H; Zhou, Z; Sheng, G; Yu, Z. (2016). Levels and distributions of polybrominated diphenyl ethers, hexabromocyclododecane, and tetrabromobisphenol A in sediments from Taihu Lake, China. *Environ Sci Pollut Res Int*. 23: 10361-10370. <http://dx.doi.org/10.1007/s11356-015-5511-6>.
- Wang, L; Lee, W; Lee, W; Chang-Chien, G. (2010). Emission estimation and congener-specific characterization of polybrominated diphenyl ethers from various stationary and mobile sources. *Environ Pollut*. 158: 3108-3115. <http://dx.doi.org/10.1016/j.envpol.2010.06.041>.
- Wang, L; Zhang, M; Lou, Y; Ke, R; Zheng, M. (2017). Levels and distribution of tris-(2,3-dibromopropyl) isocyanurate and hexabromocyclododecanes in surface sediments from the Yellow River Delta wetland of China. *Mar Pollut Bull*. 114: 577-582. <http://dx.doi.org/10.1016/j.marpolbul.2016.09.019>.
- Wang, L; Zhao, Q; Zhao, Y; Lou, Y; Zheng, M; Yu, Y; Zhang, M. (2016). Determination of heterocyclic brominated flame retardants tris-(2, 3-dibromopropyl) isocyanurate and hexabromocyclododecane in sediment from Jiaozhou Bay wetland. *Mar Pollut Bull*. 113: 509-512. <http://dx.doi.org/10.1016/j.marpolbul.2016.08.013>.
- Wang, T; Han, S; Ruan, T; Wang, Y; Feng, J; Jiang, G. (2013). Spatial distribution and inter-year variation of hexabromocyclododecane (HBCD) and tris-(2,3-dibromopropyl) isocyanurate (TBC) in farm soils at a peri-urban region. *Chemosphere*. 90: 182-187. <http://dx.doi.org/10.1016/j.chemosphere.2012.06.027>.
- Wang, X; Ren, N; Qi, H; Ma, W; Li, Y. (2009). Levels and distribution of brominated flame retardants in the soil of Harbin in China. *J Environ Sci*. 21: 1541-1546.
- Weathers, W; Colon, M; Hines, A; Ulrich, EM. (2014). Use of fluorinated polybrominated diphenyl ethers and simplified cleanup for the analysis of polybrominated diphenyl ethers in house dust. *J Chromatogr A*. 1356: 266-271. <http://dx.doi.org/10.1016/j.chroma.2014.06.054>.
- Webster, L; Walsham, P; Russell, M; Neat, F; Phillips, L; Dalgarno, E; Packer, G; Scurfield, JA; Moffat, CF. (2009). Halogenated persistent organic pollutants in Scottish deep water fish. *J Environ Monit*. 11: 406-417. <http://dx.doi.org/10.1039/b815313b>.
- Weeke, J; Gundersen, HJ. (1978). Circadian and 30 minutes variations in serum TSH and thyroid hormones in normal subjects. *Acta Endocrinol*. 89: 659-672.
- Westerink, R; Heusinkveld, H; Bergman, A; Van Den Berg, M; Dingemans, M. (2010). The brominated flame retardants hexabromocyclododecane (HBCD) and BDE-47 affect calcium homeostasis in rat PC12 cells. *Toxicol Lett*. 196: S222-S223. <http://dx.doi.org/10.1016/j.toxlet.2010.03.747>.
- Wheater, PR; Burkitt, HG. (1996). *Wheater's basic histopathology: a colour atlas and text*. New York: Churchill Livingstone.
- Wichmann, H; Dettmer, FT; Bahadir, M. (2002). Thermal formation of PBDD/F from tetrabromobisphenol A--a comparison of polymer linked TBBP A with its additive incorporation in thermoplastics. *Chemosphere*. 47: 349-355.
- Wikoff, D; Thompson, C; Perry, C; White, M; Borghoff, S; Fitzgerald, L; Haws, LC. (2015). Development of toxicity values and exposure estimates for tetrabromobisphenol A: application in a margin of exposure assessment. *J Appl Toxicol*. 35: 1292-1308. <http://dx.doi.org/10.1002/jat.3132>.
- Wikoff, DS; Birnbaum, L. (2011). *Handbook of Environmental Chemistry Series Human Health Effects of Brominated Flame Retardants*. http://dx.doi.org/10.1007/698_2010_97.
- WILDLIFE INTERNATIONAL LTD. (1997). FINAL REPORT, HEXABROMOCYCLODODECANE (HBCD): A 96-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE RAINBOW TROUT (*ONCORHYNCHUS MYKISS*), WITH COVER LETTER DATED 6/27/1997. (TSCATS/445565). WILDLIFE INTERNATIONAL LTD.
- WILDLIFE INTERNATIONAL LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 48-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE CLADOCERAN (*DAPHNIA MAGNA*), WITH COVER LETTER DATED 6/20/97. (TSCATS/445050). WILDLIFE INTERNATIONAL LTD.
- Wildlife Intl LTD. (1996). HEXABROMOCYCLODODECANE (HBCD): CLOSED BOTTLE TEST WITH COVER LETTER DATED 12/12/1996. (TSCATS/453438).
- Wildlife Intl LTD. (1997). ANALYTICAL METHOD VERIFICATION FOR THE DETERMINATION OF HEXABROMOCYCLODODECANE (HBCD) IN WELL WATER WITH COVER LETTER DATED 06/27/1997. (TSCATS/453551).
- Wildlife Intl LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 48-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE CLADOCERAN (*DAPHNIA MAGNA*) WITH COVER LETTER DATED 06/20/1997. (TSCATS/452984).
- Wildlife Intl LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 96-HOUR TOXICITY TEST WITH THE FRESHWATER ALGA (*SELANASTRUM CAPRICORNUTUM*) WITH COVER LETTER DATED 06/26/1997. (TSCATS/453549).
- Wildlife Intl LTD. (1997). Hexabromocyclododecane (hbcdd): Determination of water solubility with cover letter dated 06/27/1997. (86970000798). Washington, DC: U.S. Environmental Protection Agency.
- Wildlife Intl LTD. (1997). LETTER FROM CHEM MFGS ASSOC TO USEPA REGARDING: TOXICOLOGICAL INVESTIGATION OF HEXABROMOCYCLODODECANE (HBCD) WITH ATTACHMENTS, DATED 06/27/1997. (TSCATS/452990).
- Wildlife Intl LTD. (1998). INITIAL SUBMISSION: HEXABROMOCYCLODODECANE (HBCD) - A FLOW-THROUGH LIFE-CYCLE TOXICITY TEST WITH THE CLADOCERAN (*DAPHNIA MAGNA*), FINAL REPORT, WITH COVER LETTER DATED 5/18/1998. (TSCATS/445953).
- Wildlife Intl LTD. (1998). INITIAL SUBMISSION: LETTER FROM CHEM MFGS ASSN TO USEPA REPORTING RESULTS IN 21-DAY LIFE-CYCLE TOXICITY TEST IN CLADOCERAN (*DAPHNIA MAGNA*) W/HEXABROMOCYCLODODECANE, DATED 4/23/98. (TSCATS/445416).

Human Health Hazard Literature Search Results

Off Topic

- Wilford, BH; Thomas, GO; Jones, KC; Davison, B; Hurst, DK. (2008). Decabromodiphenyl ether (deca-BDE) commercial mixture components, and other PBDEs, in airborne particles at a UK site. *Environ Int.* 34: 412-419. <http://dx.doi.org/10.1016/j.envint.2007.09.007>.
- Wu, HH; Chen, HC; Ding, WH. (2009). Combining microwave-assisted extraction and liquid chromatography-ion-trap mass spectrometry for the analysis of hexabromocyclododecane diastereoisomers in marine sediments. *J Chromatogr A.* 1216: 7755-7760. <http://dx.doi.org/10.1016/j.chroma.2009.09.001>.
- Wu, JP; Guan, YT; Zhang, Y; Luo, XJ; Zhi, H; Chen, SJ; Mai, BX. (2010). Trophodynamics of hexabromocyclododecanes and several other non-PBDE brominated flame retardants in a freshwater food web. *Environ Sci Technol.* 44: 5490-5495. <http://dx.doi.org/10.1021/es101300t>.
- Wu, JP; Guan, YT; Zhang, Y; Luo, XJ; Zhi, H; Chen, SJ; Mai, BX. (2011). Several current-use, non-PBDE brominated flame retardants are highly bioaccumulative: evidence from field determined bioaccumulation factors. *Environ Int.* 37: 210-215. <http://dx.doi.org/10.1016/j.envint.2010.09.006>.
- Wu, MH; Han, T; Xu, G; Zang, C; Li, YJ; Sun, R; Xu, BT; Sun, Y; Chen, FF; Tang, L. (2016). Occurrence of Hexabromocyclododecane in soil and road dust from mixed-land-use areas of Shanghai, China, and its implications for human exposure. *Sci Total Environ.* 559: 282-290. <http://dx.doi.org/10.1016/j.scitotenv.2016.03.166>.
- Wu, MH; Zhu, JY; Tang, L; Liu, N; Peng, BQ; Sun, R; Xu, G. (2014). Hexabromocyclododecanes in surface sediments from Shanghai, China: spatial distribution, seasonal variation and diastereoisomer-specific profiles. *Chemosphere.* 111: 304-311. <http://dx.doi.org/10.1016/j.chemosphere.2014.04.031>.
- Wu, N; Herrmann, T; Paepke, O; Tickner, J; Hale, R; Harvey, E; La Guardia, M; McClean, MD; Webster, TF. (2007). Human Exposure to PBDEs: Associations of PBDE Body Burdens with Food Consumption and House Dust Concentrations. *Environ Sci Technol.* 41: 1584-1589. <http://dx.doi.org/10.1021/es0620282>.
- Wu, T; Huang, H; Zhang, S. (2016). Accumulation and phytotoxicity of technical hexabromocyclododecane in maize. *J Environ Sci.* 42: 97-104. <http://dx.doi.org/10.1016/j.jes.2015.06.018>.
- Wu, T; Wang, S; Huang, H; Zhang, S. (2012). Diastereomer-Specific Uptake, Translocation, and Toxicity of Hexabromocyclododecane Diastereoisomers to Maize. *J Agric Food Chem.* 60: 8528-8534. <http://dx.doi.org/10.1021/jf302682p>.
- Xia, C; Lam, JC; Wu, X; Sun, L; Xie, Z; Lam, PK. (2011). Hexabromocyclododecanes (HBCDs) in marine fishes along the Chinese coastline. *Chemosphere.* 82: 1662-1668. <http://dx.doi.org/10.1016/j.chemosphere.2010.11.012>.
- Xian, Q; Ramu, K; Isobe, T; Sudaryanto, A; Liu, X; Gao, Z; Takahashi, S; Yu, H; Tanabe, S. (2008). Levels and body distribution of polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecanes (HBCDs) in freshwater fishes from the Yangtze River, China. *Chemosphere.* 71: 268-276. <http://dx.doi.org/10.1016/j.chemosphere.2007.09.032>.
- Xiang, N; Chen, L; Meng, XZ; Dai, X. (2014). Occurrence of hexabromocyclododecane (HBCD) in sewage sludge from Shanghai: Implications for source and environmental burden. *Chemosphere.* 118C: 207-212. <http://dx.doi.org/10.1016/j.chemosphere.2014.08.058>.
- Xiao, Z; Feng, J; Shi, Z; Li, J; Zhao, Y; Wu, Y. (2011). [Determination of three brominated flame retardants in human serum using solid-phase extraction coupled with ultra-performance liquid chromatography-tandem mass spectrometry and gas chromatography-mass spectrometry]. *Sepu.* 29: 1165-1172.
- Xu, C; Ou, J; Cui, Y; Wang, L; Lv, C; Liu, K; Wang, B; Xu, T; Li, QX; Liu, S. (2013). Development of a monoclonal antibody-based enzyme-linked immunosorbent assay for tetrabromobisphenol A. *Anal Chim Acta.* 32: 113-118. <http://dx.doi.org/10.1089/mab.2012.0099>.
- Xu, D; Liu, X; Lu, R; Xue, P; Zhang, X; Zhou, H; Jia, J. (2011). New dendritic gelator bearing carbazole in each branching unit: selected response to fluoride ion in gel phase. *Org Biomol Chem.* 9: 1523-1528. <http://dx.doi.org/10.1039/c0ob00786b>.
- Xu, J; Zhang, Y; Guo, C; He, Y; Li, L; Meng, W. (2013). Levels and distribution of tetrabromobisphenol a and hexabromocyclododecane in Taihu Lake, China. *Environ Toxicol Chem.* 32: 2249-2255. <http://dx.doi.org/10.1002/etc.2318>.
- Xu, T; Wang, J; Liu, SZ; Lü, C; Shelver, WL; Li, QX; Li, J. (2012). A highly sensitive and selective immunoassay for the detection of tetrabromobisphenol A in soil and sediment. *Anal Chim Acta.* 751: 119-127. <http://dx.doi.org/10.1016/j.aca.2012.06.030>.
- Xu, Z; Juan, L; MinJie, C; Le, W; Chi, Z; Jie, Z; QunFang, Z; Yong, L. (2011). Toxicity of the brominated flame retardant tris-(2,3-dibromopropyl) isocyanurate in zebrafish (*Danio rerio*). *Chin Sci Bull.* 56: 1548-1555. <http://dx.doi.org/10.1007/s11434-011-4471-6>.
- Yamada, T; Takahama, Y; Yamada, Y. (2009). Isolation of *Pseudomonas* sp. strain HB01 which degrades the persistent brominated flame retardant gamma-hexabromocyclododecane. *Biosci Biotechnol Biochem.* 73: 1674-1678. <http://dx.doi.org/10.1271/bbb.90104>.
- Yanagisawa, R; ie; Win-Shwe, T; Koike, E; Takano, H. (2013). Impact of hexabromocyclododecane on lipid and glucose metabolism in high-fat diet-induced obese mice. *Toxicol Lett.* 221: S252-S252. <http://dx.doi.org/10.1016/j.toxlet.2013.05.628>.
- Yang, C; Rose, NL; Turner, SD; Yang, H; Goldsmith, B; Losada, S; Barber, JL; Harrad, S. (2016). Hexabromocyclododecanes, polybrominated diphenyl ethers, and polychlorinated biphenyls in radiometrically dated sediment cores from English lakes, ~1950-present. *Sci Total Environ.* 541: 721-728. <http://dx.doi.org/10.1016/j.scitotenv.2015.09.102>.
- Yang, R; Wei, H; Guo, J; Li, A. (2012). Emerging brominated flame retardants in the sediment of the Great Lakes. *Environ Sci Technol.* 46: 3119-3126. <http://dx.doi.org/10.1021/es204141p>.
- Yi, S; Liu, JG; Jin, J; Zhu, J. (2016). Assessment of the occupational and environmental risks of hexabromocyclododecane (HBCD) in China. *Chemosphere.* 150: 431-437. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.047>.
- Yin, G; Asplund, L; Qiu, Y; Zhou, Y; Wang, H; Yao, Z; Jiang, J; Bergman, A. (2014). Chlorinated and brominated organic pollutants in shellfish from the Yellow Sea and East China Sea. *Environ Sci Pollut Res Int.* 22: 1713-1722. <http://dx.doi.org/10.1007/s11356-014-3198-8>.
- Yu, D; Yang, J; Li, T; Feng, J; Xian, Q; Zhu, J. (2015). Levels and distribution of dechloranes in sediments of Lake Taihu, China. *Environ Sci Pollut Res Int.* 22: 6601-6609. <http://dx.doi.org/10.1007/s11356-014-3794-7>.
- Yu, G; Bu, Q; Cao, Z; Du, X; Xia, J; Wu, M; Huang, J. (2016). Brominated flame retardants (BFRs): A review on environmental contamination in China [Review]. *Chemosphere.* 150: 479-490. <http://dx.doi.org/10.1016/j.chemosphere.2015.12.034>.

Human Health Hazard Literature Search Results

Off Topic

- Yu, L, i; Liu, L; Song, S; Kuang, H, ua; Xu, C. (2016). Development of an immunochromatographic test strip and ic-ELISA for tetrabromobisphenol: a detection in lake water and rice pudding samples. *Food and Agricultural Immunology*. 27: 460-470. <http://dx.doi.org/10.1080/09540105.2015.1126234>.
- Yu, L; Luo, X; Zheng, X; Zeng, Y; Chen, D; Wu, J; Mai, B. (2013). Occurrence and biomagnification of organohalogen pollutants in two terrestrial predatory food chains. *Chemosphere*. 93: 506-511. <http://dx.doi.org/10.1016/j.chemosphere.2013.06.023>.
- Yu, LH; Luo, XJ; Liu, HY; Zeng, YH; Zheng, XB; Wu, JP; Yu, YJ; Mai, BX. (2014). Organohalogen contamination in passerine birds from three metropolises in China: geographical variation and its implication for anthropogenic effects on urban environments. *Environ Pollut*. 188: 118-123. <http://dx.doi.org/10.1016/j.envpol.2014.01.023>.
- Yu, Z; Chen, L; Mai, B; Wu, M; Sheng, G; Fu, J; Peng, P. (2008). Diastereoisomer- and Enantiomer-specific Profiles of Hexabromocyclododecane in the Atmosphere of an Urban City in South China. *Environ Sci Technol*. 42: 3996-4001. <http://dx.doi.org/10.1021/es7027857>.
- Yu, Z; Peng, P; Sheng, G; Fu, J. (2008). Determination of hexabromocyclododecane diastereoisomers in air and soil by liquid chromatography-electrospray tandem mass spectrometry. *J Chromatogr A*. 1190: 74-79. <http://dx.doi.org/10.1016/j.chroma.2008.02.082>.
- Yuan, JP; Sun, YM; Liu, JH; Yao, YX; Chen, Y. (2016). Determination of hexabromocyclododecane enantiomers in chicken whole blood by a modified quick, easy, cheap, effective, rugged, and safe method with liquid chromatography and tandem mass spectrometry. *J Sep Sci*. 39: 2846-2852. <http://dx.doi.org/10.1002/jssc.201600005>.
- Zacs, D; Rjabova, J; Bartkevics, V. (2014). New perspectives on diastereoselective determination of hexabromocyclododecane traces in fish by ultra high performance liquid chromatography-high resolution orbitrap mass spectrometry. *J Chromatogr A*. 1330: 30-39. <http://dx.doi.org/10.1016/j.chroma.2014.01.023>.
- Zacs, D; Rjabova, J; Pugajeva, I; Nakurte, I; Viksna, A; Bartkevics, V. (2014). Ultra high performance liquid chromatography-time-of-flight high resolution mass spectrometry in the analysis of hexabromocyclododecane diastereomers: Method development and comparative evaluation versus ultra high performance liquid chromatography coupled to Orbitrap high resolution mass spectrometry and triple quadrupole tandem mass spectrometry. *J Chromatogr A*. 1366: 73-83. <http://dx.doi.org/10.1016/j.chroma.2014.09.021>.
- Zeller. (1962). Assessment of a possible irritating potential to the eye and to the eye mucosa. Letter from BASF to EPA. Zeller.
- Zeng, L; Yang, R; Zhang, Q; Zhang, H; Xiao, K; Zhang, H; Wang, Y; Lam, PK; Jiang, G. (2014). Current levels and composition profiles of emerging halogenated flame retardants and dehalogenated products in sewage sludge from municipal wastewater treatment plants in china. *Environ Sci Technol*. 48: 12586-12594. <http://dx.doi.org/10.1021/es503510q>.
- Zeng, W; Terada, T. (2000). Freezability of boar spermatozoa is improved by exposure to 2-hydroxypropyl-beta-cyclodextrin. *Reprod Fertil Dev*. 12: 223-228.
- Zeng, WX; Terada, T. (2001). Protection of boar spermatozoa from cold shock damage by 2-hydroxypropyl-beta-cyclodextrin. *Theriogenology*. 55: 615-627.
- Zeng, Y; Luo, X; Chen, H; Wu, JP; Chen, S; Mai, B, ix. (2012). Separation of polybrominated diphenyl ethers in fish for compound-specific stable carbon isotope analysis. *Sci Total Environ*. 425: 208-213. <http://dx.doi.org/10.1016/j.scitotenv.2012.03.014>.
- Zeng, YH; Luo, XJ; Tang, B; Mai, BX. (2016). Habitat- and species-dependent accumulation of organohalogen pollutants in home-produced eggs from an electronic waste recycling site in South China: Levels, profiles, and human dietary exposure. *Environ Pollut*. 216: 64-70. <http://dx.doi.org/10.1016/j.envpol.2016.05.039>.
- Zeng, YH; Luo, XJ; Zheng, XB; Tang, B; Wu, JP; Mai, BX. (2014). Species-specific bioaccumulation of halogenated organic pollutants and their metabolites in fish serum from an e-waste site, South China. *Arch Environ Contam Toxicol*. 67: 348-357. <http://dx.doi.org/10.1007/s00244-014-0040-8>.
- Zeng, YH; Tang, B; Luo, XJ; Zheng, XB; Peng, PA; Mai, BX. (2016). Organohalogen pollutants in surface particulates from workshop floors of four major e-waste recycling sites in China and implications for emission lists. *Sci Total Environ*. 569-570: 982-989. <http://dx.doi.org/10.1016/j.scitotenv.2016.06.053>.
- Zhang, H; Bayen, S; Kelly, BC. (2015). Co-extraction and simultaneous determination of multi-class hydrophobic organic contaminants in marine sediments and biota using GC-EI-MS/MS and LC-ESI-MS/MS. *Talanta*. 143: 7-18. <http://dx.doi.org/10.1016/j.talanta.2015.04.084>.
- Zhang, H; Kuo, YY; Gerecke, AC; Wang, J. (2012). Co-release of hexabromocyclododecane (HBCD) and Nano- and microparticles from thermal cutting of polystyrene foams. *Environ Sci Technol*. 46: 10990-10996. <http://dx.doi.org/10.1021/es302559v>.
- Zhang, H; Pan, L; Tao, Y. (2014). Antioxidant responses in clam *Venerupis philippinarum* exposed to environmental pollutant hexabromocyclododecane. *Environ Sci Pollut Res Int*. 21: 8206-8215. <http://dx.doi.org/10.1007/s11356-014-2801-3>.
- Zhang, K; Huang, J; Wang, H; Liu, K; Yu, G; Deng, S; Wang, B. (2014). Mechanochemical degradation of hexabromocyclododecane and approaches for the remediation of its contaminated soil. *Chemosphere*. 116: 40-45. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.006>.
- Zhang, L, i; Na, GS; He, CX; Li, R, uil; Gao, H, ui; Ge, L, inKe; Wang, Y, anJie; Yao, Y, ao. (2016). A novel method through solid phase extraction combined with gradient elution for concentration and separation of 66 (ultra) trace persistent toxic pollutants in Antarctic waters. *Chin Chem Lett*. 27: 405-411. <http://dx.doi.org/10.1016/j.ccllet.2015.12.001>.
- Zhang, X; Yang, F; Luo, C; Wen, S; Zhang, X; Xu, Y. (2009). Bioaccumulative characteristics of hexabromocyclododecanes in freshwater species from an electronic waste recycling area in China. *Chemosphere*. 76: 1572-1578. <http://dx.doi.org/10.1016/j.chemosphere.2009.05.031>.
- Zhang, Y; Li, Q; Lu, Y; Jones, K; Sweetman, AJ. (2016). Hexabromocyclododecanes (HBCDDs) in surface soils from coastal cities in North China: Correlation between diastereoisomer profiles and industrial activities. *Chemosphere*. 148: 504-510. <http://dx.doi.org/10.1016/j.chemosphere.2016.01.051>.
- Zhang, Y; Ruan, Y; Sun, H; Zhao, L; Gan, Z. (2013). Hexabromocyclododecanes in surface sediments and a sediment core from Rivers and Harbor in the northern Chinese city of Tianjin. *Chemosphere*. 90: 1610-1616. <http://dx.doi.org/10.1016/j.chemosphere.2012.08.037>.

Human Health Hazard Literature Search Results

Off Topic

- Zhang, Y; Sun, H; Liu, F; Dai, Y; Qin, X; Ruan, Y; Zhao, L; Gan, Z. (2013). Hexabromocyclododecanes in limnic and marine organisms and terrestrial plants from Tianjin, China: diastereomer- and enantiomer-specific profiles, biomagnification, and human exposure. *Chemosphere*. 93: 1561-1568. <http://dx.doi.org/10.1016/j.chemosphere.2013.08.004>.
- Zhang, Y; Sun, H; Ruan, Y. (2014). Enantiomer-specific accumulation, depuration, metabolism and isomerization of hexabromocyclododecane (HBCD) diastereomers in mirror carp from water. *J Hazard Mater*. 264: 8-15. <http://dx.doi.org/10.1016/j.jhazmat.2013.10.062>.
- Zhang, Y; Sun, H; Zhu, H; Ruan, Y; Liu, F; Liu, X. (2014). Accumulation of hexabromocyclododecane diastereomers and enantiomers in two microalgae, *Spirulina subsalsa* and *Scenedesmus obliquus*. *Ecotoxicol Environ Saf*. 104: 136-142. <http://dx.doi.org/10.1016/j.ecoenv.2014.02.027>.
- Zhang, Y; Ye, J; Liu, M. (2016). Enantioselective biotransformation of chiral persistent organic pollutants [Review]. 17: 48-56. <http://dx.doi.org/10.2174/1389203717666160413124027>.
- Zhao, RS; Hu, C; Zhou, JB; Yuan, JP; Wang, SS; Wang, X. (2011). Preconcentration and sensitive determination of hexabromocyclododecane diastereomers in environmental water samples using solid phase extraction with bamboo charcoal cartridge prior to rapid resolution liquid chromatography-electrospray tandem mass spectrometry. *Anal Bioanal Chem*. 400: 1189-1195. <http://dx.doi.org/10.1007/s00216-011-4857-y>.
- Zhao, YY; Zhang, XH; Sojiniu, OS. (2010). Thermodynamics and photochemical properties of alpha, beta, and gamma-hexabromocyclododecanes: a theoretical study. *Chemosphere*. 80: 150-156. <http://dx.doi.org/10.1016/j.chemosphere.2010.04.002>.
- Zheng, J; Wang, J; Luo, XJ; Tian, M; He, LY; Yuan, JG; Mai, BX; Yang, ZY. (2010). Dechlorane Plus in human hair from an e-waste recycling area in South China: comparison with dust. *Environ Sci Technol*. 44: 9298-9303. <http://dx.doi.org/10.1021/es103105x>.
- Zheng, X; Erratico, C; Luo, X; Mai, B; Covaci, A. (2016). Oxidative metabolism of BDE-47, BDE-99, and HBCDs by cat liver microsomes: Implications of cats as sentinel species to monitor human exposure to environmental pollutants. *Chemosphere*. 151: 30-36. <http://dx.doi.org/10.1016/j.chemosphere.2016.02.054>.
- Zheng, XB; Wu, JP; Luo, XJ; Zeng, YH; She, YZ; Mai, BX. (2012). Halogenated flame retardants in home-produced eggs from an electronic waste recycling region in South China: levels, composition profiles, and human dietary exposure assessment. *Environ Int*. 45: 122-128. <http://dx.doi.org/10.1016/j.envint.2012.04.006>.
- Zhong, Y; Peng, P; Yu, Z; Deng, H. (2010). Effects of metals on the transformation of hexabromocyclododecane (HBCD) in solvents: implications for solvent-based recycling of brominated flame retardants. *Chemosphere*. 81: 72-78. <http://dx.doi.org/10.1016/j.chemosphere.2010.06.061>.
- Zhou, D; Wu, Y; Feng, X; Chen, Y; Wang, Z; Tao, T; Wei, D. (2014). Photodegradation of hexabromocyclododecane (HBCD) by Fe(III) complexes/H₂O₂ under simulated sunlight. *Environ Sci Pollut Res Int*. 21: 6228-6233. <http://dx.doi.org/10.1007/s11356-014-2553-0>.
- Zhou, T; Ross, DG; DeVito, MJ; Crofton, KM. (2001). Effects of short-term in vivo exposure to polybrominated diphenyl ethers on thyroid hormones and hepatic enzyme activities in weanling rats. *Toxicol Sci*. 61: 76-82.
- Zhou, T; Taylor, MM; Devito, MJ; Crofton, KM. (2002). Developmental exposure to brominated diphenyl ethers results in thyroid hormone disruption. *Toxicol Sci*. 66: 105-116. <http://dx.doi.org/10.1093/toxsci/66.1.105>.
- Zhou, X; Guo, J, ie; Zhang, W, ei; Zhou, P; Deng, J; Lin, K. (2014). Tetrabromobisphenol A contamination and emission in printed circuit board production and implications for human exposure. *J Hazard Mater*. 273: 27-35. <http://dx.doi.org/10.1016/j.jhazmat.2014.03.003>.
- Zhou, Y; Asplund, L; Yin, G; Athanassiadis, I; Wideqvist, U; Bignert, A; Qiu, Y; Zhu, Z; Zhao, J; Bergman, Å. (2016). Extensive organohalogen contamination in wildlife from a site in the Yangtze River Delta. *Sci Total Environ*. 554-555: 320-328. <http://dx.doi.org/10.1016/j.scitotenv.2016.02.176>.
- Zhu, C; Wang, P; Li, Y; Chen, Z; Li, H; Ssebugere, P; Zhang, Q; Jiang, G. (2017). Trophic transfer of hexabromocyclododecane in the terrestrial and aquatic food webs from an e-waste dismantling region in East China. *Environ Sci Process Impacts*. <http://dx.doi.org/10.1039/c6em00617e>.
- Zhu, H; Sun, H; Zhang, Y; Xu, J; Li, B; Zhou, Q. (2016). Uptake Pathway, Translocation, and Isomerization of Hexabromocyclododecane Diastereoisomers by Wheat in Closed Chambers. *Environ Sci Technol*. 50: 2652-2659. <http://dx.doi.org/10.1021/acs.est.5b05118>.
- Zhu, H; Zhang, K; Sun, H; Wang, F; Yao, Y. (2017). Spatial and temporal distributions of hexabromocyclododecanes in the vicinity of an expanded polystyrene material manufacturing plant in Tianjin, China. *Environ Pollut*. 222: 338-347. <http://dx.doi.org/10.1016/j.envpol.2016.12.029>.
- Zhu, J; Feng, YL; Shoeib, M. (2007). Detection of dechlorane plus in residential indoor dust in the city of Ottawa, Canada. *Environ Sci Technol*. 41: 7694-7698. <http://dx.doi.org/10.1021/es071716y>.
- Zhu, J; Hou, Y; Feng, YL; Shoeib, M; Harner, T. (2008). Identification and determination of hexachlorocyclopentadienyl-dibromocyclooctane (HCDBCO) in residential indoor air and dust: a previously unreported halogenated flame retardant in the environment. *Environ Sci Technol*. 42: 386-391. <http://dx.doi.org/10.1021/es702272s>.
- Zhu, J; Liu, JG; Hu, JX; Yi, S. (2016). Socio-economic analysis of the risk management of hexabromocyclododecane (HBCD) in China in the context of the Stockholm Convention. *Chemosphere*. 150: 520-527. <http://dx.doi.org/10.1016/j.chemosphere.2015.11.007>.
- Zhu, L; Ma, B; Hites, RA. (2009). Brominated flame retardants in serum from the general population in northern China. *Environ Sci Technol*. 43: 6963-6968. <http://dx.doi.org/10.1021/es901296t>.
- Zhu, LY; Hites, RA. (2005). Brominated flame retardants in sediment cores from Lakes Michigan and Erie. [erratum appears in *Environ Sci Technol*. 2005 Aug 1;39(15):5904]. *Environ Sci Technol*. 39: 3488-3494. <http://dx.doi.org/10.1021/es048240s>.
- Zhu, N; Fu, J; Gao, Y; Ssebugere, P; Wang, Y; Jiang, G. (2013). Hexabromocyclododecane in alpine fish from the Tibetan Plateau, China. *Environ Pollut*. 181: 7-13. <http://dx.doi.org/10.1016/j.envpol.2013.05.050>.
- Zhu, N; Li, A; Wang, T; Wang, P; Qu, G; Ruan, T; Fu, J; Yuan, B; Zeng, L; Wang, Y; Jiang, G. (2012). Tris(2,3-dibromopropyl) isocyanurate, hexabromocyclododecanes, and polybrominated diphenyl ethers in mollusks from Chinese Bohai Sea. *Environ Sci Technol*. 46: 7174-7181. <http://dx.doi.org/10.1021/es300776f>.

Human Health Hazard Literature Search Results

Off Topic

- Zhu, N; Schramm, KW; Wang, T; Henkelmann, B; Fu, J; Gao, Y; Wang, Y; Jiang, G. (2015). Lichen, moss and soil in resolving the occurrence of semi-volatile organic compounds on the southeastern Tibetan Plateau, China. *Sci Total Environ.* 518-519: 328-336. <http://dx.doi.org/10.1016/j.scitotenv.2015.03.024>.
- Zhu, N; Schramm, KW; Wang, T; Henkelmann, B; Zheng, X; Fu, J; Gao, Y; Wang, Y; Jiang, G. (2014). Environmental fate and behavior of persistent organic pollutants in Shergyla Mountain, southeast of the Tibetan Plateau of China. *Environ Pollut.* 191: 166-174. <http://dx.doi.org/10.1016/j.envpol.2014.04.031>.
- Zhu, ZC; Chen, SJ; Zheng, J; Tian, M; Feng, AH; Luo, XJ; Mai, BX. (2014). Occurrence of brominated flame retardants (BFRs), organochlorine pesticides (OCPs), and polychlorinated biphenyls (PCBs) in agricultural soils in a BFR-manufacturing region of North China. *Sci Total Environ.* 481: 47-54. <http://dx.doi.org/10.1016/j.scitotenv.2014.02.023>.
- Zieminska, E; Stafiej, A; Toczylowska, B; Lazarewicz, JW. (2012). Acute Cytotoxicity Evoked by Tetrabromobisphenol A in Primary Cultures of Rat Cerebellar Granule Cells Outweighs the Effects of Polychlorinated Biphenyls. *Pol J Environ Stud.* 21: 1079-1087.
- Zimmer, KE; Montañó, M; Olsaker, I; Dahl, E; Berg, V; Karlsson, C; Murk, AJ; Skaare, JU; Ropstad, E; Verhaegen, S. (2011). In vitro steroidogenic effects of mixtures of persistent organic pollutants (POPs) extracted from burbot (*Lota lota*) caught in two Norwegian lakes. *Sci Total Environ.* 409: 2040-2048. <http://dx.doi.org/10.1016/j.scitotenv.2011.01.055>.
- Zitko, V. (1993). Expanded polystyrene as a source of contaminants. *Mar Pollut Bull.* 26: 584-585.
- Zitko, V. (1994). TLC DETECTION OF BROMINATED FLAME RETARDANTS IN STYROFOAM. *Chemosphere.* 28: 1211-1215.
- Zlamalikova, J; Demnerova, K; Mackova, M; Hajslova, J; Pulkrabova, J; Hradkova, P; Napravnikova, M; Macek, T; Stiborova, H. (2009). Plant uptake of hexabromocyclododecane (HBCD). *FEBS J.* 276: 296-296.
- Zorrilla, LM; Gibson, EK; Jeffay, SC; Crofton, KM; Setzer, WR; Cooper, RL; Stoker, TE. (2009). The effects of triclosan on puberty and thyroid hormones in male Wistar rats. *Toxicol Sci.* 107: 56-64. <http://dx.doi.org/10.1093/toxsci/kfn225>.

OPPT RISK ASSESSMENT, PROBLEM FORMULATION OR SCOPE DOCUMENT

All documents cited in previous OPPT risk assessments, problem formulations and scope documents are included in the following section and listed as *on topic* without further categorization. The references may have also been captured in the search strategy and therefore presented in the peer reviewed literature search results section as either *on topic* or *off topic* for a given topic area in the sections above.

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Abdallah, MA; Harrad, S. (2011). Tetrabromobisphenol-A, hexabromocyclododecane and its degradation products in UK human milk: relationship to external exposure. *Environ Int* 37: 443-448. <http://dx.doi.org/10.1016/j.envint.2010.11.008>
- Abdallah, MA; Harrad, S; Covaci, A. (2008). Hexabromocyclododecanes and tetrabromobisphenol-A in indoor air and dust in Birmingham, U.K: implications for human exposure. *Environ Sci Technol* 42: 6855-6861. <http://dx.doi.org/10.1021/es801110a>
- Abdallah, MA; Pawar, G; Harrad, S. (2015). Evaluation of 3D-human skin equivalents for assessment of human dermal absorption of some brominated flame retardants. *Environ Int* 84: 64-70. <http://dx.doi.org/10.1016/j.envint.2015.07.015>
- Abdallah, MAE; Harrad, S. (2010). Modification and Calibration of a Passive Air Sampler for Monitoring Vapor and Particulate Phase Brominated Flame Retardants in Indoor Air: Application to Car Interiors. *Environ Sci Technol* 44: 3059-3065. <http://dx.doi.org/10.1021/es100146r>
- Abdallah, MAE; Harrad, S; Ibarra, C; Diamond, M; Melymuk, L; Robson, M; Covaci, A. (2008). Hexabromocyclododecanes in indoor dust from Canada, the United Kingdom, and the United States. *Environ Sci Technol* 42: 459-464. <http://dx.doi.org/10.1021/es702378t>
- Abdallah, MAE; Pawar, G; Harrad, S. (2015). Evaluation of in vitro vs. in vivo methods for assessment of dermal absorption of organic flame retardants: A review [Review]. *Environ Int* 74: 13-22. <http://dx.doi.org/10.1016/j.envint.2014.09.012>
- AIAG (Automotive Industry Action Group). (2011). REACH Activities: Automotive Industry Action Group. Retrieved from <http://www.aiag.org/staticcontent/committees/workgroup.cfm?FC=ES&grp=WCOC&group=OHRE>
- Al Bitar, F. (2004). Hazardous chemicals in Belgian house dust: Report on chemical content in house dust samples collected in Belgian homes and offices. Brussels, Belgium: Greenpeace Belgium. <http://www.greenpeace.org/eu-unit/Global/eu-unit/reports-briefings/2007/hazardous-chemicals-in-belgian-2.pdf>
- Alaee, M; Muir, D; Cannon, C; Helm, PA; Harner, T; Bidleman, T. (2003). New Persistent Chemicals in Arctic Air and Water (pp. 116-123). Ottawa, CANADA: Minister of Indian Affairs and Northern Development. <http://caid.ca/CanArtCon5.2003.pdf>
- Albemarle (Albemarle Corporation). (2000). Saytex[®] HP-900 Flame Retardant [Fact Sheet]. Baton Rouge, LA. http://www.albemarle.com/_filelib/FileCabinet/Products/Fire_Safety/SAYTEX_PURshield_online.pdf
- Albemarle (Albemarle Corporation). (2015). Albemarle Letter in Response to Problem Formulation and Initial Assessment. (Docket EPA-HQ-OPPT-2015-0081). Washington, DC.
- Ali, N; Dirtu, AC; Van Den Eede, N; Goosey, E; Harrad, S; Neels, H; 'T Mannelte, A; Coakley, J; Douwes, J; Covaci, A. (2012). Occurrence of alternative flame retardants in indoor dust from New Zealand: indoor sources and human exposure assessment. *Chemosphere* 88: 1276-1282. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.100>
- Allchin, CR; Morris, S. (2003). Hexabromocyclododecane (HBCD) diastereoisomers and brominated diphenyl ether congener (BDE) residues in edible fish from the rivers Skerne and Tees, UK. *Organohalogen Compd* 61: 41-44.

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Allen, JG; Stapleton, HM; Vallarino, J; Mcneely, E; Mcclean, MD; Harrad, SJ; Rauert, CB; Spengler, JD. (2013). Exposure to flame retardant chemicals on commercial airplanes. *Environ Health* 12: 17. <http://dx.doi.org/10.1186/1476-069X-12-17>
- Allen, JG; Sumner, A; Nishioka, MG; Vallarino, J; Turner, DJ; Saltman, HK; Spengler, JD. (2013). Air concentrations of PBDEs on in-flight airplanes and assessment of flight crew inhalation exposure. *J Expo Sci Environ Epidemiol* 23: 337-342. <http://dx.doi.org/10.1038/jes.2012.62>
- Alliance of Automobile Manufacturers. (2017). Preliminary information on manufacturing, processing, distribution, use, and disposal: Cyclic aliphatic bromide cluster (HBCD). OCSPP. Public comment. (EPA-HQ-OPPT-2016-0735-0015).
- Al-Odaini, NA; Shim, WJ; Han, GM; Jang, M; Hong, SH. (2015). Enrichment of hexabromocyclododecanes in coastal sediments near aquaculture areas and a wastewater treatment plant in a semi-enclosed bay in South Korea. *Sci Total Environ* 505: 290-298. <http://dx.doi.org/10.1016/j.scitotenv.2014.10.019>
- Al-Odaini, NA; Yim, UH; Kim, NS; Shim, WJ; Hong, SH. (2013). Isotopic dilution determination of emerging flame retardants in marine sediments by HPLC-APCI-MS/MS. *Analytical Methods* 5: 1771-1778. <http://dx.doi.org/10.1039/c3ay25963c>
- Antignac, JP; Cariou, R; Maume, D; Marchand, P; Monteau, F; Zalko, D; Berrebi, A; Cravedi, JP; Andre, F; Le Bizec, B. (2008). Exposure assessment of fetus and newborn to brominated flame retardants in France: preliminary data. *Mol Nutr Food Res* 52: 258-265. <http://dx.doi.org/10.1002/mnfr.200700077>
- Arakawa, S; Fujimoto, K; Kato, A; Endo, S; Fukahori, A; Shinagawa, A; Fischer, T; Mueller, J; Takasaki, W. (2012). Evaluation of hepatic glutathione transferase Mu 1 and Theta 1 activities in humans and mice using genotype information. *Drug Metab Dispos* 40: 497-503. <http://dx.doi.org/10.1124/dmd.111.042911>
- Arita, R; Miyazaki, K; Mure, S. (1983). Metabolic test of HBCD. Test on chemical substances used in household items. Studies on pharmacodynamics of HBCD (pp. 1-62). Hokkaido, Japan: Arita, R; Miyazaki, K; Mure, S. https://www.epa.gov/sites/production/files/2016-05/documents/tri-hbcd-nprm_prepublicationcopy-2016-05-26.pdf
- Asante, KA; Adu-Kumi, S; Nakahiro, K; Takahashi, S; Isobe, T; Sudaryanto, A; Devanathan, G; Clarke, E; Ansa-Asare, OD; Dapaah-Siakwan, S; Tanabe, S. (2011). Human exposure to PCBs, PBDEs and HBCDs in Ghana: Temporal variation, sources of exposure and estimation of daily intakes by infants. *Environ Int* 37: 921-928. <http://dx.doi.org/10.1016/j.envint.2011.03.011>
- Aufderheide, J; Jones, A; Macgregor, JA; Nixon, WB. (2003). Effect of hexabromocyclododecane on the survival and reproduction of the earthworm, *Eisenia fetida* (pp. 94). Columbia, MO and Easton, MD: Aufderheide, J; Jones, A; Macgregor, JA; Nixon, WB.
- Aune, M; Barregard, L; Claesson, A; Darnerud, PO. (2001). Resultatrapport till Miljöövervakningen: Organiska miljögifter i bröstmjölk från Göteborg 2001 (pp. 1-10). (Avtalsnr 219 0108). Aune, M; Barregard, L; Claesson, A; Darnerud, PO. https://www.researchgate.net/profile/Annika_Claesson/publication/242149954_Resultatrapport_till_Miljövervakningen_Organiska_miljgifter_i_brstmjlk_frn_Gteborg_2001/links/55e957e008aeb65162647ab0.pdf
- Bachman, MJ; Keller, JM; West, KL; Jensen, BA. (2014). Persistent organic pollutant concentrations in blubber of 16 species of cetaceans stranded in the Pacific Islands from 1997 through 2011. *Sci Total Environ* 488-489: 115-123. <http://dx.doi.org/10.1016/j.scitotenv.2014.04.073>
- Barón, E; Gago-Ferrero, P; Gorga, M; Rudolph, I; Mendoza, G; Zapata, AM; Díaz-Cruz, S; Barra, R; Ocampo-Duque, W; Páez, M; Darbra, RM; Eljarrat, E; Barceló, D. (2013). Occurrence of hydrophobic organic pollutants (BFRs and UV-filters) in sediments from South America. *Chemosphere* 92: 309-316. <http://dx.doi.org/10.1016/j.chemosphere.2013.03.032>
- BASF (BASF Corporation). (1969). Hexabromocyclododecane: 28-day feeding trials with rats with cover letter dated 031290 [TSCA Submission]. (86-900000376). Parsippany, NJ: BASF Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522939>
- BASF (BASF Corporation). (1990). Determination of the acute toxicity of hexabromid S to the waterflea *Daphnia magna* straus with cover letter dated 040590. (EPA/OTS Doc #86-900000392). Wyandotte, MI.
- BASF (BASF Corporation). (1990). Report on the study of the acute oral toxicity of hexabromocyclododecane in the mouse with cover letter dated 031290 [TSCA Submission]. (86900000383). Wyandotte, MI: BASF Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522946>
- BASF (BASF Corporation). (2000). Cytogenetic study in vivo with of hexabromocyclododecane in the mouse micronucleus test after two intraperitoneal administrations. (Project No. 26MO100/004018). Ludwigshafen, Germany: BASF Aktiengesellschaft.
- Batterman, SA; Chernyak, S; Jia, C; Godwin, C; Charles, S. (2009). Concentrations and Emissions of Polybrominated Diphenyl Ethers from US Houses and Garages. *Environ Sci Technol* 43: 2693-2700. <http://dx.doi.org/10.1021/es8029957>
- Becher, G. (2005). The stereochemistry of 1,2,5,6,9,10-hexabromocyclododecane and its graphic representation. *Chemosphere* 58: 989-991. <http://dx.doi.org/10.1016/j.chemosphere.2004.09.071>
- BFRIP (Brominated Flame Retardant Industry Panel). (2001). High Production Volume (HPV) challenge program submission for hexabromocyclododecane (HBCD), part 1. Available online at https://iaspub.epa.gov/opptpv/document_api.download?FILE=c13459cv.pdf
- BFRIP (Brominated Flame Retardant Industry Panel). (2001). High Production Volume (HPV) challenge program submission for hexabromocyclododecane (HBCD), part 2. Available online at https://iaspub.epa.gov/opptpv/document_api.download?FILE=c13459tp.pdf
- BFRIP (Brominated Flame Retardant Industry Panel). (2001). High Production Volume (HPV) challenge program submission for hexabromocyclododecane (HBCD), part 3. Available online at https://iaspub.epa.gov/opptpv/document_api.download?FILE=c13459rs.pdf
- Bi, C; Liang, Y; Xu, Y. (2015). Fate and Transport of Phthalates in Indoor Environments and the Influence of Temperature: A Case Study in a Test House. *Environ Sci Technol* 49: 9674-9681. <http://dx.doi.org/10.1021/acs.est.5b02787>
- Bidleman, TF. (1988). Atmospheric processes. *Environ Sci Technol* 22: 361-367. <http://dx.doi.org/10.1021/es00169a002>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Biles, JE; Mcneal, TP; Begley, TH; Hollifield, HC. (1997). Determination of bisphenol-A in reusable polycarbonate food-contact plastics and migration to food-simulating liquids. *J Agric Food Chem* 45: 3541-3544. <http://dx.doi.org/10.1021/jf970072i>
- Björklund, JA; Sellström, U; de Wit, CA; Aune, M; Lignell, S; Darnerud, PO. (2012). Comparisons of polybrominated diphenyl ether and hexabromocyclododecane concentrations in dust collected with two sampling methods and matched breast milk samples. *Indoor Air* 22: 279-288. <http://dx.doi.org/10.1111/j.1600-0668.2011.00765.x>
- Bjorklund, JA; Thuresson, K, aj; Cousins, AP; Sellstrom, U; Emenius, G; de Wit, CA. (2012). Indoor Air Is a Significant Source of Tri-decabrominated Diphenyl Ethers to Outdoor Air via Ventilation Systems. *Environ Sci Technol* 46: 5876-5884. <http://dx.doi.org/10.1021/es204122v>
- Blanchard, O; Glorennec, P; Mercier, F; Bonvallot, N; Chevrier, C; Ramalho, O; Mandin, C; Lebot, B. (2014). Semi-Volatile Organic Compounds in Indoor Air and Settled Dust in 30 French Dwellings. *Environ Sci Technol* 48: 3959-3969. <http://dx.doi.org/10.1021/es405269q>
- Borchardt, JK. (2006). Recycling, plastics. In *Kirk-Othmer Encyclopedia of Chemical Technology* (5th ed.). New York: John Wiley & Sons.
- Bouma, K. (2001). Plasticisers in Soft PVC Toys. Netherlands: Bouma, K. file:///C:/Users/26161/Downloads/010822_plasticisers.pdf
- Bouma, K; Schakel, DJ. (2002). Migration of phthalates from PVC toys into saliva simulatant by dynamic extraction. *Food Addit Contam* 19: 602-610. <http://dx.doi.org/10.1080/02652030210125137>
- Bradley, EL; Boughtflower, V; Smith, TL; Speck, DR; Castle, L. (2005). Survey of the migration of melamine and formaldehyde from melamine food contact articles available on the UK market. *Food Addit Contam* 22: 597-606. <http://dx.doi.org/10.1080/02652030500135243>
- Bradley, EL; Castle, L; Day, JS; Ebner, I; Ehlert, K; Helling, R; Koster, S; Leak, J; Pfaff, K. (2010). Comparison of the migration of melamine from melamine-formaldehyde plastics ('melaware') into various food simulants and foods themselves. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess* 27: 1755-1764. <http://dx.doi.org/10.1080/19440049.2010.513339>
- Brandsma, SH; de Boer, J; van Velzen, MJ; Leonards, PE. (2014). Organophosphorus flame retardants (PFRs) and plasticizers in house and car dust and the influence of electronic equipment. *Chemosphere* 116: 3-9. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.036>
- Brandsma, SH; Van der Ven, LT; De Boer, J; Leonards, PE. (2009). Identification of hydroxylated metabolites of hexabromocyclododecane in wildlife and 28-days exposed Wistar rats. *Environ Sci Technol* 43: 6058-6063. <http://dx.doi.org/10.1021/es900879k>
- Braune, BM; Letcher, RJ; Gaston, AJ; Mallory, ML. (2015). Trends of polybrominated diphenyl ethers and hexabromocyclododecane in eggs of Canadian Arctic seabirds reflect changing use patterns. *Environ Res* 142: 651-661. <http://dx.doi.org/10.1016/j.envres.2015.08.010>
- Braune, BM; Mallory, ML; Grant Gilchrist, H; Letcher, RJ; Drouillard, KG. (2007). Levels and trends of organochlorines and brominated flame retardants in ivory gull eggs from the Canadian Arctic, 1976 to 2004. *Sci Total Environ* 378: 403-417. <http://dx.doi.org/10.1016/j.scitotenv.2007.03.003>
- BRE (Building Research Establishment). (2009). Brominated flame retardants - risks to UK drinking water sources (pp. 274). (242844). Garston, UK: Building Research Establishment. http://dwi.defra.gov.uk/research/completed-research/reports/DWI70_2_219.pdf
- Brede, C; Fjeldal, P; Skjevrak, I; Herikstad, H. (2003). Increased migration levels of bisphenol A from polycarbonate baby bottles after dishwashing, boiling and brushing. *Food Addit Contam* 20: 684-689. <http://dx.doi.org/10.1080/0265203031000119061>
- Brede, C; Skjevrak, I. (2004). Migration of aniline from polyamide cooking utensils into food simulants. *Food Addit Contam* 21: 1115-1124. <http://dx.doi.org/10.1080/02652030400019349>
- Budakowski, W; Tomy, G. (2003). Congener-specific analysis of hexabromocyclododecane by high-performance liquid chromatography/electrospray tandem mass spectrometry. *Rapid Commun Mass Spectrom* 17: 1399-1404. <http://dx.doi.org/10.1002/rcm.1066>
- Bustnes, JO; Yoccoz, NG; Bangjord, G; Polder, A; Skaare, JU. (2007). Temporal trends (1986-2004) of organochlorines and brominated flame retardants in tawny owl eggs from northern Europe. *Environ Sci Technol* 41: 8491-8497. <http://dx.doi.org/10.1021/es071581w>
- Calmbacher, CW. (1978). The acute toxicity of HBCD lot 990- 17 to the bluegill sunfish *Lepomis macrochirus Rafinisque* with test data and cover letter. (UCES proj. No. 11506-03-, 9 pp. TSCA Section 8D; OTS0523260 , DCN 86900000268). Tarrytown, NY: Calmbacher, CW.
- Cantón, RF; Peijnenburg, AA; Hoogenboom, RL; Piersma, AH; van der Ven, LT; van den Berg, M; Heneweer, M. (2008). Subacute effects of hexabromocyclododecane (HBCD) on hepatic gene expression profiles in rats. *Toxicol Appl Pharmacol* 231: 267-272. <http://dx.doi.org/10.1016/j.taap.2008.04.013>
- Cao, Z; Xu, F; Covaci, A; Wu, M; Wang, H; Yu, G; Wang, B; Deng, S; Huang, J; Wang, X. (2014). Distribution patterns of brominated, chlorinated, and phosphorus flame retardants with particle size in indoor and outdoor dust and implications for human exposure. *Environ Sci Technol* 48: 8839-8846. <http://dx.doi.org/10.1021/es501224b>
- Cao, Z; Xu, F; Li, W; Sun, J; Shen, M; Su, X; Feng, J; Yu, G; Covaci, A. (2015). Seasonal and Particle Size-Dependent Variations of Hexabromocyclododecanes in Settled Dust: Implications for Sampling. *Environ Sci Technol* 49: 11151-11157. <http://dx.doi.org/10.1021/acs.est.5b01717>
- Cao, Z; Yu, G; Chen, Y; Liu, C; Liu, K; Zhang, T; Wang, B; Deng, S; Huang, J. (2013). Mechanisms influencing the BFR distribution patterns in office dust and implications for estimating human exposure. *J Hazard Mater* 252-253: 11-18. <http://dx.doi.org/10.1016/j.jhazmat.2013.02.043>
- Cao, ZG; Yu, G; Chen, YS; Cao, QM; Fiedler, H; Deng, SB; Huang, J; Wang, B. (2012). Particle size: a missing factor in risk assessment of human exposure to toxic chemicals in settled indoor dust. *Environ Int* 49: 24-30. <http://dx.doi.org/10.1016/j.envint.2012.08.010>
- Carignan, CC; Abdallah, MA; Wu, N; Heiger-Bernays, W; Mcclean, MD; Harrad, S; Webster, TF. (2012). Predictors of tetrabromobisphenol-A (TBBP-A) and hexabromocyclododecanes (HBCD) in milk from Boston mothers. *Environ Sci Technol* 46: 12146-12153. <http://dx.doi.org/10.1021/es302638d>
- Castle, L; Mercer, AJ; Gilbert, J. (1995). Chemical Migration from Polypropylene and Polyethylene Aseptic Food Packaging as Affected by Hydrogen Peroxide Sterilization. *J Food Prot* 58: 170-174.
- CDC (CDC Research Inc). (2016). NHANES reference. Atlanta, GA: Centers for Disease Control and Prevention. <https://www.cdc.gov/nchs/nhanes/nh3rrm.htm>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- CEC (Commission of the European Communities). (2015). Enhancing Trilateral Understanding of Chemicals in Products in North America. Available online at <http://www.cec.org/our-work/projects/enhancing-trilateral-understanding-chemicals-products-north-america>
- Chemtura. (2015). Chemtura Announces Discontinuance of Flame Retardant HBCD Product Line. Available online at <http://www.marketwatch.com/story/chemtura-announces-discontinuance-of-hbcd-flame-retardant-product-line-2015-10-14>
- Chen, D; La Guardia, MJ; Luellen, DR; Harvey, E; Mainor, TM; Hale, RC. (2011). Do temporal and geographical patterns of HBCD and PBDE flame retardants in U.S. fish reflect evolving industrial usage? *Environ Sci Technol* 45: 8254-8261. <http://dx.doi.org/10.1021/es201444w>
- Chen, SJ; Ma, YJ; Wang, J; Chen, D; Luo, XJ; Mai, BX. (2009). Brominated Flame Retardants in Children's Toys: Concentration, Composition, and Children's Exposure and Risk Assessment. *Environ Sci Technol* 43: 4200-4206. <http://dx.doi.org/10.1021/es9004834>
- Chengelis, C. (2002). Amendment to the Final Report for: An oral (gavage) 90-day toxicity study of HBCD in rats (pp. 432). (Study No. WIL-186012.). Ashland, OH: Chengelis, C. [https://yosemite.epa.gov/oppts/epatscat8.nsf/by+Service/F9BB780A18FEF2AC85256D730055A04C/\\$File/85020000013.pdf](https://yosemite.epa.gov/oppts/epatscat8.nsf/by+Service/F9BB780A18FEF2AC85256D730055A04C/$File/85020000013.pdf)
- Chik, Z; Haron, DE; Ahmad, ED; Taha, H; Mustafa, AM. (2011). Analysis of melamine migration from melamine food contact articles. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess* 28: 967-973. <http://dx.doi.org/10.1080/19440049.2011.576401>
- Choi, KI; Lee, SH; Osako, M. (2009). Leaching of brominated flame retardants from TV housing plastics in the presence of dissolved humic matter. *Chemosphere* 74: 460-466. <http://dx.doi.org/10.1016/j.chemosphere.2008.08.030>
- Clausen, PA; Hansen, V; Gunnarsen, L; Afshari, A; Wolkoff, P. (2004). Emission of Di-2-ethylhexyl phthalate from PVC flooring into air and uptake in dust: Emission and sorption experiments in FLEC and CLIMPAQ. *Environ Sci Technol* 38: 2531-2537. <http://dx.doi.org/10.1021/es0347944>
- Colles, A; Koppen, G; Hanot, V; Nelen, V; Dewolf, MC; Noël, E; Malisch, R; Kotz, A; Kypke, K; Biot, P; Vinkx, C; Schoeters, G. (2008). Fourth WHO-coordinated survey of human milk for persistent organic pollutants (POPs): Belgian results. *Chemosphere* 73: 907-914. <http://dx.doi.org/10.1016/j.chemosphere.2008.07.002>
- Convention, S. (2013). Conference of the Parties Decision 6/13. Available online at <http://chm.pops.int/default.aspx>
- Cooper, JE; Kendig, EL; Belcher, SM. (2011). Assessment of bisphenol A released from reusable plastic, aluminium and stainless steel water bottles. *Chemosphere* 85: 943-947. <http://dx.doi.org/10.1016/j.chemosphere.2011.06.060>
- Corea-Téllez, K; Bustamante-Montes, P; García-Fábila, M; Hernández-Valero, M; Vázquez-Moreno, F. (2008). Estimated risks of water and saliva contamination by phthalate diffusion from plasticized polyvinyl chloride. *J Environ Health* 71: 34-39, 45.
- Corning, O. (2005). Material Safety Data Sheet Foamular Extruded Polystyrene Insulation (pp. 1-8). (15-MSD-21528-01-D). Toledo, OH: Owens Corning. file:///C:/Users/36260/Downloads/TDJ1_Vacuum_Former_Appendix_K_MSDS.pdf
- Corp, B; Parsing, USS. (1990). Algal growth inhibition test with cover letter dated 031290. 900000391: #86-900000391.
- Covaci, A; Gerecke, AC; Law, RJ; Voorspoels, S; Kohler, M; Heeb, NV; Leslie, H; Allchin, CR; De Boer, J. (2006). Hexabromocyclododecanes (HBCDs) in the environment and humans: a review [Review]. *Environ Sci Technol* 40: 3679-3688. <http://dx.doi.org/10.1021/es0602492>
- CPSC (U.S. Consumer Product Safety Commission). (2001). CPSC staff exposure and risk assessment of flame retardant chemicals in residential upholstered furniture. Bethesda, MD. <http://dx.doi.org/10.13140/RG.2.1.3291.6646>
- CPSC (U.S. Consumer Product Safety Commission). (2014). Children's Oral Exposure to Phthalate Alternatives from Mouthing Soft Plastic Children's Articles: Appendix E2. Chronic Hazard Advisory Panel (CHAP) on phthalates and phthalate alternatives (pp. 27). Bethesda, MD: U.S. Consumer Product Safety Commission. <http://www.cpsc.gov/PageFiles/169914/Appendix-E2-Substitutes-Exposure-FINAL.pdf>
- Croes, K; Colles, A; Koppen, G; Govarts, E; Bruckers, L; Van de Mieroop, E; Nelen, V; Covaci, A; Dirtu, AC; Thomsen, C; Haug, LS; Becher, G; Mampaey, M; Schoeters, G; Van Larebeke, N; Baeyens, W. (2012). Persistent organic pollutants (POPs) in human milk: a biomonitoring study in rural areas of Flanders (Belgium). *Chemosphere* 89: 988-994. <http://dx.doi.org/10.1016/j.chemosphere.2012.06.058>
- Darnerud, PO; Aune, M; Larsson, L; Lignell, S; Mutshatshi, T; Okonkwo, J; Botha, B; Agyei, N. (2011). Levels of brominated flame retardants and other persistent organic pollutants in breast milk samples from Limpopo Province, South Africa. *Sci Total Environ* 409: 4048-4053. <http://dx.doi.org/10.1016/j.scitotenv.2011.05.054>
- Davis, A; Gift, JS; Woodall, GM; Narotsky, MG; Fourman, GL. (2009). The role of developmental toxicity studies in acute exposure assessments: analysis of single-day vs. multiple-day exposure regimens. *Regul Toxicol Pharmacol* 54: 134-142. <http://dx.doi.org/10.1016/j.yrtph.2009.03.006>
- Davis, JW; Gonsior, SJ; Markham, DA; Friederich, U; Hunziker, RW; Ariano, JM. (2006). Biodegradation and product identification of [14C]hexabromocyclododecane in wastewater sludge and freshwater aquatic sediment. *Environ Sci Technol* 40: 5395-5401. <http://dx.doi.org/10.1021/es060009m>
- De Boer, J; Allchin, C; Zegers, B; Boon, JP; Brandsma, SH; Morris, S; Kruijt, AW; Van Der Veen, I; Van Hesseligen, JM; Haftka, JJH. (2002). HBCD and TBBP-A in sewage sludge, sediments and biota, including interlaboratory study (pp. 40). (RIVO report number CO33/02). Ymuiden and Yerseke, Netherlands: De Boer, J; Allchin, C; Zegers, B; Boon, JP; Brandsma, SH; Morris, S; Kruijt, AW; Van Der Veen, I; Van Hesseligen, JM; Haftka, JJH. [https://yosemite.epa.gov/oppts/epatscat8.nsf/by+Service/8298B71C48D0FADD85256EEB004A5440/\\$File/89030000021.pdf](https://yosemite.epa.gov/oppts/epatscat8.nsf/by+Service/8298B71C48D0FADD85256EEB004A5440/$File/89030000021.pdf)
- De Boer, J; Leslie, HA; Leonards, PEG; Bersuder, P; Morris, S; Allchin, CR. (2004). Screening and time trend study of decabromodiphenylether and hexabromocyclododecane in birds (pp. 4). Toronto, Canada: Abstract. The Third International Workshop on Brominated Flame Retardants, June 6-9, 2004. http://dtsc.ca.gov/bfr2013/abstract_download/2004/upload/Individual%20Papers/BFR2004%20Abstract%20025%20deBoer.pdf
- De Winter-Sorkina, R; Bakker, MI; Wolterink, G; Zeilmaker, MJ. (2006). Brominated flame retardants: occurrence, dietary intake and risk assessment (pp. 1-85). (RIVM-report 320100002/2006). National Institute for Public Health and the Environment (RIVM), The Netherlands: De Winter-Sorkina, R; Bakker, MI; Wolterink, G; Zeilmaker, MJ. <http://rivm.openrepository.com/rivm/bitstream/10029/7303/1/320100002.pdf>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- de Wit, CA; Björklund, JA; Thuresson, K. (2012). Tri-decabrominated diphenyl ethers and hexabromocyclododecane in indoor air and dust from Stockholm microenvironments 2: indoor sources and human exposure. *Environ Int* 39: 141-147. <http://dx.doi.org/10.1016/j.envint.2011.11.001>
- Deng, J; Yu, L; Liu, C; Yu, K; Shi, X; Yeung, LW; Lam, PK; Wu, RS; Zhou, B. (2009). Hexabromocyclododecane-induced developmental toxicity and apoptosis in zebrafish embryos. *Aquat Toxicol* 93: 29-36. <http://dx.doi.org/10.1016/j.aquatox.2009.03.001>
- DEP (Maine Department of Environmental Protection). (2013). Chemicals of High Concern. Available online at <http://www.maine.gov/dep/safechem/highconcern/>
- DEQ (Oregon Department of Environmental Quality). (2010). Pollutant Profiles (pp. 1-45). Portland, Oregon: Oregon Department of Environmental Quality. <http://www.deq.state.or.us/wq/SB737/docs/LegRpAtt420100601.pdf>
- DEQ (Oregon Department of Environmental Quality). (2010). Priority Persistent Pollutant List (P3 List) (pp. 1-4). (DEQ 10-WQ-013). Portland, OR: Oregon Department of Environmental Quality. <http://www.deq.state.or.us/wq/SB737/docs/LegRpAtt20100601.pdf>
- DEQ (Oregon Department of Environmental Quality). (2011). Water Quality Senate Bill 737. Available online at <http://www.deq.state.or.us/wq/sb737/docs/PPSWG/FinalPBTRReportAppendixB.pdf>
- Desjardins, D; Macgregor, J; Krueger, H. (2004). Final report: hexabromocyclododecane (HBCD): a 72-hour toxicity test with the marine diatom (*Skeletonema costatum*). (Project Number: 439A-125). Easton, MD: Desjardins, D; Macgregor, J; Krueger, H.
- Desjardins, D; Macgregor, J; Krueger, H. (2005). Final report. Hexabromocyclododecane (HBCD): A 72-hour toxicity test with the marine diatom (*Skeletonema costatum*) using a co-solvent, Chapter 2. Easton, MD: Desjardins, D; Macgregor, J; Krueger, H.
- Destailats, H; Maddalena, RL; Singer, BC; Hodgson, AT; Mckone, TE. (2008). Indoor pollutants emitted by office equipment: A review of reported data and information needs. *Atmos Environ* 42: 1371-1388. <http://dx.doi.org/10.1016/j.atmosenv.2007.10.080>
- Deuchar, J. (2002). [No title]. Draft. Nottingham, United Kingdom: Deuchar, J.
- Devanathan, G; Subramanian, A; Sudaryanto, A; Takahashi, S; Isobe, T; Tanabe, S. (2012). Brominated flame retardants and polychlorinated biphenyls in human breast milk from several locations in India: potential contaminant sources in a municipal dumping site. *Environ Int* 39: 87-95. <http://dx.doi.org/10.1016/j.envint.2011.10.005>
- D'Hollander, W; Roosens, L; Covaci, A; Cornelis, C; Reynders, H; Campenhout, KV; Voogt, P, d; Bervoets, L. (2010). Brominated flame retardants and perfluorinated compounds in indoor dust from homes and offices in Flanders, Belgium. *Chemosphere* 81: 478-487. <http://dx.doi.org/10.1016/j.chemosphere.2010.07.043>
- Di Napoli-Davis, G; Owens, JE. (2013). Quantitation of tetrabromobisphenol-A from dust sampled on consumer electronics by dispersed liquid-liquid microextraction. *Environ Pollut* 180: 274-280. <http://dx.doi.org/10.1016/j.envpol.2013.05.038>
- Dirtu, AC; Covaci, A. (2010). Estimation of daily intake of organohalogenated contaminants from food consumption and indoor dust ingestion in Romania. *Environ Sci Technol* 44: 6297-6304. <http://dx.doi.org/10.1021/es101233z>
- Drottar, KR; Krueger, HO. (1998). Hexabromocyclododecane (HBCD): A flow-through life-cycle toxicity test with the cladoceran (*Daphnia magna*). Final report (pp. 80). (OTS0559490). Easton, MD: Drottar, KR; Krueger, HO. [https://yosemite.epa.gov/oppts/epatscat8.nsf/by+Service/5A64B9CFE5710E8085256930004C5068/\\$File/84980000035.pdf](https://yosemite.epa.gov/oppts/epatscat8.nsf/by+Service/5A64B9CFE5710E8085256930004C5068/$File/84980000035.pdf)
- Drottar, KR; Krueger, HO. (2000). Hexabromocyclododecane (HBCD): A flow-through bioconcentration test with the rainbow trout (*Oncorhynchus mykiss*). Easton, MD: Wildlife International Ltd.
- DTSC (State of California Department of Toxic Substances Control). (2010). <https://dtsc.ca.gov/SCP/ChemList.cfm>. Available online
- Duan, H; Yu, D; Zuo, J; Yang, B; Zhang, Y; Niu, Y. (2016). Characterization of brominated flame retardants in construction and demolition waste components: HBCD and PBDEs. *Sci Total Environ* 572: 77-85. <http://dx.doi.org/10.1016/j.scitotenv.2016.07.165>
- Earls, AO; Axford, IP; Braybrook, JH. (2003). Gas chromatography-mass spectrometry determination of the migration of phthalate plasticisers from polyvinyl chloride toys and childcare articles. *J Chromatogr A* 983: 237-246. [http://dx.doi.org/10.1016/S0021-9673\(02\)01736-3](http://dx.doi.org/10.1016/S0021-9673(02)01736-3)
- EC (European Commission). (2009). European Union Risk Assessment Report Tris(2-Chloroethyl) Phosphate, (Tcep) (pp. 213). Luxembourg: European Commission, Office for Official Publications of the European Communities. <https://echa.europa.eu/documents/10162/2663989d-1795-44a1-8f50-153a81133258>
- EC/HC (Environment Canada and Health Canada). (2011). Screening Assessment Report on Hexabromocyclododecane (pp. 1-125). Ottawa, Canada: EC/HC (Environment Canada and Health Canada). <http://www.ec.gc.ca/ese-ees/default.asp?lang=En&n=7882C148-1#a4>
- EC/HC (Environment Canada and Health Canada). (2011). Screening assessment report on hexabromocyclododecane. Chemical Abstracts Service Registry Number 3194-55-6. <https://www.ec.gc.ca/ese-ees/7882C148-8AE4-4BA4-8555-668C49F91500/HBCD%20-%20F SAR%20-%20EN.pdf>
- ECHA (European Chemicals Agency). (2008). MEMBER STATE COMMITTEE SUPPORT DOCUMENT FOR IDENTIFICATION OF HEXABROMOCYCLODODECANE AND ALL MAJOR DIASTEREISOMERS IDENTIFIED AS A SUBSTANCE OF VERY HIGH CONCERN. (ECHA/2008/2). Helsinki, Finland.
- ECHA (European Chemicals Agency). (2009). Data on Manufacture, Import, Export, Uses and Releases of HBCDD as well as Information on Potential Alternatives to its Use (pp. 108). (ECHA/2008/2). Helsinki, Finland. https://echa.europa.eu/documents/10162/13640/tech_rep_hbccdd_en.pdf
- Eggesbø, M; Thomsen, C; Jørgensen, JV; Becher, G; Odland, JØ; Longnecker, MP. (2011). Associations between brominated flame retardants in human milk and thyroid-stimulating hormone (TSH) in neonates. *Environ Res* 111: 737-743. <http://dx.doi.org/10.1016/j.envres.2011.05.004>
- Eguchi, A; Isobe, T; Ramu, K; Tue, NM; Sudaryanto, A; Devanathan, G; Viet, PH; Tana, RS; Takahashi, S; Subramanian, A; Tanabe, S. (2013). Soil contamination by brominated flame retardants in open waste dumping sites in Asian developing countries. *Chemosphere* 90: 2365-2371. <http://dx.doi.org/10.1016/j.chemosphere.2012.10.027>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- EINECS (European Inventory of Existing Commercial Chemical Substances). (2008). Risk assessment: Hexabromocyclododecane. Cas-No.: 25637-99-4. Luxembourg: European Inventory of Existing Commercial Chemical Substances, Office for Official Publications of the European Communities. <https://echa.europa.eu/documents/10162/661bff17-dc0a-4475-9758-40bdd6198f82>
- Eljarrat, E; Guerra, P; Martínez, E; Farré, M; Alvarez, JG; López-Teijón, M; Barceló, D. (2009). Hexabromocyclododecane in human breast milk: levels and enantiomeric patterns. *Environ Sci Technol* 43: 1940-1946. <http://dx.doi.org/10.1021/es802919e>
- Ema, M; Fujii, S; Hirata-Koizumi, M; Matsumoto, M. (2008). Two-generation reproductive toxicity study of the flame retardant hexabromocyclododecane in rats. *Reprod Toxicol* 25: 335-351. <http://dx.doi.org/10.1016/j.reprotox.2007.12.004>
- EPS Industry Alliance. (2017). Preliminary information on manufacturing, processing, distribution, use, and disposal: Cyclic aliphatic bromide cluster (HBCD). OCSPP. Public comment. (EPA-HQ-OPPT-2016-0735-0026).
- Eriksson, E; Auffarth, K; Eilersen, AM; Henze, M; Ledin, A. (2003). Household chemicals and personal care products as sources for xenobiotic organic compounds in grey wastewater. *Water SA* 29: 135-146.
- Eriksson, P; Fischer, C; Wallin, M; Jakobsson, E; Fredriksson, A. (2006). Impaired behaviour, learning and memory, in adult mice neonatally exposed to hexabromocyclododecane (HBCDD). *Environ Toxicol Pharmacol* 21: 317-322. <http://dx.doi.org/10.1016/j.etap.2005.10.001>
- Ethyl Corporation. (1990). Genetic toxicology rat hepatocyte primary culture/DNA repair test on hexabromocyclododecane with cover letter dated 030890. (TSCATS/405817. OTS0522234. Doc I.D. 86900000163). Baton Rouge, LA. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522234>
- Ethyl Corporation. (1990). Genetic toxicology salmonella/microsomal assay on hexabromocyclododecane with cover letter dated 030890 [TSCA Submission]. (TSCATS/405818. OTS0522235. Doc I.D. 86900000164). Baton Rouge, LA. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522235>
- EU (European Union). (2016). Official Journal of the European Union. Available online at <http://eur-lex.europa.eu/oj/2016/01/direct-access.html?ojYear=2016>
- Extruded Polystyrene Foam Association. (2011). Extruded Polystyrene Foam (XPS) Thermal Insulation Overview. Available online at <https://www.owenscorning.com/insulation/products/foamular-250>
- Fängström, B; Athanassiadis, I; Odsjö, T; Norén, K; Bergman, A. (2008). Temporal trends of polybrominated diphenyl ethers and hexabromocyclododecane in milk from Stockholm mothers, 1980-2004. *Mol Nutr Food Res* 52: 187-193. <http://dx.doi.org/10.1002/mnfr.200700182>
- Fängström, B; Strid, A; Bergman, A. (2005). Temporal trends of brominated flame retardants in milk from Stockholm mothers, 1980-2004 (pp. 11). Stockholm, Sweden: Department of Environmental Chemistry, Stockholm University. http://www.imm.ki.se/Datavard/PDF/mj%C3%B6lk_poolade_NV%20rapport%202005%20modersmjolk.pdf
- Feng, AH; Chen, SJ; Chen, MY; He, MJ; Luo, XJ; Mai, BX. (2012). Hexabromocyclododecane (HBCD) and tetrabromobisphenol A (TBBPA) in riverine and estuarine sediments of the Pearl River Delta in southern China, with emphasis on spatial variability in diastereoisomer- and enantiomer-specific distribution of HBCD. *Mar Pollut Bull* 64: 919-925. <http://dx.doi.org/10.1016/j.marpolbul.2012.03.008>
- Fernie, KJ; Letcher, RJ. (2010). Historical contaminants, flame retardants, and halogenated phenolic compounds in peregrine Falcon (*Falco peregrinus*) nestlings in the Canadian Great Lakes Basin. *Environ Sci Technol* 44: 3520-3526. <http://dx.doi.org/10.1021/es100400n>
- Fjeld, E; Schlabach, M; Berge, J; Green, N; Eggen, T; Snilsberg, P; Vogelsang, C; Rognerud, S; Kjellberg, G; Enge, E; Dye, C; Gundersen, H. (2005). Bromerte flammehemmere, perfluoralkylstoffer, irgarol, diuron, BHT og dicofol. Kartlegging av utvalgte nye organiske miljøgifter 2004. Norway: Fjeld, E; Schlabach, M; Berge, J; Green, N; Eggen, T; Snilsberg, P; Vogelsang, C; Rognerud, S; Kjellberg, G; Enge, E; Dye, C; Gundersen, H.
- Flynn, V. (2015). Countries Approve HBCD Authorisation. Available online at <http://www.endseurope.com/article/44119/countries-approve-hbcd-authorisation>
- Friddle, J. (2011). Use of HBCD in Textiles. Calhoun, GA.: Eagle Performance Products.
- Friddle, J. (2011). Use of HBCD in Textiles. Calhoun, GA.: Eagle Performance Products.
- Gallen, C; Banks, A; Brandsma, S; Baduel, C; Thai, P; Eaglesham, G; Heffernan, A, my; Leonards, P, im; Bainton, P; Mueller, JF. (2014). Towards development of a rapid and effective non-destructive testing strategy to identify brominated flame retardants in the plastics of consumer products. *Sci Total Environ* 491: 255-265. <http://dx.doi.org/10.1016/j.scitotenv.2014.01.074>
- Garner, CE; Liang, S; Yin, L; Yu, X. (2015). Physiologically based pharmacokinetic modeling for 1-bromopropane in F344 rats using gas uptake inhalation experiments. *Toxicol Sci* 145: 23-36. <http://dx.doi.org/10.1093/toxsci/kfv018>
- Gauthier, LT; Hebert, CE; Weseloh, DV; Letcher, RJ. (2007). Current-use flame retardants in the eggs of herring gulls (*Larus argentatus*) from the Laurentian Great Lakes. *Environ Sci Technol* 41: 4561-4567. <http://dx.doi.org/10.1021/es0630487>
- Gebbink, WA; Sonne, C; Dietz, R; Kirkegaard, M; Born, EW; Muir, DC; Letcher, RJ. (2008). Target tissue selectivity and burdens of diverse classes of brominated and chlorinated contaminants in polar bears (*Ursus maritimus*) from East Greenland. *Environ Sci Technol* 42: 752-759. <http://dx.doi.org/10.1021/es071941f>
- Gentes, ML; Letcher, RJ; Caron-Beaudoin, E; Verreault, J. (2012). Novel Flame Retardants in Urban-Feeding Ring-Billed Gulls from the St. Lawrence River, Canada. *Environ Sci Technol* 46: 9735-9744. <http://dx.doi.org/10.1021/es302099f>
- Gerecke, AC; Giger, W; Hartmann, PC; Heeb, NV; Kohler, HP; Schmid, P; Zennegg, M; Kohler, M. (2006). Anaerobic degradation of brominated flame retardants in sewage sludge. *Chemosphere* 64: 311-317. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.016>
- Ghanem, R. (2015). Kinetics of Thermal and Photo-Initiated Release of Tris (1-Chloro-2-Propyl) Phosphate (Tcpp) from Polyurethane Foam Materials. 10: 20-33.
- Ghanem, RA. (2015). Kinetics of thermal and photo-initiated release of tris (1,3-dichloro-2-propyl) phosphate (TDCP) flame retardant from polyurethane foam materials. *J Environ Sci Health A Tox Hazard Subst Environ Eng* 50: 855-865. <http://dx.doi.org/10.1080/10934529.2015.1019807>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Gheorghe, A; Dirtu, AC; Neels, H; Covaci, A. (2013). Brominated and organophosphate flame retardants in indoor dust from Southern Romania (pp. 1-4). San Francisco, CA: Gheorghe, A; Dirtu, AC; Neels, H; Covaci, A. <https://www.yumpu.com/en/document/view/42028500/1-brominated-and-organophosphate-flame-retardants-in-indoor-dust>
- Gilchrist, TT; Letcher, RJ; Thomas, P; Fernie, KJ. (2014). Polybrominated diphenyl ethers and multiple stressors influence the reproduction of free-ranging tree swallows (*Tachycineta bicolor*) nesting at wastewater treatment plants. *Sci Total Environ* 472: 63-71. <http://dx.doi.org/10.1016/j.scitotenv.2013.10.090>
- Glynn, A; Lignell, S; Darnerud, PO; Aune, M; Halldin Ankarberg, E; Bergdahl, IA; Barregård, L; Bensryd, I. (2011). Regional differences in levels of chlorinated and brominated pollutants in mother's milk from primiparous women in Sweden. *Environ Int* 37: 71-79. <http://dx.doi.org/10.1016/j.envint.2010.07.003>
- Gorga, M; Martínez, E; Ginebreda, A; Eljarrat, E; Barceló, D. (2013). Determination of PBDEs, HBB, PBEB, DBDPE, HBCD, TBBPA and related compounds in sewage sludge from Catalonia (Spain). *Sci Total Environ* 444: 51-59. <http://dx.doi.org/10.1016/j.scitotenv.2012.11.066>
- GSRI (Gulf South Research Institute). (1988). Initial submission: Letter from Ethyl Corp to USEPA re technical and toxicity data on brominated flame retardants including HBCD (pp. 40). (EPA Document No. FYI-OTS-0794-0947; NTIS No. OTS0000947). Washington, DC. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0000947>
- Guerra, P; Alae, M; Jiménez, B; Pacepavicius, G; Marvin, C; Macinnis, G; Eljarrat, E; Barceló, D; Champoux, L; Fernie, K. (2012). Emerging and historical brominated flame retardants in peregrine falcon (*Falco peregrinus*) eggs from Canada and Spain. *Environ Int* 40: 179-186. <http://dx.doi.org/10.1016/j.envint.2011.07.014>
- Guerra, P; De La Cal, A; Marsh, G; Eljarrat, E; Barcelo, D. (2009). Transfer of hexabromocyclododecane from industrial effluents to sediments and biota: Case study in Cinca river (Spain). *J Hydrol* 369: 360-367. <http://dx.doi.org/10.1016/j.jhydrol.2009.02.024>
- Guerra, P; Eljarrat, E; Barceló, D. (2010). Simultaneous determination of hexabromocyclododecane, tetrabromobisphenol A, and related compounds in sewage sludge and sediment samples from Ebro River basin (Spain). *Anal Bioanal Chem* 397: 2817-2824. <http://dx.doi.org/10.1007/s00216-010-3670-3>
- Guo, Q; Du, Z; Zhang, Y; Lu, X; Wang, J; Yu, W. (2013). Simultaneous determination of bisphenol A, tetrabromobisphenol A, and perfluorooctanoic acid in small household electronics appliances of "Prohibition on Certain Hazardous Substances in Consumer Products" instruction using ultra-performance liquid chromatography-tandem mass spectrometry with accelerated solvent extraction. *J Sep Sci* 36: 677-683. <http://dx.doi.org/10.1002/jssc.201200730>
- Guo, Z. (2013). A Framework for Modelling Non-Steady-State Concentrations of Semivolatile Organic Compounds Indoors - I: Emissions from Diffusional Sources and Sorption by Interior Surfaces. *Indoor Built Environ* 22: 685-700. <http://dx.doi.org/10.1177/1420326X13488123>
- Guo, Z. (2014). A framework for modelling non-steady-state concentrations of semivolatile organic compounds indoors -II. Interactions with particulate matter. *Indoor Built Environ* 23: 26-43. <http://dx.doi.org/10.1177/1420326X13496802>
- Hakk, H; Szabo, DT; Huwe, J; Diliberto, J; Birnbaum, LS. (2012). Novel and distinct metabolites identified following a single oral dose of α - or γ -hexabromocyclododecane in mice. *Environ Sci Technol* 46: 13494-13503. <http://dx.doi.org/10.1021/es303209g>
- Harrad, S; Abdallah, MA. (2011). Brominated flame retardants in dust from UK cars--within-vehicle spatial variability, evidence for degradation and exposure implications. *Chemosphere* 82: 1240-1245. <http://dx.doi.org/10.1016/j.chemosphere.2010.12.038>
- Harrad, S; Abdallah, MA. (2015). Concentrations of polybrominated diphenyl ethers, hexabromocyclododecanes and tetrabromobisphenol-A in breast milk from United Kingdom women do not decrease over twelve months of lactation. *Environ Sci Technol* 49: 13899-13903. <http://dx.doi.org/10.1021/acs.est.5b00539>
- Harrad, S; Abdallah, MA; Rose, NL; Turner, SD; Davidson, TA. (2009). Current-use brominated flame retardants in water, sediment, and fish from English lakes. *Environ Sci Technol* 43: 9077-9083. <http://dx.doi.org/10.1021/es902185u>
- Harrad, S; de Wit, CA; Abdallah, MA; Bergh, C; Björklund, JA; Covaci, A; Darnerud, PO; de Boer, J; Diamond, M; Huber, S; Leonards, P; Mandalakis, M; Ostman, C; Haug, LS; Thomsen, C; Webster, TF. (2010). Indoor contamination with hexabromocyclododecanes, polybrominated diphenyl ethers, and perfluoroalkyl compounds: an important exposure pathway for people [Review]. *Environ Sci Technol* 44: 3221-3231. <http://dx.doi.org/10.1021/es903476t>
- Harrad, S; Goosey, E; Desborough, J; Abdallah, MA; Roosens, L; Covaci, A. (2010). Dust from U.K. primary school classrooms and daycare centers: the significance of dust as a pathway of exposure of young U.K. children to brominated flame retardants and polychlorinated biphenyls. *Environ Sci Technol* 44: 4198-4202. <http://dx.doi.org/10.1021/es100750s>
- Harscher, M. (2011). Uses of Hexabromocyclododecane (HBCD); Flammability Standards. Available online at <http://citeserx.ist.psu.edu/showciting;jsessionid=58948BF2550375409EE82F964379EED6?cid=43788672>
- Hashikawa, R; Isobe, T; Yano, S, i; Kunisue, T; Nakayama, K; Sudo, A; Takahashi, S; Tanabe, S. (2011). Contamination by brominated flame retardants (BFRs) in common cormorants from Lake Biwa. 229-238.
- He, MJ; Luo, XJ; Yu, LH; Wu, JP; Chen, SJ; Mai, BX. (2013). Diastereoisomer and enantiomer-specific profiles of hexabromocyclododecane and tetrabromobisphenol A in an aquatic environment in a highly industrialized area, South China: vertical profile, phase partition, and bioaccumulation. *Environ Pollut* 179: 105-110. <http://dx.doi.org/10.1016/j.envpol.2013.04.016>
- He, S; Li, M; Jin, J; Wang, Y; Bu, Y; Xu, M; Yang, X; Liu, A. (2013). Concentrations and trends of halogenated flame retardants in the pooled serum of residents of Laizhou Bay, China. *Environ Toxicol Chem* 32: 1242-1247. <http://dx.doi.org/10.1002/etc.2172>
- Helleday, T; Tuominen, KL; Bergman, A; Jenssen, D. (1999). Brominated flame retardants induce intragenic recombination in mammalian cells. *Mutat Res* 439: 137-147.
- HHS (U.S. Department of Health and Human Services). (2009). Household products database [Database]. Bethesda, MD: National Institutes of Health. Retrieved from <http://householdproducts.nlm.nih.gov/about.htm>
- Hoh, E; Hites, RA. (2005). Brominated flame retardants in the atmosphere of the East-Central United States. *Environ Sci Technol* 39: 7794-7802. <http://dx.doi.org/10.1021/es050718k>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Hong, J; Gao, S; Chen, L; Han, Q; Yu, Z; Peng, P; Fu, J. (2016). Hexabromocyclododecanes in the indoor environment of two cities in South China: their occurrence and implications of human inhalation exposure. *Indoor Built Environ* 25: 41-49. <http://dx.doi.org/10.1177/1420326X13499170>
- Honma, T; Suda, M; Miyagawa, M. (2003). Inhalation of 1-bromopropane causes excitation in the central nervous system of male F344 rats. *Neurotoxicology* 24: 563-575. [http://dx.doi.org/10.1016/S0161-813X\(03\)00049-4](http://dx.doi.org/10.1016/S0161-813X(03)00049-4)
- Horrocks, AR; Allen, J; Ojinnaka, S; Price, D. (1992). Influence of Laundering on Durable Flame Retarded Cotton Fabrics—Part 1. Effect of Oxidant Concentration and Detergent Type. *J Fire Sci* 10: 335-351.
- Hu, J; Jin, J; Wang, Y; Ma, Z; Zheng, W. (2011). Levels of polybrominated diphenyl ethers and hexabromocyclododecane in the atmosphere and tree bark from Beijing, China. *Chemosphere* 84: 355-360. <http://dx.doi.org/10.1016/j.chemosphere.2011.04.002>
- Huntingdon Research Centre. (1990). Ames metabolic activation test to assess the potential mutagenic effect of und no. 49 with cover letter dated 031290 [TSCA Submission]. (TSCATS/406642. OTS0522948. 86900000385). Wyandotte, MI: BASF Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0522948>
- Hwang, IK; Kang, HH; Lee, IS; Oh, JE. (2012). Assessment of characteristic distribution of PCDD/Fs and BFRs in sludge generated at municipal and industrial wastewater treatment plants. *Chemosphere* 88: 888-894. <http://dx.doi.org/10.1016/j.chemosphere.2012.03.098>
- IBT Labs (Industrial Bio-Test Laboratories, Inc.). (1990). Mutagenicity of two lots of FM-100 lot 53 and residue of lot 3322 in the absence and presence of metabolic activation with test data and cover letter [TSCA Submission]. (TSCATS/407259. OTS0523259. Doc I.D. 86900000267). West Lafayette, IN: Great Lakes Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0523259>
- Ichihara, G; Kitoh, J; Yu, X; Asaeda, N; Iwai, H; Kumazawa, T; Shibata, E; Yamada, T; Wang, H; Xie, Z; Takeuchi, Y. (2000). 1-Bromopropane, an alternative to ozone layer depleting solvents, is dose-dependently neurotoxic to rats in long-term inhalation exposure. *Toxicol Sci* 55: 116-123. <http://dx.doi.org/10.1093/toxsci/55.1.116>
- Ichihara, G; Yu, X; Kitoh, J; Asaeda, N; Kumazawa, T; Iwai, H; Shibata, E; Yamada, T; Wang, H; Xie, Z; Maeda, K; Tsukamura, H; Takeuchi, Y. (2000). Reproductive toxicity of 1-bromopropane, a newly introduced alternative to ozone layer depleting solvents, in male rats. *Toxicol Sci* 54: 416-423. <http://dx.doi.org/10.1093/toxsci/54.2.416>
- Ichihara, M; Yamamoto, A; Takakura, K; Kakutani, N; Sudo, M. (2014). Distribution and pollutant load of hexabromocyclododecane (HBCD) in sewage treatment plants and water from Japanese Rivers. *Chemosphere* 110: 78-84. <http://dx.doi.org/10.1016/j.chemosphere.2014.03.074>
- IHCP (Institute for Health and Consumer Protection). (2009). Effect of the nature and concentration of phthalates on their migration from PVC materials under dynamic simulated conditions of mouthing (pp. 20). <http://publications.jrc.ec.europa.eu/repository/handle/JRC51604>
- Institut Fresenius. (2000). Analysis of hexabromocyclododecane (HBCD) in sludge of the wastewater treatment plant of Broomchemie B.V. in Terneuzen. Taunusstein, Germany: Institut Fresenius.
- Ionas, AC; Dirtu, AC; Anthonissen, T; Neels, H; Covaci, A. (2014). Downsides of the recycling process: harmful organic chemicals in children's toys. *Environ Int* 65: 54-62. <http://dx.doi.org/10.1016/j.envint.2013.12.019>
- Ionas, AC; Ulevicis, J; Gómez, AB; Brandsma, SH; Leonards, PE; van de Bor, M; Covaci, A. (2016). Children's exposure to polybrominated diphenyl ethers (PBDEs) through mouthing toys. *Environ Int* 87: 101-107. <http://dx.doi.org/10.1016/j.envint.2015.11.018>
- IRDC (International Research & Development Corporation). (1978). Acute inhalation toxicity study in rats with hexabromocyclododecane with attachments and cover letter dated 042478 [TSCA Submission]. (EPA/OTS Doc #88-7800137; 8EHQ04780137). Chicago, IL: Velsicol Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0200488>
- IRDC (International Research & Development Corporation). (1978). Acute toxicity studies in rabbits and rats with hexabromocyclododecane with attachments [TSCA Submission]. (EPA/OTS Doc #88-7800065; 8EHQ02780065). Chicago, IL: Velsicol Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0200051>
- IRDC (International Research & Development Corporation). (1978). Acute toxicity studies in rabbits and rats with residue of hexabromocyclododecane with attachments and cover letter dated 030178 [TSCA Submission]. (88-7800088; 8EHQ03780088). Chicago, IL: Velsicol Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0200466>
- Ismail, N; Gewurtz, SB; Pleskach, K; Whittle, DM; Helm, PA; Marvin, CH; Tomy, GT. (2009). Brominated and chlorinated flame retardants in Lake Ontario, Canada, lake trout (*Salvelinus namaycush*) between 1979 and 2004 and possible influences of food-web changes. *Environ Toxicol Chem* 28: 910-920. <http://dx.doi.org/10.1897/08-162.1>
- Isobe, T; Ramu, K; Kajiwara, N; Takahashi, S; Lam, PK; Jefferson, TA; Zhou, K; Tanabe, S. (2007). Isomer specific determination of hexabromocyclododecanes (HBCDs) in small cetaceans from the South China Sea--Levels and temporal variation. *Mar Pollut Bull* 54: 1139-1145. <http://dx.doi.org/10.1016/j.marpolbul.2007.04.017>
- Johnson, PI; Stapleton, HM; Mukherjee, B; Hauser, R; Meeker, JD. (2013). Associations between brominated flame retardants in house dust and hormone levels in men. *Sci Total Environ* 445-446: 177-184. <http://dx.doi.org/10.1016/j.scitotenv.2012.12.017>
- Johnson-Restrepo, B; Adams, DH; Kannan, K. (2008). Tetrabromobisphenol A (TBBPA) and hexabromocyclododecanes (HBCDs) in tissues of humans, dolphins, and sharks from the United States. *Chemosphere* 70: 1935-1944. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.002>
- Kajiwara, N; Desborough, J; Harrad, S; Takigami, H. (2013). Photolysis of brominated flame retardants in textiles exposed to natural sunlight. *Environ Sci Process Impacts* 15: 653-660. <http://dx.doi.org/10.1039/c3em30887a>
- Kajiwara, N; Takigami, H. (2013). Behavior of additive brominated flame retardants in textile products (pp. 4). Kajiwara, N; Takigami, H. http://dtsc.ca.gov/bfr2013/abstract_download/2010/upload/90074.pdf
- Kakimoto, K; Akutsu, K; Konishi, Y; Tanaka, Y. (2008). Time trend of hexabromocyclododecane in the breast milk of Japanese women. *Chemosphere* 71: 1110-1114. <http://dx.doi.org/10.1016/j.chemosphere.2007.10.035>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Kalachova, K; Hradkova, P; Lankova, D; Hajslova, J; Pulkrabova, J. (2012). Occurrence of brominated flame retardants in household and car dust from the Czech Republic. *Sci Total Environ* 441: 182-193. <http://dx.doi.org/10.1016/j.scitotenv.2012.09.061>
- Kalantzi, OI; Geens, T; Covaci, A; Siskos, PA. (2011). Distribution of polybrominated diphenyl ethers (PBDEs) and other persistent organic pollutants in human serum from Greece. *Environ Int* 37: 349-353. <http://dx.doi.org/10.1016/j.envint.2010.10.005>
- Keller, AS; Raju, NP; Webster, TF; Stapleton, HM. (2014). Flame Retardant Applications in Camping Tents and Potential Exposure. 1: 152-155. <http://dx.doi.org/10.1021/ez400185y>
- Kemmlin, S; Hahn, O; Jann, O. (2003). Emissions of organophosphate and brominated flame retardants from selected consumer products and building materials. *Atmos Environ* 37: 5485-5493. <http://dx.doi.org/10.1016/j.atmosenv.2003.09.025>
- Kiciński, M; Viaene, MK; Den Hond, E; Schoeters, G; Covaci, A; Dirtu, AC; Nelen, V; Bruckers, L; Croes, K; Sioen, I; Baeyens, W; Van Larebeke, N; Nawrot, TS. (2012). Neurobehavioral function and low-level exposure to brominated flame retardants in adolescents: A cross-sectional study. *Environ Health* 11: 86. <http://dx.doi.org/10.1186/1476-069X-11-86>
- KLIF (Norwegian Pollution Control Authority). (2005). Temporal Trends of Brominated Flameretardants, Cyclododeca-1,5,9-Triene and Mercurin in Eggs of Four Seabird Species from Northern Norway and Svalbard. Norway (pp. 1-44). (SPFO-Report 942/2005). Norwegian Pollution Control Authority. <https://brage.bibsys.no/xmlui/handle/11250/173154>
- KLIF (Norwegian Pollution Control Authority). (2010). New organic pollutants in air, 2007. Brominated flame retardants and polyfluorinated substances (pp. 61). (SPFO-report 1077/2010, TA-2689/2010). Norway: Climate and Pollution Agency. <http://www.miljodirektoratet.no/old/klif/publikasjoner/2689/ta2689.pdf>
- Klosterhaus, SL; Stapleton, HM; La Guardia, MJ; Greig, DJ. (2012). Brominated and chlorinated flame retardants in San Francisco Bay sediments and wildlife. *Environ Int* 47: 56-65. <http://dx.doi.org/10.1016/j.envint.2012.06.005>
- Kobiliris, D. (2010). Influence of embryonic exposure to hexabromocyclododecane (HBCD) on the corticosterone response and "fight or flight" behaviors if captive American kestrels (pp. 1-58). Montreal, Canada: Kobiliris, D. http://digitool.library.mcgill.ca/webclient/StreamGate?folder_id=0&dvs=1488987858161~447
- Konemann, WH. (1998). Phthalate release from soft PVC baby toy : Report from the Dutch Consensus Group. (RIVM report 613320 002). Bilthoven, the Netherlands: National Institute for Public Health and the Environment (Netherlands) :: RIVM. http://www.rivm.nl/en/Documents_and_publications/Scientific/Reports/1998/september/Phthalate_release_from_soft_PVC_baby_toys_Report_from_the_Dutch_Consensus_Group?sp=cml2bXE9ZmFsc2U7c2VhcmNoYmFzZT0zNDQ4MDtyaXZtcT1mYWxzZTs=&pagenr=3449
- Kopp, EK; Fromme, H; Voelkel, W. (2012). Analysis of common and emerging brominated flame retardants in house dust using ultrasonic assisted solvent extraction and on-line sample preparation via column switching with liquid chromatography-mass spectrometry. *J Chromatogr A* 1241: 28-36. <http://dx.doi.org/10.1016/j.chroma.2012.04.022>
- Kuiper, RV; Cantón, RF; Leonards, PE; Jenssen, BM; Dubbeldam, M; Wester, PW; van den Berg, M; Vos, JG; Vethaak, AD. (2007). Long-term exposure of European flounder (*Platichthys flesus*) to the flame-retardants tetrabromobisphenol A (TBBPA) and hexabromocyclododecane (HBCD). *Ecotoxicol Environ Saf* 67: 349-360. <http://dx.doi.org/10.1016/j.ecoenv.2006.12.001>
- Kunisue, T; Takayanagi, N; Isobe, T; Takahashi, S; Nakatsu, S; Tsubota, T; Okumoto, K; Bushisue, S; Shindo, K; Tanabe, S. (2008). Regional trend and tissue distribution of brominated flame retardants and persistent organochlorines in raccoon dogs (*Nyctereutes procyonoides*) from Japan. *Environ Sci Technol* 42: 685-691. <http://dx.doi.org/10.1021/es071565z>
- Kuo, Y, uY; Zhang, H; Gerecke, AC; Wang, J. (2014). Chemical Composition of Nanoparticles Released from Thermal Cutting of Polystyrene Foams and the Associated Isomerization of Hexabromocyclododecane (HBCD) Diastereomers. *Aerosol Air Qual Res* 14: 1114-1120. <http://dx.doi.org/10.4209/aaqr.2013.02.0059>
- La Guardia, MJ; Hale, RC; Harvey, E; Chen, D. (2010). Flame-retardants and other organohalogens detected in sewage sludge by electron capture negative ion mass spectrometry. *Environ Sci Technol* 44: 4658-4664. <http://dx.doi.org/10.1021/es9039264>
- La Guardia, MJ; Hale, RC; Harvey, E; Mainor, TM; Ciparis, S. (2012). In situ accumulation of HBCD, PBDEs, and several alternative flame-retardants in the bivalve (*Corbicula fluminea*) and gastropod (*Elimia proxima*). *Environ Sci Technol* 46: 5798-5805. <http://dx.doi.org/10.1021/es3004238>
- La Guardia, MJ; Hale, RC; Newman, B. (2013). Brominated flame-retardants in sub-Saharan Africa: burdens in inland and coastal sediments of the eThekweni metropolitan municipality, South Africa. *Environ Sci Technol* 47: 9643-9650. <http://dx.doi.org/10.1021/es4020212>
- Larsen, R; Davis, E; Peck, A; Liebert, D; Richardson, K. (2005). Hexabromocyclododecane in Chesapeake Bay Fish. Gaithersberg, MD: Larsen, R; Davis, E; Peck, A; Liebert, D; Richardson, K.
- Law, K; Halldorson, T; Danell, R; Stern, G; Gewurtz, S; Alae, M; Marvin, C; Whittle, M; Tomy, G. (2006). Bioaccumulation and trophic transfer of some brominated flame retardants in a Lake Winnipeg (Canada) food web. *Environ Toxicol Chem* 25: 2177-2186.
- Law, K; Palace, VP; Halldorson, T; Danell, R; Wautier, K; Evans, B; Alae, M; Marvin, C; Tomy, GT. (2006). Dietary accumulation of hexabromocyclododecane diastereoisomers in juvenile rainbow trout (*Oncorhynchus mykiss*). I: Bioaccumulation parameters and evidence of bioisomerization. *Environ Toxicol Chem* 25: 1757. <http://dx.doi.org/10.1897/05-445r.1>
- Law, RJ; Allchin, CR; de Boer, J; Covaci, A; Herzke, D; Lepom, P; Morris, S; Tronczynski, J; de Wit, CA. (2006). Levels and trends of brominated flame retardants in the European environment. *Chemosphere* 64: 187-208. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.007>
- Law, RJ; Covaci, A; Harrad, S; Herzke, D; Abdallah, MA; Fernie, K; Toms, LM; Takigami, H. (2014). Levels and trends of PBDEs and HBCDs in the global environment: status at the end of 2012 [Review]. *Environ Int* 65: 147-158. <http://dx.doi.org/10.1016/j.envint.2014.01.006>
- Leonards, PEG; Santillo, D; Brigden, K; Veen, I; Van Hesseligen, J; De Boer, J; Johnston, P. (2001). Brominated flame retardants in office dust samples. Proceedings of the Second International Workshop on Brominated Flame Retardants, 14-16 May 2001 (pp. 1-4). Stockholm, Sweden: Leonards, PEG; Santillo, D; Brigden, K; Veen, I; Van Hesseligen, J; De Boer, J; Johnston, P. <http://edepot.wur.nl/347535>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Leslie, HA; Leonards, PE; Shore, RF; Walker, LA; Bersuder, PR; Morris, S; Allchin, CR; Boer, J, d. (2011). Decabromodiphenylether and hexabromocyclododecane in wild birds from the United Kingdom, Sweden and The Netherlands: Screening and time trends. *Chemosphere* 82: 88-95. <http://dx.doi.org/10.1016/j.chemosphere.2010.09.073>
- Letcher, RJ; Lu, Z; Chu, S; Haffner, GD; Drouillard, K; Marvin, CH; Ciborowski, JJ. (2015). Hexabromocyclododecane Flame Retardant Isomers in Sediments from Detroit River and Lake Erie of the Laurentian Great Lakes of North America. *Bull Environ Contam Toxicol* 95: 31-36. <http://dx.doi.org/10.1007/s00128-015-1491-y>
- Lewis, AC; Palanker, AL. (1978). A dermal LD50 study in albino rabbits and an inhalation LC50 study in albino rats. Test material GLS-S6-41A [unpublished]. (Experiment Reference No. 78385-2). Fairfield, NJ: Consumer Product Testing.
- Li, H; Mo, L; Yu, Z; Sheng, G; Fu, J. (2012). Levels, isomer profiles and chiral signatures of particle-bound hexabromocyclododecanes in ambient air around Shanghai, China. *Environ Pollut* 165: 140-146. <http://dx.doi.org/10.1016/j.envpol.2012.02.015>
- Li, H; Shang, H; Wang, P; Wang, Y; Zhang, H; Zhang, Q; Jiang, G. (2013). Occurrence and distribution of hexabromocyclododecane in sediments from seven major river drainage basins in China. *J Environ Sci* 25: 69-76. [http://dx.doi.org/10.1016/S1001-0742\(12\)60010-2](http://dx.doi.org/10.1016/S1001-0742(12)60010-2)
- Li, H; Zhang, Q; Wang, P; Li, Y; Lv, J; Chen, W; Geng, D; Wang, Y; Wang, T; Jiang, G. (2012). Levels and distribution of hexabromocyclododecane (HBCD) in environmental samples near manufacturing facilities in Laizhou Bay area, East China. *J Environ Monit* 14: 2591-2597. <http://dx.doi.org/10.1039/c2em30231d>
- Liagkouridis, I; Cousins, AP; Cousins, IT. (2015). Physical-chemical properties and evaluative fate modelling of 'emerging' and 'novel' brominated and organophosphorus flame retardants in the indoor and outdoor environment. *Sci Total Environ* 524-525: 416-426. <http://dx.doi.org/10.1016/j.scitotenv.2015.02.106>
- Lignell, S; Aune, M; Darnerud, PO; Glynn, A. (2005). Persistent organic pollutants (POPs) in breastmilk from primiparae women in Uppsala, Sweden, 2004. Lignell, S; Aune, M; Darnerud, PO; Glynn, A.
- Lignell, S; Darnerud, PO; Aune, M; Tömkvist, A. (2003). Persistent organic pollutants (POP) in breastmilk from primiparae women in Uppsala County, Sweden, 2002–2003 (pp. 10). Lignell, S; Darnerud, PO; Aune, M; Tömkvist, A. <https://www.diva-portal.org/smash/get/diva2:657868/FULLTEXT01.pdf>
- Lilienthal, H; van der Ven, LT; Piersma, AH; Vos, JG. (2009). Effects of the brominated flame retardant hexabromocyclododecane (HBCD) on dopamine-dependent behavior and brainstem auditory evoked potentials in a one-generation reproduction study in Wistar rats. *Toxicol Lett* 185: 63-72. <http://dx.doi.org/10.1016/j.toxlet.2008.12.002>
- Lindberg, P; Sellström, U; Häggberg, L; de Wit, CA. (2004). Higher brominated diphenyl ethers and hexabromocyclododecane found in eggs of peregrine falcons (*Falco peregrinus*) breeding in Sweden. *Environ Sci Technol* 38: 93-96. <http://dx.doi.org/10.1021/es034614q>
- Litton Bionetics. (1990). Mutagenicity evaluation of 421-32B (final report) with test data and cover letter [TSCA Submission]. (TSCATS/407257. OTS0523257. 86900000265). West Lafayette, IN: Great Lakes Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0523257>
- Liu, X; Allen, MR; Roache, NF. (2016). Migration of Organophosphorus flame retardants from closed cell foam to settled dust. 1: 1.
- López, D; Athanasiadou, M; Athanassiadis, I; Estrada, LY; Diaz-Barriga, F; Bergman, Å. (2004). A preliminary study on PBDEs and HBCDD in blood and milk from Mexican women. López, D; Athanasiadou, M; Athanassiadis, I; Estrada, LY; Diaz-Barriga, F; Bergman, Å. http://dtsc.ca.gov/bfr2013/abstract_download/2004/upload/Individual%20Papers/BFR2004%20Abstract%2011%20Lopez.pdf
- Lund, KH; Petersen, JH. (2006). Migration of formaldehyde and melamine monomers from kitchen- and tableware made of melamine plastic. *Food Addit Contam* 23: 948-955. <http://dx.doi.org/10.1080/02652030500415660>
- Makinen, MSE; Makinen, MRA; Koistinen, JTB; Pasanen, AL; Pasanen, PO; Kalliokoski, PI; Korpi, AM. (2009). Respiratory and Dermal Exposure to Organophosphorus Flame Retardants and Tetrabromobisphenol A at Five Work Environments. *Environ Sci Technol* 43: 941-947. <http://dx.doi.org/10.1021/es802593t>
- Malarvannan, G; Isobe, T; Covaci, A; Prudente, M; Tanabe, S. (2013). Accumulation of brominated flame retardants and polychlorinated biphenyls in human breast milk and scalp hair from the Philippines: levels, distribution and profiles. *Sci Total Environ* 442: 366-379. <http://dx.doi.org/10.1016/j.scitotenv.2012.10.005>
- Malarvannan, G; Kunisue, T; Isobe, T; Sudaryanto, A; Takahashi, S; Prudente, M; Subramanian, A; Tanabe, S. (2009). Organohalogen compounds in human breast milk from mothers living in Payatas and Malate, the Philippines: Levels, accumulation kinetics and infant health risk. *Environ Pollut* 157: 1924-1932. <http://dx.doi.org/10.1016/j.envpol.2009.01.010>
- Managaki, S; Enomoto, I; Masunaga, S. (2012). Sources and distribution of hexabromocyclododecanes (HBCDs) in Japanese river sediment. *J Environ Monit* 14: 901-907. <http://dx.doi.org/10.1039/c2em10621c>
- Maruya, KA; Dodder, NG; Weisberg, SB; Gregorio, D; Bishop, JS; Klosterhaus, S; Alvarez, DA; Furlong, ET; Bricker, S; Kimbrough, KL; Lauenstein, GG. (2014). The Mussel Watch California pilot study on contaminants of emerging concern (CECs): synthesis and next steps. *Mar Pollut Bull* 81: 355-363. <http://dx.doi.org/10.1016/j.marpolbul.2013.04.023>
- Marvin, CH; Tomy, GT; Alae, M; Macinnis, G. (2006). Distribution of hexabromocyclododecane in Detroit River suspended sediments. *Chemosphere* 64: 268-275. <http://dx.doi.org/10.1016/j.chemosphere.2005.12.011>
- Marvin, CH; Tomy, GT; Armitage, JM; Arnot, JA; Mccarty, L; Covaci, A; Palace, V. (2011). Hexabromocyclododecane: current understanding of chemistry, environmental fate and toxicology and implications for global management. *Environ Sci Technol* 45: 8613-8623. <http://dx.doi.org/10.1021/es201548c>
- Mclean, J; Fielding, C; Drayna, D; Dieplinger, H; Baer, B; Kohr, W; Henzel, W; Lawn, R. (1986). Cloning and expression of human lecithin-cholesterol acyltransferase cDNA. *Proc Natl Acad Sci USA* 83: 2335-2339.
- MDH (Minnesota Department of Health). (2013). Chemicals of high concern list. St. Paul, MN. Retrieved from <http://www.health.state.mn.us/divs/eh/hazardous/topics/toxfreekids/chclist/mdhchc2013.pdf>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Meijer, L; Weiss, J; Van Velzen, M; Brouwer, A; Bergman, A; Sauer, P.J. (2008). Serum concentrations of neutral and phenolic organohalogens in pregnant women and some of their infants in The Netherlands. *Environ Sci Technol* 42: 3428-3433.
<http://dx.doi.org/10.1021/es702446p>
- MEMA (Motor & Equipment Manufacturers Association). (2017). Preliminary information on manufacturing, processing, distribution, use, and disposal: Cyclic aliphatic bromide cluster (HBCD). OCSPP. Public comment. (EPA-HQ-OPPT-2016-0735-0014).
- Microbiological Associates. (1996). Hexabromocyclododecane (HBCD): Chromosome aberrations in human peripheral blood lymphocytes with cover letter dated 12/12/1996 [TSCA Submission]. (TSCATS/453439. OTS0573552. Doc I.D. 86970000358). Arlington, VA: Chemical Manufacturers Association. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0573552>
- Miljeteig, C; Strøm, H; Gavriilo, MV; Volkov, A; Jenssen, BM; Gabrielsen, GW. (2009). High levels of contaminants in ivory gull *Pagophila eburnea* eggs from the Russian and Norwegian Arctic. *Environ Sci Technol* 43: 5521-5528.
- Mody, V; Jakhete, R. (1987). Chapter 1: Dust and its control. Pittsburgh, PA: U.S. Bureau of Mines.
http://www.osha.gov/dsg/topics/silicacrystalline/dust/chapter_1.html
- MOE (Ontario Ministry of the Environment). (2000). Chemicals in the Environment, Report on Environmental Survey and Wildlife Monitoring of Chemicals in F. Y. 1998 (pp. 9). Tokyo, Japan: Ministry of Environment, Japan. <http://www.env.go.jp/en/chemi/pops/Appendix/03-CIE/chapter1.pdf>
- MOE (Ontario Ministry of the Environment). (2005). Chemicals in the Environment: Report on Environmental Survey and Monitoring of Chemicals in FY2004 (pp. 1-168). Tokyo, JAPAN: Ministry of the Environment, Government of Japan.
<https://www.env.go.jp/chemi/kurohon/en/http2004e/03-cie/cie2004.pdf>
- MOEJ (Ministry of the Environment, Japan). (2009). 6-Week Administration Study of 1,2,5,6,9,10-Hexabromocyclododecane for avian reproduction toxicity under long-day conditions using Japanese Quail. Tokyo, Japan: Ministry of the Environment, Japan.
<file:///C:/Users/37882/Downloads/UNEP-POPS-POPRC5FU-SUBM-HBCD-E-Japan-100108-I.En.pdf>
- Momma, J; Kaniwa, M; Sekiguchi, H; Ohno, K; Kawasaki, Y; Tsuda, M; Nakamura, A; Kurokawa, Y. (1993). [Dermatological evaluation of a flame retardant, hexabromocyclododecane (HBCD) on guinea pig by using the primary irritation, sensitization, phototoxicity and photosensitization of skin]. *Eisei Shikenjo Hokoku* 18-24.
- Morose, G. (2006). An Overview of Alternatives to Tetrabromobisphenol A (TBBPA) and Hexabromocyclododecane (HBCD) (pp. 1-32). Lowell, MA.: Prepared for the Jennifer Altman Foundation. <http://www.chemicalspolicy.org/downloads/AlternativestoTBBPAandHBCD.pdf>
- Morris, S; Allchin, CR; Zegers, BN; Haftka, JJ; Boon, JP; Belpaire, C; Leonards, PE; Van Leeuwen, SP; De Boer, J. (2004). Distribution and fate of HBCD and TBBPA brominated flame retardants in North Sea estuaries and aquatic food webs. *Environ Sci Technol* 38: 5497-5504.
<http://dx.doi.org/10.1021/es049640i>
- Morrison, G; Li, H; Mishra, S; Buechlein, M. (2015). Airborne phthalate partitioning to cotton clothing. *Atmos Environ* 115: 149-152.
<http://dx.doi.org/10.1016/j.atmosenv.2015.05.051>
- Moya, J; Phillips, L. (2014). A review of soil and dust ingestion studies for children [Review]. *J Expo Sci Environ Epidemiol* 24: 545-554.
<http://dx.doi.org/10.1038/jes.2014.17>
- Muir, DC; Backus, S; Derocher, AE; Dietz, R; Evans, TJ; Gabrielsen, GW; Nagy, J; Norstrom, RJ; Sonne, C; Stirling, I; Taylor, MK; Letcher, RJ. (2006). Brominated flame retardants in polar bears (*Ursus maritimus*) from Alaska, the Canadian Arctic, East Greenland, and Svalbard. *Environ Sci Technol* 40: 449-455. <http://dx.doi.org/10.1021/es051707u>
- Müller, AK; Nielsen, E; Ladefoged, O. (2003). Human exposure to selected phthalates in Denmark: Denmark Institute of Food Safety and Nutrition: The Danish Veterinary and Food Administration. http://orbit.dtu.dk/fedora/objects/orbit:81116/datastreams/file_3541432/content
- Murai, T; Kawasaki, H; Kanoh, S. (1985). [Studies on the toxicity of insecticides and food additives in pregnant rats. 7. Fetal toxicity of hexabromocyclododecane]. *Oyo Yakuri* 29: 981-986.
- Nakagawa, R; Murata, S; Ashizuka, Y; Shintani, Y; Hori, T; Tsutsumi, T. (2010). Hexabromocyclododecane determination in seafood samples collected from Japanese coastal areas. *Chemosphere* 81: 445-452. <http://dx.doi.org/10.1016/j.chemosphere.2010.08.015>
- Nazaroff, WW; Goldstein, AH. (2015). Indoor chemistry: research opportunities and challenges [Editorial]. *Indoor Air* 25: 357-361.
<http://dx.doi.org/10.1111/ina.12219>
- Ni, HG; Zeng, H. (2013). HBCD and TBBPA in particulate phase of indoor air in Shenzhen, China. *Sci Total Environ* 458-460: 15-19.
<http://dx.doi.org/10.1016/j.scitotenv.2013.04.003>
- NICNAS (National Industrial Chemicals Notification and Assessment Scheme). (2012). Hexabromocyclododecane. (PEC 34). Canberra, Australia.
<https://www.nicnas.gov.au/chemical-information/pec-assessments>
- NICNAS (National Industrial Chemicals Notification and Assessment Scheme). (2012). Hexabromocyclododecane: Priority existing chemical assessment report no. 34. Australia. http://www.nicnas.gov.au/Publications/CAR/PEC/PEC34/HBCD_Report_June_2012_PDF.pdf
- Niino, T; Asakura, T; Ishibashi, T; Itoh, T; Sakai, S; Ishiwata, H; Yamada, T; Onodera, S. (2003). A simple and reproducible testing method for dialkyl phthalate migration from polyvinyl chloride products into saliva simulant. *Shokohin Eiseigaku Zasshi* 44: 13-18.
<http://dx.doi.org/10.3358/shokueishi.44.13>
- Niino, T; Ishibashi, T; Itoh, T; Sakai, S; Ishiwata, H; Yamada, T; Onodera, S. (2002). Comparison of diisononyl phthalate migration from polyvinyl chloride products into human saliva in vivo and into saliva simulant in vitro. *J Health Sci* 48: 277-281.
<http://dx.doi.org/http://dx.doi.org/10.1248/jhs.48.277>
- Nordlöf, U; Helander, B; Bignert, A; Asplund, L. (2010). Levels of brominated flame retardants and methoxylated polybrominated diphenyl ethers in eggs of white-tailed sea eagles breeding in different regions of Sweden. *Sci Total Environ* 409: 238-246.
<http://dx.doi.org/10.1016/j.scitotenv.2010.09.042>
- NRC (National Research Council). (2009). Science and Decision: Advancing Risk Assessment (pp. 422). Washington, DC.
<http://www.nap.edu/catalog/12209.html>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- NRC (National Research Council). (2011). Review of the Environmental Protection Agency's draft IRIS assessment of formaldehyde. Washington, DC: The National Academies Press. <http://dx.doi.org/10.17226/13142>; <https://www.nap.edu/catalog/13142/review-of-the-environmental-protection-agencys-draft-iris-assessment-of-formaldehyde>
- NTP (National Toxicology Program). (2011). NTP technical report on the toxicology and carcinogenesis studies of 1-bromopropane (CAS No. 106-94-5) in F344/N rats and B6C3F1 mice (inhalation studies). (NTP TR 564; NIH Publication No. 11-5906). Research Triangle Park, NC. http://ntp.niehs.nih.gov/ntp/htdocs/lt_rpts/tr564.pdf
- OECD (Organisation for Economic Co-operation and Development). (1983). Guideline for the Testing of Chemicals: One-Generation Reproduction Toxicity Study, Guideline 415 (pp. 1-8). Paris, France. <http://www.oecd.org/chemicalsafety/risk-assessment/1948458.pdf>
- OECD (Organisation for Economic Co-operation and Development). (1995). Guideline for the Testing of Chemicals: Repeated Dose 28-Day Oral Toxicity Study in Rodents, Guideline 407 (pp. 1-8). Paris, France. <http://www.oecd.org/env/ehs/testing/37477972.pdf>
- OECD (Organisation for Economic Co-operation and Development). (2001). Guideline for the Testing of Chemicals: Two-Generation Reproduction Toxicity Study, Guideline 416 (pp. 1-13). Paris, France. <http://www.oecd.org/chemicalsafety/risk-assessment/1948466.pdf>
- OECD (Organisation for Economic Co-operation and Development). (2004). Emission scenario document on plastics additives (pp. 1-141). Paris, France. [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono\(2004\)8/rev1&doclanguage=en](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono(2004)8/rev1&doclanguage=en)
- OECD (Organisation for Economic Co-operation and Development). (2004). Emission scenario document on textile finishing. (Number 7). Paris, France.
- OECD (Organisation for Economic Co-operation and Development). (2007). SIDS Initial Assessment Profile for HBCDD (pp. 1-4). Paris, France. <http://webnet.oecd.org/HPV/UI/handler.axd?id=ea58ac11-e090-4b24-b281-200ae351686c>
- OECD (Organisation for Economic Co-operation and Development). (2015). Emission scenario document on use of adhesives. (Number 34). Paris, France.
- OEHHA (California Office of Environmental Health Hazard Assessment). (2007). Proposition 65 in plain language. Available online at <http://oehha.ca.gov/prop65/background/p65plain.html>
- OEHHA (California Office of Environmental Health Hazard Assessment). (2014). Chemicals known to the state to cause cancer or reproductive toxicity. Sacramento, CA: California Environmental Protection Agency. http://oehha.ca.gov/prop65/prop65_list/files/P65single060614.pdf
- Oetken, M; Ludwischowski, K; Nagel, R. (2001). Validation of the preliminary EU-concept of assessing the impact of chemicals to organisms in sediment by using selected substances. (Institute of Hydrobiology UBA-FB 299 67 411, pp 97). Dresden, Germany: Oetken, M; Ludwischowski, K; Nagel, R.
- Okonski, K; Degrendele, C; Melymuk, L; Landlová, L; Kukučka, P; Vojta, S; Kohoutek, J; Cupr, P; Klánová, J. (2014). Particle size distribution of halogenated flame retardants and implications for atmospheric deposition and transport. *Environ Sci Technol* 48: 14426-14434. <http://dx.doi.org/10.1021/es5044547>
- Ozer, ET; Güçer, S. (2011). Determination of some phthalate acid esters in artificial saliva by gas chromatography-mass spectrometry after activated carbon enrichment. *Talanta* 84: 362-367. <http://dx.doi.org/10.1016/j.talanta.2011.01.003>
- Ozkaynak, H; Xue, J; Zartarian, VG; Glen, G; Smith, L. (2011). Modeled estimates of soil and dust ingestion rates for children. *Risk Anal* 31: 592-608. <http://dx.doi.org/10.1111/j.1539-6924.2010.01524.x>
- Palace, V; Park, B; Pleskach, K; Gemmill, B; Tomy, G. (2010). Altered thyroxine metabolism in rainbow trout (*Oncorhynchus mykiss*) exposed to hexabromocyclododecane (HBCD). *Chemosphere* 80: 165-169. <http://dx.doi.org/10.1016/j.chemosphere.2010.03.016>
- Palace, VP; Pleskach, K; Halldorson, T; Danell, R; Wautier, K; Evans, B; Alae, M; Marvin, C; Tomy, GT. (2008). Biotransformation enzymes and thyroid axis disruption in juvenile rainbow trout (*Oncorhynchus mykiss*) exposed to hexabromocyclododecane diastereoisomers. *Environ Sci Technol* 42: 1967-1972. <http://dx.doi.org/10.1021/es702565h>
- Palmquist, H; Hanaeus, J. (2005). Hazardous substances in separately collected grey- and blackwater from ordinary Swedish households. *Sci Total Environ* 348: 151-163. <http://dx.doi.org/10.1016/j.scitotenv.2004.12.052>
- Peck, AM; Pugh, RS; Moors, A; Ellisor, MB; Porter, BJ; Becker, PR; Kucklick, JR. (2008). Hexabromocyclododecane in white-sided dolphins: temporal trend and stereoisomer distribution in tissues. *Environ Sci Technol* 42: 2650-2655. <http://dx.doi.org/10.1021/es072052v>
- Peters, R. (2003). Hazardous Chemicals in Precipitation. The Hague (NL). Netherlands Organisation for Applied Scientific Research.
- Peters, RJB. (2004). Man-made chemicals in Human Blood (pp. 1-48). Peters, RJB. <http://www.greenpeace.org/international/PageFiles/24502/man-made-chemicals-in-human-bl.pdf>
- Peverly, AA; Salamova, A; Hites, RA. (2014). Air is still contaminated 40 years after the Michigan Chemical plant disaster in St. Louis, Michigan. *Environ Sci Technol* 48: 11154-11160. <http://dx.doi.org/10.1021/es502809f>
- Pharmakologisches Inst (Pharmakologisches Institute). (1970). Hexabromocyclododecane: 90-day feeding trials with rats with attachments and cover letter dated 031290 [TSCA Submission]. (86-900000380). Parsippany, NJ: BASF Corporation.
- Pharmakologisches Inst (Pharmakologisches Institute). (1990). Ames test with hexabromides with cover letter dated 031290 [TSCA Submission]. (TSCATS/406636. OTS0522942. Doc. I.D. 86900000379). Washington, DC: U.S. Environmental Protection Agency.
- Polder, A; Gabrielsen, GW; Odland, JØ; Savinova, TN; Tkachev, A; Løken, KB; Skaare, JU. (2008). Spatial and temporal changes of chlorinated pesticides, PCBs, dioxins (PCDDs/PCDFs) and brominated flame retardants in human breast milk from Northern Russia. *Sci Total Environ* 391: 41-54. <http://dx.doi.org/10.1016/j.scitotenv.2007.10.045>
- Polder, A; Thomsen, C; Lindström, G; Løken, KB; Skaare, JU. (2008). Levels and temporal trends of chlorinated pesticides, polychlorinated biphenyls and brominated flame retardants in individual human breast milk samples from Northern and Southern Norway. *Chemosphere* 73: 14-23. <http://dx.doi.org/10.1016/j.chemosphere.2008.06.002>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Porch, JR; Kendall, TZ; Krueger, HO. (2002). Hexabromocyclododecane (HBCD): A toxicity test to determine the effects of the test substance on seedling emergence of six species of plants. (126 pp.). Easton, MD: Porch, JR; Kendall, TZ; Krueger, HO.
- Pratt, I; Anderson, W; Crowley, D; Daly, S; Evans, R; Fernandes, A; Fitzgerald, M; Geary, M; Keane, D; Morrison, JJ; Reilly, A; Tlustos, C. (2013). Brominated and fluorinated organic pollutants in the breast milk of first-time Irish mothers: is there a relationship to levels in food? *Food Addit Contam Part A Chem Anal Control Expo Risk Assess* 30: 1788-1798. <http://dx.doi.org/10.1080/19440049.2013.822569>
- Priddy, DB. (2006). Styrene plastics. In Kirk-Othmer Encyclopedia of Chemical Technology (5th ed.). New York: John Wiley & Sons.
- Prothero, S. (2016). Default Mid-Range Value of Exposed Working Years for Worker Exposure Assessments. Washington DC: U. S. Environmental Protection Agency, Risk Assessment Division.
- Pulkrová, J; Hrádková, P; Hajslová, J; Poustka, J; Nápravníková, M; Poláček, V. (2009). Brominated flame retardants and other organochlorine pollutants in human adipose tissue samples from the Czech Republic. *Environ Int* 35: 63-68. <http://dx.doi.org/10.1016/j.envint.2008.08.001>
- Rani, M; Shim, WJ; Han, GM; Jang, M; Song, YK; Hong, SH. (2014). Hexabromocyclododecane in polystyrene based consumer products: An evidence of unregulated use. *Chemosphere* 110: 111-119. <http://dx.doi.org/10.1016/j.chemosphere.2014.02.022>
- Rauert, C; Harrad, S; Suzuki, G; Takigami, H; Uchida, N; Takata, K. (2014). Test chamber and forensic microscopy investigation of the transfer of brominated flame retardants into indoor dust via abrasion of source materials. *Sci Total Environ* 493: 639-648. <http://dx.doi.org/10.1016/j.scitotenv.2014.06.029>
- Rauert, C; Kuribara, I; Kataoka, T; Wada, T; Kajiwara, N; Suzuki, G, o; Takigami, H; Harrad, S. (2016). Direct contact between dust and HBCD-treated fabrics is an important pathway of source-to-dust transfer. *Sci Total Environ* 545: 77-83. <http://dx.doi.org/10.1016/j.scitotenv.2015.12.054>
- Rawn, DF; Gaertner, DW; Weber, D; Curran, IH; Cooke, GM; Goodyer, CG. (2014). Hexabromocyclododecane concentrations in Canadian human fetal liver and placental tissues. *Sci Total Environ* 468-469: 622-629. <http://dx.doi.org/10.1016/j.scitotenv.2013.08.014>
- Rawn, DF; Ryan, JJ; Sadler, AR; Sun, WF; Weber, D; Laffey, P; Haines, D; Macey, K; Van Oostdam, J. (2014). Brominated flame retardant concentrations in sera from the Canadian Health Measures Survey (CHMS) from 2007 to 2009. *Environ Int* 63: 26-34. <http://dx.doi.org/10.1016/j.envint.2013.10.012>
- Reiner, JL; Becker, PR; Gribble, MO; Lynch, JM; Moors, AJ; Ness, J; Peterson, D; Pugh, RS; Ragland, T; Rimmer, C; Rhoderick, J; Schantz, MM; Trevillian, J; Kucklick, JR. (2015). Organohalogen Contaminants and Vitamins in Northern Fur Seals (*Callorhinus ursinus*) Collected During Subsistence Hunts in Alaska. *Arch Environ Contam Toxicol* 70: 96-105. <http://dx.doi.org/10.1007/s00244-015-0179-y>
- Reistad, T; Fonnum, F; Mariussen, E. (2006). Neurotoxicity of the pentabrominated diphenyl ether mixture, DE-71, and hexabromocyclododecane (HBCD) in rat cerebellar granule cells in vitro. *Arch Toxicol* 80: 785-796. <http://dx.doi.org/10.1007/s00204-006-0099-8>
- Reiter, W. (2017). Notes from EPA meeting with American Chemistry Council on HBCD use. Washington, DC: Reiter, W.
- Remberger, M; Sternbeck, J; Palm, A; Kaj, L; Strömberg, K; Brorström-Lundén, E. (2004). The environmental occurrence of hexabromocyclododecane in Sweden. *Chemosphere* 54: 9-21. [http://dx.doi.org/10.1016/S0045-6535\(03\)00758-6](http://dx.doi.org/10.1016/S0045-6535(03)00758-6)
- Robson, M; Melymuk, L; Bradley, L; Treen, B; Backus, S. (2013). Wet deposition of brominated flame retardants to the Great Lakes basin - Status and trends. *Environ Pollut* 182: 299-306. <http://dx.doi.org/10.1016/j.envpol.2013.07.018>
- Ronisz, D; Finne, EF; Karlsson, H; Förlin, L. (2004). Effects of the brominated flame retardants hexabromocyclododecane (HBCDD), and tetrabromobisphenol A (TBBPA), on hepatic enzymes and other biomarkers in juvenile rainbow trout and feral eelpout. *Aquat Toxicol* 69: 229-245. <http://dx.doi.org/10.1016/j.aquatox.2004.05.007>
- Roosens, L; Abdallah, MA; Harrad, S; Neels, H; Covaci, A. (2009). Exposure to hexabromocyclododecanes (HBCDs) via dust ingestion, but not diet, correlates with concentrations in human serum: preliminary results. *Environ Health Perspect* 117: 1707-1712. <http://dx.doi.org/10.1289/ehp.0900869>
- Roosens, L; Cornelis, C; D'Hollander, W; Bervoets, L; Reynders, H; Van Campenhout, K; Van Den Heuvel, R; Neels, H; Covaci, A. (2010). Exposure of the Flemish population to brominated flame retardants: model and risk assessment. *Environ Int* 36: 368-376. <http://dx.doi.org/10.1016/j.envint.2010.02.005>
- Ryan, JJ; Rawn, DF. (2014). The brominated flame retardants, PBDEs and HBCD, in Canadian human milk samples collected from 1992 to 2005; concentrations and trends. *Environ Int* 70: 1-8. <http://dx.doi.org/10.1016/j.envint.2014.04.020>
- Saegusa, Y; Fujimoto, H; Woo, GH; Inoue, K; Takahashi, M; Mitsumori, K; Hirose, M; Nishikawa, A; Shibutani, M. (2009). Developmental toxicity of brominated flame retardants, tetrabromobisphenol A and 1,2,5,6,9,10-hexabromocyclododecane, in rat offspring after maternal exposure from mid-gestation through lactation. *Reprod Toxicol* 28: 456-467. <http://dx.doi.org/10.1016/j.reprotox.2009.06.011>
- Sahlström, L; Sellström, U; de Wit, CA. (2012). Clean-up method for determination of established and emerging brominated flame retardants in dust. *Anal Bioanal Chem* 404: 459-466. <http://dx.doi.org/10.1007/s00216-012-6160-y>
- Saini, A; Thaysen, C; Jantunen, I; McQueen, RH; Diamond, ML. (2016). From Clothing to Laundry Water: Investigating the Fate of Phthalates, Brominated Flame Retardants, and Organophosphate Esters. *Environ Sci Technol* 50: 9289-9297. <http://dx.doi.org/10.1021/acs.est.6b02038>
- Salthammer, T; Schripp, T. (2015). Application of the Junge- and Pankow-equation for estimating indoor gas/particle distribution and exposure to SVOCs. *Atmos Environ* 106: 467-476. <http://dx.doi.org/10.1016/j.atmosenv.2014.09.050>
- Samsonek, J; Puype, F. (2013). Occurrence of brominated flame retardants in black thermo cups and selected kitchen utensils purchased on the European market. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess* 30: 1976-1986. <http://dx.doi.org/10.1080/19440049.2013.829246>
- Sanders, JM; Knudsen, GA; Birnbaum, LS. (2013). The Fate of β -Hexabromocyclododecane in Female C57BL/6 Mice. *Toxicol Sci* 134: 251-257. <http://dx.doi.org/10.1093/toxsci/kft121>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Santillo, D; Johnston, P; Brigden, K. (2001). The presence of brominated flame retardants and organotin compounds in dusts collected from Parliament buildings from eight countries. Santillo, D; Johnston, P; Brigden, K. <http://archive.greenpeace.org/toxics/reports/eudust.pdf>
- Santillo, D; Labunska, I; Davidson, H; Johnston, P; Strutt, M; Knowles, O. (2003). Consuming chemicals: Hazardous chemicals in house dust as an indicator of chemical exposure in the home. London, UK: Greenpeace Environmental Trust. <http://www.greenpeace.org/international/en/publications/reports/consuming-chemicals-hazardou/>
- Santillo, D; Labunska, I; Fairley, M; Johnston, P. (2003). Consuming Chemicals #2: Hazardous chemicals in house dust as an indicator of chemical exposure in the home. (Technical Note 02/2003). Santillo, D; Labunska, I; Fairley, M; Johnston, P.
- Schlabach, M; Mariussen, E; Borgen, AR; Dye, C; Enge, E; Steinnes, E; Green, N; Mohn, H. (2002). Kartlegging av bromerte flammehemmere og klorerte. (866/02). Oslo, Norway: Schlabach, M; Mariussen, E; Borgen, AR; Dye, C; Enge, E; Steinnes, E; Green, N; Mohn, H.
- Schlummer, M; Maurer, A; Wagner, S; Berrang, A; Siebert, T; Knappich, F. (2017). Recycling of flame retarded waste polystyrene foams (EPS and XPS) to PS granules free of hexabromocyclododecane (HBCDD). Schlummer, M; Maurer, A; Wagner, S; Berrang, A; Siebert, T; Knappich, F. http://www.synbratetechnology.com/media/11693/fraunhoferwebsite_creasolv-processing-of-hbcd-containing-polystyrene-from-construction-eps-1.pdf
- Schreder, ED; La Guardia, MJ. (2014). Flame retardant transfers from u.s. Households (dust and laundry wastewater) to the aquatic environment. *Environ Sci Technol* 48: 11575-11583. <http://dx.doi.org/10.1021/es502227h>
- SGP (Scientific Guidance Panel). (2014). Biomonitoring California Priority Chemicals. Available online at <http://www.biomonitoring.ca.gov/chemicals/chemicals-biomonitored-california>
- Shaw, SD; Berger, ML; Brenner, D; Kannan, K; Lohmann, N; Päpke, O. (2009). Bioaccumulation of polybrominated diphenyl ethers and hexabromocyclododecane in the northwest Atlantic marine food web. *Sci Total Environ* 407: 3323-3329. <http://dx.doi.org/10.1016/j.scitotenv.2009.02.018>
- Shi, Z; Jiao, Y; Hu, Y; Sun, Z; Zhou, X; Feng, J; Li, J; Wu, Y. (2013). Levels of tetrabromobisphenol A, hexabromocyclododecanes and polybrominated diphenyl ethers in human milk from the general population in Beijing, China. *Sci Total Environ* 452-453: 10-18. <http://dx.doi.org/10.1016/j.scitotenv.2013.02.038>
- Shoeib, M; Ahrens, L; Jantunen, L; Harner, T, om. (2014). Concentrations in air of organobromine, organochlorine and organophosphate flame retardants in Toronto, Canada. *Atmos Environ* 99: 140-147. <http://dx.doi.org/10.1016/j.atmosenv.2014.09.040>
- Smolarz, K; Berger, A. (2009). Long-term toxicity of hexabromocyclododecane (HBCDD) to the benthic clam *Macoma balthica* (L.) from the Baltic Sea. *Aquat Toxicol* 95: 239-247. <http://dx.doi.org/10.1016/j.aquatox.2009.09.010>
- Son, MH; Kim, J; Shin, ES; Seo, SH; Chang, YS. (2015). Diastereoisomer- and species-specific distribution of hexabromocyclododecane (HBCD) in fish and marine invertebrates. *J Hazard Mater* 300: 114-120. <http://dx.doi.org/10.1016/j.jhazmat.2015.06.023>
- Sørmo, EG; Lie, E; Ruus, A; Gaustad, H; Skaare, JU; Jenssen, BM. (2011). Trophic level determines levels of brominated flame-retardants in coastal herring gulls. *Ecotoxicol Environ Saf* 74: 2091-2098. <http://dx.doi.org/10.1016/j.ecoenv.2011.06.012>
- SRI International. (1990). In vitro microbiological mutagenicity studies of four Ciba-Geigy Corporation compounds (final report) with test data and cover letter [TSCA Submission]. (TSCATS/407254. OTS0523254. Doc I.D. 86900000262). West Lafayette, IN: Great Lakes Chemical Corporation. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0523254>
- Stapleton, H; Allen, J; Kelly, S; Konstantinov, A; Klosterhaus, S; Watkins, D; Mcclean, M; Webster, T. (2008). Alternate and new brominated flame retardants detected in U.S. house dust. *Environ Sci Technol* 42: 6910-6916. <http://dx.doi.org/10.1021/es801070p>
- Stapleton, HM; Alae, M; Letcher, RJ; Baker, JE. (2004). Debromination of the flame retardant decabromodiphenyl ether by juvenile carp (*Cyprinus carpio*) following dietary exposure. *Environ Sci Technol* 38: 112-119.
- Stapleton, HM; Dodder, NG; Kucklick, JR; Reddy, CM; Schantz, MM; Becker, PR; Gulland, F; Porter, BJ; Wise, SA. (2006). Determination of HBCD, PBDEs and MeO-BDEs in California sea lions (*Zalophus californianus*) stranded between 1993 and 2003. *Mar Pollut Bull* 52: 522-531. <http://dx.doi.org/10.1016/j.marpolbul.2005.09.045>
- Stapleton, HM; Dodder, NG; Offenberger, JH; Schantz, MM; Wise, SA. (2004). Polybrominated Diphenyl Ethers in House Dust and Clothes Dryer Lint. *Environ Sci Technol* 39: 925-931. <http://dx.doi.org/10.1021/es0486824>
- Stapleton, HM; Klosterhaus, S; Eagle, S; Fuh, J; Meeker, JD; Blum, A; Webster, TF. (2009). Detection of organophosphate flame retardants in furniture foam and U.S. house dust. *Environ Sci Technol* 43: 7490-7495. <http://dx.doi.org/10.1021/es9014019>
- Stenzel, JI; Nixon, WB. (1997). Hexabromocyclododecane (HBCD): Determination of the vapor pressure using a spinning rotor gauge with cover letter dated 08/15/1997 [TSCA Submission]. (TSCATS/453589. OTS0573702. Doc I.D. 86970000839). Arlington, VA: Wildlife International Ltd. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0573702>
- Sternbeck, J; Remberger, M; Kaj, L; Strömberg, K; Palm, A; Brorström-Lundén, E. (2001). HBCD in Sweden-the screening of a brominated flame retardants. Sternbeck, J; Remberger, M; Kaj, L; Strömberg, K; Palm, A; Brorström-Lundén, E.
- Stockholm Convention on Persistent Organic Pollutants. (2010). Draft Risk Profile on Hexabromocyclododecane. Chatelaine, Switzerland: Stockholm Convention on Persistent Organic Pollutants.
- Stubbings, WA; Harrad, S. (2014). Extent and mechanisms of brominated flame retardant emissions from waste soft furnishings and fabrics: A critical review [Review]. *Environ Int* 71: 164-175. <http://dx.doi.org/10.1016/j.envint.2014.06.007>
- Su, G; Letcher, RJ; Moore, JN; Williams, LL; Martin, PA; de Solla, SR; Bowerman, WW. (2015). Spatial and temporal comparisons of legacy and emerging flame retardants in herring gull eggs from colonies spanning the Laurentian Great Lakes of Canada and United States. *Environ Res* 142: 720-730. <http://dx.doi.org/10.1016/j.envres.2015.08.018>
- Suh, K. (2000). Foamed Plastics. In Kirk-Othmer Encyclopedia of Chemical Technology: John Wiley & Sons, Inc.
- Suh, KW. (2000). Foamed plastics [Encyclopedia]. In Kirk-Othmer Encyclopedia of Chemical Technology. Hoboken, NJ: John Wiley and Sons, Inc. <http://dx.doi.org/10.1002/0471238961.06150113192108.a01>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Suzuki, G; Kida, A; S-i, S; Takigami, H. (2009). Existence State of Bromine as an Indicator of the Source of Brominated Flame Retardants in Indoor Dust. *Environ Sci Technol* 43: 1437-1442. <http://dx.doi.org/10.1021/es802599d>
- Szabo, DT; Diliberto, JJ; Hakk, H; Huwe, JK; Birnbaum, LS. (2010). Toxicokinetics of the flame retardant hexabromocyclododecane gamma: effect of dose, timing, route, repeated exposure, and metabolism. *Toxicol Sci* 117: 282-293. <http://dx.doi.org/10.1093/toxsci/kfq183>
- Szabo, DT; Diliberto, JJ; Hakk, H; Huwe, JK; Birnbaum, LS. (2011). Toxicokinetics of the flame retardant hexabromocyclododecane alpha: effect of dose, timing, route, repeated exposure, and metabolism. *Toxicol Sci* 121: 234-244. <http://dx.doi.org/10.1093/toxsci/kfr059>
- Takigami, H; Suzuki, G; Hirai, Y; Sakai, S. (2008). Transfer of brominated flame retardants from components into dust inside television cabinets. *Chemosphere* 73: 161-169. <http://dx.doi.org/10.1016/j.chemosphere.2008.06.032>
- Takigami, H; Suzuki, G; Hirai, Y; Sakai, S. (2009). Brominated flame retardants and other polyhalogenated compounds in indoor air and dust from two houses in Japan. *Chemosphere* 76: 270-277. <http://dx.doi.org/10.1016/j.chemosphere.2009.03.006>
- Tang, J; Feng, J; Li, X; Li, G. (2014). Levels of flame retardants HBCD, TBBPA and TBC in surface soils from an industrialized region of East China. *Environ Sci Process Impacts* 16: 1015-1021. <http://dx.doi.org/10.1039/c3em00656e>
- TemaNord. (2008). Hexabromocyclododecane as a possible global POP. [online]: Nordic Council of Ministers.
- Thomas, S; Kreuger, HO; Kendall, TZ. (2003). Hexabromocyclododecane (HBCD): a prolonged sediment toxicity test with *Hyalella azteca* using spiked sediment with 2% total organic carbon (pp. 150). (Report# 439A-119B, 103 pp. TSCA Section FYI-1103-01472; DCN 84040000010, pg 150). Easton, MD: American Chemistry Council Brominated Flame Retardant Industry Panel.
- Thomas, S; Kreuger, HO; Kendall, TZ. (2003). Hexabromocyclododecane (HBCD): a prolonged sediment toxicity test with *Hyalella azteca* using spiked sediment with 5% total organic carbon (pp. 253). (Final Report# 439A-120, 103 pp. TSCA Section FYI-1103-01472; DCN 84040000010, pg 253). Easton, MD: Thomas, S; Kreuger, HO; Kendall, TZ.
- Thomsen, C; Frøshaug, M; Leknes, H; Becher, G. (2003). Brominated flame retardants in breast milk from Norway. *Organohalogen Compd* 64: 33-36.
- Thomsen, C; Knutsen, HK; Liane, VH; Frøshaug, M; Kvalem, HE; Haugen, M; Meltzer, HM; Alexander, J; Becher, G. (2008). Consumption of fish from a contaminated lake strongly affects the concentrations of polybrominated diphenyl ethers and hexabromocyclododecane in serum. *Mol Nutr Food Res* 52: 228-237. <http://dx.doi.org/10.1002/mnfr.200700123>
- Thomsen, C; Molander, P; Daae, HL; Janák, K; Frøshaug, M; Liane, VH; Thorud, S; Becher, G; Dybing, E. (2007). Occupational exposure to hexabromocyclododecane at an industrial plant. *Environ Sci Technol* 41: 5210-5216. <http://dx.doi.org/10.1021/es0702622>
- Thomsen, C; Stigum, H; Frøshaug, M; Broadwell, SL; Becher, G; Eggesbø, M. (2010). Determinants of brominated flame retardants in breast milk from a large scale Norwegian study. *Environ Int* 36: 68-74. <http://dx.doi.org/10.1016/j.envint.2009.10.002>
- Thuresson, K; Björklund, JA; de Wit, CA. (2012). Tri-decabrominated diphenyl ethers and hexabromocyclododecane in indoor air and dust from Stockholm microenvironments 1: levels and profiles. *Sci Total Environ* 414: 713-721. <http://dx.doi.org/10.1016/j.scitotenv.2011.11.016>
- Toms, LM; Guerra, P; Eljarrat, E; Barceló, D; Harden, FA; Hobson, P; Sjodin, A; Ryan, E; Mueller, JF. (2012). Brominated flame retardants in the Australian population: 1993-2009. *Chemosphere* 89: 398-403. <http://dx.doi.org/10.1016/j.chemosphere.2012.05.053>
- Tomy, GT; Pleskach, K; Ferguson, SH; Hare, J; Stern, G; Macinnis, G; Marvin, CH; Loseto, L. (2009). Trophodynamics of Some PFCs and BFRs in a Western Canadian Arctic Marine Food Web. *Environ Sci Technol* 43: 4076-4081. <http://dx.doi.org/10.1021/es900162n>
- Tomy, GT; Pleskach, K; Oswald, T; Halldorson, T; Helm, PA; Macinnis, G; Marvin, CH. (2008). Enantioselective bioaccumulation of hexabromocyclododecane and congener-specific accumulation of brominated diphenyl ethers in an eastern Canadian Arctic marine food web. *Environ Sci Technol* 42: 3634-3639. <http://dx.doi.org/10.1021/es703083z>
- Toxic-Free Future. (2017). Preliminary information on manufacturing, processing, distribution, use, and disposal: Cyclic aliphatic bromide cluster (HBCD). OCSPP. Public comment. (EPA-HQ-OPPT-2016-0735-0022).
- Trafalis, DT; Panteli, ES; Grivas, A; Tsigris, C; Karamanakos, P. (2010). CYP2E1 and risk of chemically mediated cancers [Review]. *Expert Opin Drug Metab Toxicol* 6: 307-319. <http://dx.doi.org/10.1517/17425250903540238>
- Tue, NM; Sudaryanto, A; Minh, TB; Isobe, T; Takahashi, S; Viet, PH; Tanabe, S. (2010). Accumulation of polychlorinated biphenyls and brominated flame retardants in breast milk from women living in Vietnamese e-waste recycling sites. *Sci Total Environ* 408: 2155-2162. <http://dx.doi.org/10.1016/j.scitotenv.2010.01.012>
- Tue, NM; Takahashi, S; Suzuki, G; Isobe, T; Viet, PH; Kobara, Y; Seike, N; Zhang, G; Sudaryanto, A; Tanabe, S. (2013). Contamination of indoor dust and air by polychlorinated biphenyls and brominated flame retardants and relevance of non-dietary exposure in Vietnamese informal e-waste recycling sites. *Environ Int* 51: 160-167. <http://dx.doi.org/10.1016/j.envint.2012.11.006>
- U.S. EPA (U.S. Environmental Protection Agency). (1986). Guidelines for mutagenicity risk assessment (pp. 1-17). (EPA/630/R-98/003). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <https://www.epa.gov/risk/guidelines-mutagenicity-risk-assessment>
- U.S. EPA (U.S. Environmental Protection Agency). (1986). Guidelines for the health risk assessment of chemical mixtures (pp. 1-38). (EPA/630/R-98/002). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://cfpub.epa.gov/ncea/cfm/recorddisplay.cfm?deid=22567>
- U.S. EPA (U.S. Environmental Protection Agency). (1988). Recommendations for and documentation of biological values for use in risk assessment (pp. 1-395). (EPA/600/6-87/008). Cincinnati, OH: U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment. <http://cfpub.epa.gov/ncea/cfm/recorddisplay.cfm?deid=34855>
- U.S. EPA (U.S. Environmental Protection Agency). (1991). Guidelines for developmental toxicity risk assessment (pp. 1-71). (EPA/600/FR-91/001). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://cfpub.epa.gov/ncea/cfm/recorddisplay.cfm?deid=23162>
- U.S. EPA (U.S. Environmental Protection Agency). (1994). Methods for derivation of inhalation reference concentrations and application of inhalation dosimetry [EPA Report] (pp. 1-409). (EPA/600/8-90/066F). Research Triangle Park, NC: U.S. Environmental Protection

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Agency, Office of Research and Development, Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office. <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=71993&CFID=51174829&CFTOKEN=25006317>
- U.S. EPA (U.S. Environmental Protection Agency). (1995). The use of the benchmark dose approach in health risk assessment. (EPA/630/R-94/007). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=30004WBL.txt>
- U.S. EPA (U.S. Environmental Protection Agency). (1996). Guidelines for reproductive toxicity risk assessment (pp. 1-143). (EPA/630/R-96/009). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum.
- U.S. EPA (U.S. Environmental Protection Agency). (1997). Exposure Factor Handbook (pp. 1216). (EPA/600/P-95/002F a-c). U. S. Environmental Protection Agency. http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=503445.
- U.S. EPA (U.S. Environmental Protection Agency). (1998). Guidelines for ecological risk assessment [EPA Report]. (EPA/630/R-95/002F). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://www.epa.gov/raf/publications/guidelines-ecological-risk-assessment.htm>
- U.S. EPA (U.S. Environmental Protection Agency). (1998). Guidelines for neurotoxicity risk assessment [EPA Report] (pp. 1-89). (EPA/630/R-95/001F). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://www.epa.gov/risk/guidelines-neurotoxicity-risk-assessment>
- U.S. EPA (U.S. Environmental Protection Agency). (2000). Benchmark dose technical guidance document [external review draft] [EPA Report] (pp. 1-96). (EPA/630/R-00/001). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. https://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=4727
- U.S. EPA (U.S. Environmental Protection Agency). (2000). Science policy council handbook: Risk characterization (pp. 1-189). (EPA/100/B-00/002). Washington, D.C.: U.S. Environmental Protection Agency, Science Policy Council. <https://www.epa.gov/risk/risk-characterization-handbook>
- U.S. EPA (U.S. Environmental Protection Agency). (2000). Supplementary guidance for conducting health risk assessment of chemical mixtures (pp. 1-209). (EPA/630/R-00/002). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=20533>
- U.S. EPA (U.S. Environmental Protection Agency). (2001). Risk assessment guidance for superfund (RAGS: Volume III - part A, Process for conducting probabilistic risk assessment. (EPA 540-R-02-002). Washington, DC: U.S. Environmental Protection Agency, Office of Emergency and Remedial REsponse. <http://www.epa.gov/oswer/riskassessment/rags3adt/index.htm>
- U.S. EPA (U.S. Environmental Protection Agency). (2002). A review of the reference dose and reference concentration processes (pp. 1-192). (EPA/630/P-02/002F). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://www.epa.gov/osa/review-reference-dose-and-reference-concentration-processes>
- U.S. EPA (U.S. Environmental Protection Agency). (2004). Emission Scenario Document on Additives in Plastics Processing (Compounding) (pp. 141). U.S. Environmental Protection Agency. [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono\(2004\)8/rev1&doclanguage=en](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono(2004)8/rev1&doclanguage=en)
- U.S. EPA (U.S. Environmental Protection Agency). (2006). A framework for assessing health risk of environmental exposures to children (pp. 1-145). (EPA/600/R-05/093F). Washington, DC: U.S. Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=158363>
- U.S. EPA (U.S. Environmental Protection Agency). (2006). Non-Confidential 2006 Inventory Update Reporting (IUR) database. Available online at <https://www.epa.gov/chemical-data-reporting>
- U.S. EPA (U.S. Environmental Protection Agency). (2007). Exposure and fate assessment screening tool (E-FAST): Version 2.0, documentation manual [EPA Report].
- U.S. EPA (U.S. Environmental Protection Agency). (2008). Initial risk-based prioritization of high production volume chemicals; chemical/category: Hexabromocyclododecane (HBCD).
- U.S. EPA (U.S. Environmental Protection Agency). (2009). Consolidated Human Activity Database. Available online at <http://www.epa.gov/chadnet1/> (accessed August 27, 2009).
- U.S. EPA (U.S. Environmental Protection Agency). (2010). Hexabromocyclododecane (HBCD) action plan summary [EPA Report]. Washington, D.C. <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/hexabromocyclododecane-hbcd-action-plan>
- U.S. EPA (U.S. Environmental Protection Agency). (2010). TSCA New Chemicals Program (NCP) chemical categories. <http://www.epa.gov/oppt/newchemicals/pubs/npcchemicalcategories.pdf>
- U.S. EPA (U.S. Environmental Protection Agency). (2011). EPI Suite results for CASRN 3194-55-6. Download EPI Suite TM v4.0. Available online
- U.S. EPA (U.S. Environmental Protection Agency). (2011). Exposure factors handbook: 2011 edition (final) [EPA Report]. (EPA/600/R-090/052F). Washington, DC: U.S. Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=236252>
- U.S. EPA (U.S. Environmental Protection Agency). (2012). Benchmark dose technical guidance. (EPA/100/R-12/001). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <https://www.epa.gov/risk/benchmark-dose-technical-guidance>
- U.S. EPA (U.S. Environmental Protection Agency). (2012). Estimation Programs Interface (EPI) Suite™ for Microsoft® Windows (Version 4.11). Washington D.C.: Environmental Protection Agency. Retrieved from <http://www.epa.gov/opptintr/exposure/pubs/episuite.htm>
- U.S. EPA (U.S. Environmental Protection Agency). (2012). Non-confidential 2012 Chemical Data Reporting (CDR) Database. Available online at <http://www.epa.gov/cdr/>
- U.S. EPA (U.S. Environmental Protection Agency). (2012). Significant new use rule for hexabromocyclododecane and 1,2,5,6,9,10-hexabromocyclododecane. Fed Reg 77: 17386-17394.
- U.S. EPA (U.S. Environmental Protection Agency). (2012). Sustainable futures P2 framework manual [EPA Report]. (EPA-748-B12-001). Washington DC. <http://www.epa.gov/sustainable-futures/sustainable-futures-p2-framework-manual>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- U.S. EPA (U.S. Environmental Protection Agency). (2013). ChemSTEER User Guide - Chemical Screening Tool for Exposures and Environmental Releases. Environmental Protection Agency. https://www.epa.gov/sites/production/files/2015-05/documents/user_guide.pdf
- U.S. EPA (U.S. Environmental Protection Agency). (2013). Interpretive assistance document for assessment of discrete organic chemicals. Sustainable futures summary assessment [EPA Report]. Washington, DC. http://www.epa.gov/sites/production/files/2015-05/documents/05-ia-d_discreted_june2013.pdf
- U.S. EPA (U.S. Environmental Protection Agency). (2014). Economic analysis of the proposed rule to add HBCD to the list of TRI reportable chemicals (pp. 57). (In Docket EPA-HQ-TRI-2015-0607-0029.). Washington DC: U. S. Environmental Protection Agency. <https://www.regulations.gov/#!documentDetail;D=EPA-HQ-TRI-2015-0607-0029>
- U.S. EPA (U.S. Environmental Protection Agency). (2014). Estimated Fish Consumption Rates for the U.S. Population and Selected Subpopulations (NHANES 2003-2010) (pp. 110). (EPA-820-R-14-002). Washington, DC. <https://www.epa.gov/sites/production/files/2015-01/documents/fish-consumption-rates-2014.pdf>
- U.S. EPA (U.S. Environmental Protection Agency). (2014). Flame retardant alternatives for hexabromocyclododecane (HBCD) [EPA Report]. (EPA/740/R-14/001). Washington, D.C. <http://www2.epa.gov/saferchoice/partnership-evaluate-flame-retardant-alternatives-hbcd-publications>
- U.S. EPA (U.S. Environmental Protection Agency). (2014). Flame retardant alternatives for hexabromocyclododecane (HBCD). Chapter 3: Background on flame retardants. (740R14001). <http://www.epa.gov/dfe/pubs/projects/hbcd/about.htm>
- U.S. EPA (U.S. Environmental Protection Agency). (2014). Framework for human health risk assessment to inform decision making. Final [EPA Report]. (EPA/100/R-14/001). Washington, DC: U.S. Environmental Protection, Risk Assessment Forum. <http://www2.epa.gov/risk/framework-human-health-risk-assessment-inform-decision-making>
- U.S. EPA (U.S. Environmental Protection Agency). (2014). Preliminary Materials for the Integrated Risk Information System (IRIS) Toxicological Review of Hexabromocyclododecane (HBCD) (pp. 84). (EPA/630/R-13/235). Washington, DC: U.S. Environmental Protection Agency. https://ofmpub.epa.gov/eims/eimscmm.getfile?p_download_id=521738
- U.S. EPA (U.S. Environmental Protection Agency). (2015). Comments from the significant new use rules: Hexabromocyclododecane and 1,2,5,6,9,10-hexabromocyclododecane. Fed Reg 80: 57293-57302.
- U.S. EPA (U.S. Environmental Protection Agency). (2015). Drinking Water Contaminant Candidate List (CCL) and Regulatory Determination. Available online at <https://www.epa.gov/ccl>
- U.S. EPA (U.S. Environmental Protection Agency). (2015). IRISTrack Detailed Report. Available online at <https://www.epa.gov/iris/iristrack>
- U.S. EPA (U.S. Environmental Protection Agency). (2015). National primary drinking water regulations. Available online at <http://water.epa.gov/drink/contaminants/>
- U.S. EPA (U.S. Environmental Protection Agency). (2015). Significant new use rule for hexabromocyclododecane and 1,2,5,6,9,10-hexabromocyclododecane. 80: 57293-57302.
- U.S. EPA (U.S. Environmental Protection Agency). (2015). TSCA Work Plan Chemical Problem Formulation and Initial Assessment. Cyclic Aliphatic Bromide Cluster Flame Retardants. (EPA 743-D1-5001). Washington, DC. https://www.epa.gov/sites/production/files/2015-09/documents/hbcd_problem_formulation.pdf
- U.S. EPA (U.S. Environmental Protection Agency). (2016). CPCat (Chemical and Product Categories) [Database]. Retrieved from <https://www.epa.gov/chemical-research/chemical-and-product-categories-cpcat>
- U.S. EPA (U.S. Environmental Protection Agency). (2016). Instructions for reporting 2016 TSCA chemical data reporting. <https://www.epa.gov/chemical-data-reporting/instructions-reporting-2016-tsca-chemical-data-reporting>
- U.S. EPA (U.S. Environmental Protection Agency). (2016). Public database 2016 chemical data reporting (May 2017 release). Washington, DC: US Environmental Protection Agency, Office of Pollution Prevention and Toxics. Retrieved from <https://www.epa.gov/chemical-data-reporting>
- U.S. EPA (U.S. Environmental Protection Agency). (2016). Technical review of hexabromocyclododecane (HBCD) CAS registry numbers 3194-55-6 and 25637-99-4. Washington, DC: U. S. Environmental Protection Agency. <https://www.regulations.gov/document?D=EPA-HQ-TRI-2015-0607-0028>
- U.S. EPA (U.S. Environmental Protection Agency). (2016). Weight of evidence in ecological assessment. (EPA100R16001). Washington, DC: Office of the Science Advisor. https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=335523
- U.S. EPA (U.S. Environmental Protection Agency). (2017). Preliminary chemical data reporting (CDR) information on manufacturing, processing, distribution, use, and disposal: Cyclic aliphatic bromide cluster (HBCD). OCSPP. Support document. (EPA-HQ-OPPT-2016-0735).
- U.S. EPA (U.S. Environmental Protection Agency). (2017). Preliminary information on manufacturing, processing, distribution, use, and disposal: Cyclic aliphatic bromide cluster (HBCD). (EPA-HQ-OPPT-2016-0735-0015). <https://www.epa.gov/sites/production/files/2017-02/documents/hbcd.pdf>
- U.S. EPA (U.S. Environmental Protection Agency). (2017). Toxics Release Inventory (TRI). Retrieved from <https://www.epa.gov/toxics-release-inventory-tri-program/tri-data-and-tools>
- U.S. EPA (U.S. Environmental Protection Agency). (2017). Use and market profile for hexabromocyclododecane (HBCD). Draft.
- Ueno, D; Alae, M; Marvin, C; Muir, DC; Macinnis, G; Reiner, E; Crozier, P; Furdui, VI; Subramanian, A; Fillmann, G; Lam, PK; Zheng, GJ; Muchtar, M; Razak, H; Prudente, M; Chung, KH; Tanabe, S. (2006). Distribution and transportability of hexabromocyclododecane (HBCD) in the Asia-Pacific region using skipjack tuna as a bioindicator. Environ Pollut 144: 238-247. <http://dx.doi.org/10.1016/j.envpol.2005.12.024>
- Ueno, D; Isobe, T; Ramu, K; Tanabe, S; Alae, M; Marvin, C; Inoue, K; Someya, T; Miyajima, T; Kodama, H; Nakata, H. (2010). Spatial distribution of hexabromocyclododecanes (HBCDs), polybrominated diphenyl ethers (PBDEs) and organochlorines in bivalves from Japanese coastal waters. Chemosphere 78: 1213-1219. <http://dx.doi.org/10.1016/j.chemosphere.2009.12.058>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- UNEP (United Nations Environment Programme). (2010). Hexabromocyclododecane Draft Risk Profile (pp. 1-39). Europe.
<http://chm.pops.int/Convention/POPsReviewCommittee/hrPOPRCMeetings/POPRC5/POPRC5Followupcommunications/HBCDInvitati onforcommentsondraftRP/tabid/742/language/en-US/Default.aspx>.
- USITC (U.S. International Trade Commission). (2013). Interactive Tariff and Trade DataWeb. Available online at <http://dataweb.usitc.gov/>
- Van Bergen, S. (2014). Flame Retardants in General Consumer and Children's Products (pp. 3-41). (Publication No. 14-04-021). Olympia, WA: Van Bergen, S. <https://fortress.wa.gov/ecy/publications/documents/1404021.pdf>.
- Van den Eede, N; Dirtu, AC; Ali, N; Neels, H; Covaci, A. (2012). Multi-residue method for the determination of brominated and organophosphate flame retardants in indoor dust. *Talanta* 89: 292-300. <http://dx.doi.org/10.1016/j.talanta.2011.12.031>
- van der Ven, LT; Verhoef, A; van de Kuil, T; Slob, W; Leonards, PE; Visser, TJ; Hamers, T; Herlin, M; Håkansson, H; Olausson, H; Piersma, AH; Vos, JG. (2006). A 28-day oral dose toxicity study enhanced to detect endocrine effects of hexabromocyclododecane in Wistar rats. *Toxicol Sci* 94: 281-292. <http://dx.doi.org/10.1093/toxsci/kfl113>
- van der Ven, LTM; van de Kuil, T; Leonards, PEG; Slob, W; Lilienthal, H; Litens, S; Herlin, M; Håkansson, H; Cantón, RF; van den Berg, M; Visser, TJ; van Loveren, H; Vos, JG; Piersma, AH. (2009). Endocrine effects of hexabromocyclododecane (HBCD) in a one-generation reproduction study in Wistar rats. *Toxicol Lett* 185: 51-62. <http://dx.doi.org/10.1016/j.toxlet.2008.12.003>
- Van Raaij, MTM; Janssen, PAH; Piersma, AH. (2003). The relevance of developmental toxicity endpoints for acute limits settings (pp. 1-88). (RIVM Report 601900004). Netherlands: Netherlands National Institute for Public Health and the Environment.
<http://www2.epa.gov/sites/production/files/2014-04/documents/mtg35b.pdf>
- VECAP (Voluntary Emissions Control Action Prgramme). (2014). Best Available Technique for Emptying 20-25 kg Bags. Available online at http://www.vecap.info/uploads/Poster%20A2_smallbags_UK_2014.pdf
- VECAP (Voluntary Emissions Control Action Prgramme). (2014). Best Available Technique for Emptying 500-1000 kg Bags Containing Polymer Additives. Available online at http://www.vecap.info/uploads/Poster%20A2_bigbags_UK_2014.pdf
- VECAP (Voluntary Emissions Control Action Prgramme). (2015). Best Available Technique for Emptying Bags Containing Polymer Additives. Available online at http://www.vecap.info/uploads/BAT/Empty_bags_UK_2015.pdf
- VECAP (Voluntary Emissions Control Action Prgramme). (2015). Managing Additions of Polymer Additives. Available online at http://www.vecap.info/uploads/BAT/Key_recommendation_2015.pdf
- Veith, GD; Defoe, DL; Bergstedt, BV. (1979). Measuring and estimating the bioconcentration factor of chemicals in fish. *J Fish Res Board Can* 36: 1040-1048. <http://dx.doi.org/10.1139/f79-146>
- Venier, M; Dove, A; Romanak, K; Backus, S; Hites, R. (2014). Flame Retardants and Legacy Chemicals in Great Lakes' Water. *Environ Sci Technol* 48: 9563-9572. <http://dx.doi.org/10.1021/es501509r>
- Venkatesan, AK; Halden, RU. (2014). Brominated flame retardants in U.S. biosolids from the EPA national sewage sludge survey and chemical persistence in outdoor soil mesocosms. *Water Res* 55: 133-142. <http://dx.doi.org/10.1016/j.watres.2014.02.021>
- Venkatesan, AK; Halden, RU. (2014). Wastewater treatment plants as chemical observatories to forecast ecological and human health risks of manmade chemicals. *Sci Rep* 4: 3731. <http://dx.doi.org/10.1038/srep03731>
- Verreault, J; Gabrielsen, GW; Chu, S; Muir, DC; Andersen, M; Hamaed, A; Letcher, RJ. (2005). Flame retardants and methoxylated and hydroxylated polybrominated diphenyl ethers in two Norwegian Arctic top predators: glaucous gulls and polar bears. *Environ Sci Technol* 39: 6021-6028. <http://dx.doi.org/10.1021/es050738m>
- Verreault, J; Gebbink, WA; Gauthier, LT; Gabrielsen, GW; Letcher, RJ. (2007). Brominated flame retardants in glaucous gulls from the Norwegian Arctic: more than just an issue of polybrominated diphenyl ethers. *Environ Sci Technol* 41: 4925-4931.
<http://dx.doi.org/10.1021/es070522f>
- Verreault, J; Shahmiri, S; Gabrielsen, GW; Letcher, RJ. (2007). Organohalogen and metabolically-derived contaminants and associations with whole body constituents in Norwegian Arctic glaucous gulls. *Environ Int* 33: 823-830. <http://dx.doi.org/10.1016/j.envint.2007.03.013>
- von Lindern, I; Spalinger, S; Stifelman, ML; Stanek, LW; Bartrem, C. (2016). Estimating Children's Soil/Dust Ingestion Rates through Retrospective Analyses of Blood Lead Biomonitoring from the Bunker Hill Superfund Site in Idaho. *Environ Health Perspect* 124: 1462-1470.
<http://dx.doi.org/10.1289/ehp.1510144>
- Vorkamp, K; Rigét, FF; Bossi, R; Dietz, R. (2011). Temporal trends of hexabromocyclododecane, polybrominated diphenyl ethers and polychlorinated biphenyls in ringed seals from East Greenland. *Environ Sci Technol* 45: 1243-1249.
<http://dx.doi.org/10.1021/es102755x>
- Walsh, GE; Yoder, MJ; McLaughlin, LL; Lores, EM. (1987). Responses of marine unicellular algae to brominated organic compounds in six growth media. *Ecotoxicol Environ Saf* 14: 215-222.
- Wang, T; Han, S; Ruan, T; Wang, Y; Feng, J; Jiang, G. (2013). Spatial distribution and inter-year variation of hexabromocyclododecane (HBCD) and tris-(2,3-dibromopropyl) isocyanurate (TBC) in farm soils at a peri-urban region. *Chemosphere* 90: 182-187.
<http://dx.doi.org/10.1016/j.chemosphere.2012.06.027>
- Weil, E; Levchik, S. (2009). Flame Retardants for Plastics and Textiles: Practical Applications. Cincinnati, OH: Hanser Publications.
<http://www.hanserelibrary.com/isbn/9783446416529>
- Weil, ED; Levchik, SV. (2009). Flame retardants for plastics and textiles practical applications. [online]: Carl Hanser Verlag GmbH & Co. KG.
- Weiss, J; Meijer, L; Sauer, P; Linderholm, L; Athanassiadis, I; Bergman, A. (2004). PBDE and HBCDD levels in blood from Dutch mothers and infants—analysis of a Dutch Groningen infant cohort. *Organohalogen Compd* 66: 2677-2682.
- Weiss, J; Wallin, E; Axmon, A; Jönsson, BA; Akesson, H; Janák, K; Hagmar, L; Bergman, A. (2006). Hydroxy-PCBs, PBDEs, and HBCDDs in serum from an elderly population of Swedish fishermen's wives and associations with bone density. *Environ Sci Technol* 40: 6282-6289.
<http://dx.doi.org/10.1021/es0610941>
- Weschler, CJ; Nazaroff, WW. (2010). SVOC partitioning between the gas phase and settled dust indoors. *Atmos Environ* 44: 3609-3620.
<http://dx.doi.org/10.1016/j.atmosenv.2010.06.029>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Weschler, CJ; Nazaroff, WW. (2012). SVOC exposure indoors: fresh look at dermal pathways [Review]. *Indoor Air* 22: 356-377. <http://dx.doi.org/10.1111/j.1600-0668.2012.00772.x>
- Weschler, CJ; Nazaroff, WW. (2014). Dermal Uptake of Organic Vapors Commonly Found in Indoor Air. *Environ Sci Technol* 48: 1230-1237. <http://dx.doi.org/10.1021/es405490a>
- WIL Research (WIL Research Labs). (1997). A 28-day repeated dose oral toxicity study of hexabromocyclododecane (HBCD) in rats with cover letter dated 03/18/1997 [TSCA Submission]. (TSCATS/452972. OTS0001289. FYI-OTS-0397-1289). Washington, DC: Chemical Manufacturers Association. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=OTS0001289>
- WIL Research (WIL Research Labs). (2001). 90-Day oral (gavage) toxicity study of HBCD in rats. (WIL-186012). Washington, DC: Chemical Manufacturers Association.
- WIL Research (WIL Research Labs). (2001). An inhalation two-generation reproductive toxicity study of 1-bromopropane in rats. (Study No. WIL-380001). Ashland, OH.
- WILDLIFE INTERNATIONAL LTD. (1997). FINAL REPORT, HEXABROMOCYCLODODECANE (HBCD): A 96-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE RAINBOW TROUT (*ONCORHYNCHUS MYKISS*), WITH COVER LETTER DATED 6/27/1997. (TSCATS/445565). WILDLIFE INTERNATIONAL LTD.
- WILDLIFE INTERNATIONAL LTD. (1997). HEXABROMOCYCLODODECANE (HBCD): A 48-HOUR FLOW-THROUGH ACUTE TOXICITY TEST WITH THE CLADOCERAN (*DAPHNIA MAGNA*), WITH COVER LETTER DATED 6/20/97. (TSCATS/445050). WILDLIFE INTERNATIONAL LTD.
- Wildlife Intl LTD (Wildlife International Limited). (1997). HEXABROMOCYCLODODECANE (HBCD): A 96-HOUR TOXICITY TEST WITH THE FRESHWATER ALGA (*SELANASTRUM CAPRICORNUTUM*) WITH COVER LETTER DATED 06/26/1997. (TSCATS/453549).
- WSDE (Washington State Department of Ecology). (2014). Flame Retardants in General Consumer and Children's Products (pp. 41). (14-04-021). Olympia, WA: Washington State Department of Ecology, Hazardous Waste and Toxics Reduction Program. <https://fortress.wa.gov/ecy/publications/SummaryPages/1404021.html>
- WWF (World Wildlife Fund). (2004). Chemical Check Up: An analysis of chemicals in the blood of members of the European parliament. Available online at <http://www.panda.org/downloads/europe/checkupmain.pdf>
- Xia, C; Lam, JC; Wu, X; Sun, L; Xie, Z; Lam, PK. (2011). Hexabromocyclododecanes (HBCDs) in marine fishes along the Chinese coastline. *Chemosphere* 82: 1662-1668. <http://dx.doi.org/10.1016/j.chemosphere.2010.11.012>
- Xian, Q; Ramu, K; Isobe, T; Sudaryanto, A; Liu, X; Gao, Z; Takahashi, S; Yu, H; Tanabe, S. (2008). Levels and body distribution of polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecanes (HBCDs) in freshwater fishes from the Yangtze River, China. *Chemosphere* 71: 268-276. <http://dx.doi.org/10.1016/j.chemosphere.2007.09.032>
- Xiao, H; Shen, L, i; Su, Y; Barresi, E; Dejong, M; Hung, H; Lei, YD; Wania, F; Reiner, EJ; Sverko, E, d; Kang, S. (2012). Atmospheric concentrations of halogenated flame retardants at two remote locations: The Canadian High Arctic and the Tibetan Plateau. *Environ Pollut* 161: 154-161. <http://dx.doi.org/10.1016/j.envpol.2011.09.041>
- XPSA (Extruded Polystyrene Foam Association). (2017). Preliminary information on manufacturing, processing, distribution, use, and disposal: Cyclic aliphatic bromide cluster (HBCD). OCSPP. Public comment. (EPA-HQ-OPPT-2016-0735-0017).
- Xu, J; Zhang, Y; Guo, C; He, Y; Li, L; Meng, W. (2013). Levels and distribution of tetrabromobisphenol a and hexabromocyclododecane in Taihu Lake, China. *Environ Toxicol Chem* 32: 2249-2255. <http://dx.doi.org/10.1002/etc.2318>
- Yamada, T; Ichihara, G; Wang, H; Yu, X; Maeda, K; Tsukamura, H; Kamijima, M; Nakajima, T; Takeuchi, Y. (2003). Exposure to 1-bromopropane causes ovarian dysfunction in rats. *Toxicol Sci* 71: 96-103. <http://dx.doi.org/10.1093/toxsci/71.1.96>
- Yang, R; Wei, H; Guo, J; Li, A. (2012). Emerging brominated flame retardants in the sediment of the Great Lakes. *Environ Sci Technol* 46: 3119-3126. <http://dx.doi.org/10.1021/es204141p>
- Yu, CC; Atallah, YH. (1980). Pharmacokinetics of HBCD in rats [unpublished]. Rosemont, IL: Vesicol Chemical Corporation.
- Yu, Z; Chen, L; Mai, B; Wu, M; Sheng, G; Fu, J; Peng, P. (2008). Diastereoisomer- and Enantiomer-specific Profiles of Hexabromocyclododecane in the Atmosphere of an Urban City in South China. *Environ Sci Technol* 42: 3996-4001. <http://dx.doi.org/10.1021/es7027857>
- Yu, Z; Peng, P; Sheng, G; Fu, J. (2008). Determination of hexabromocyclododecane diastereoisomers in air and soil by liquid chromatography-electrospray tandem mass spectrometry. *J Chromatogr A* 1190: 74-79. <http://dx.doi.org/10.1016/j.chroma.2008.02.082>
- Zegers, BN; Mets, A; Van Bommel, R; Minkenberg, C; Hamers, T; Kamstra, JH; Pierce, GJ; Boon, JP. (2005). Levels of hexabromocyclododecane in harbor porpoises and common dolphins from western European seas, with evidence for stereoisomer-specific biotransformation by cytochrome p450. *Environ Sci Technol* 39: 2095-2100. <http://dx.doi.org/10.1021/es049209t>
- Zeiger, E; Anderson, B; Haworth, S; Lawlor, T; Mortelmans, K; Speck, W. (1987). Salmonella mutagenicity tests: III. Results from the testing of 255 chemicals. *Environ Mutagen* 9: 1-109. <http://dx.doi.org/10.1002/em.2860090602>
- Zennegg, M; Brändli, RC; Kupper, T; Bucheli, T; Gujer, E; Schmid, P; Stadelmann, F; Tarradellas, J. (2005). PCDD/Fs, PCBs, PBDEs, TBBPA and HBCD in compost and digestate. *Organohalogen Compd* 67: 1040-1043.
- Zhang, H; Kuo, YY; Gerecke, AC; Wang, J. (2012). Co-release of hexabromocyclododecane (HBCD) and Nano- and microparticles from thermal cutting of polystyrene foams. *Environ Sci Technol* 46: 10990-10996. <http://dx.doi.org/10.1021/es302559v>
- Zhang, X; Yang, F; Zhang, X; Xu, Y; Liao, T; Song, S; Wang, J. (2008). Induction of hepatic enzymes and oxidative stress in Chinese rare minnow (*Gobiocypris rarus*) exposed to waterborne hexabromocyclododecane (HBCDD). *Aquat Toxicol* 86: 4-11. <http://dx.doi.org/10.1016/j.aquatox.2007.07.002>
- Zhang, Y; Ruan, Y; Sun, H; Zhao, L; Gan, Z. (2013). Hexabromocyclododecanes in surface sediments and a sediment core from Rivers and Harbor in the northern Chinese city of Tianjin. *Chemosphere* 90: 1610-1616. <http://dx.doi.org/10.1016/j.chemosphere.2012.08.037>
- Zhao, DY; Little, JC; Cox, SS. (2004). Characterizing polyurethane foam as a sink for or source of volatile organic compounds in indoor air. *J Environ Eng* 130: 983-989. [http://dx.doi.org/10.1061/\(ASCE\)0733-9372\(2004\)130:9\(983\)](http://dx.doi.org/10.1061/(ASCE)0733-9372(2004)130:9(983))
- Zhou, D; Wu, Y; Feng, X; Chen, Y; Wang, Z; Tao, T; Wei, D. (2014). Photodegradation of hexabromocyclododecane (HBCD) by Fe(III) complexes/H₂O₂ under simulated sunlight. *Environ Sci Pollut Res Int* 21: 6228-6233. <http://dx.doi.org/10.1007/s11356-014-2553-0>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

Zhou, DN; Chen, L; Wu, F; Wang, J; Yang, F. (2012). DEBROMINATION OF HEXABROMOCYCLODODECANE IN AQUEOUS SOLUTIONS BY UV-C IRRADIATION. *Fresen Environ Bull* 21: 107-111.

Gray Literature Search Results

Gray literature is defined as the broad category of studies not found in standard, peer-reviewed literature databases (e.g., PubMed). Gray literature includes studies that are difficult to find in conventional bibliographic databases and includes references such as white papers, conference proceedings, technical reports, reference books, dissertations and information on various stakeholder websites.

The gray literature search results are currently contained in this document and in Excel spreadsheets. EPA is considering whether to manually develop EndNote citations for on topic gray literature results. This section lists abbreviated information for each citation, including a link to the reference. Full gray literature search results are presented in the *Gray Literature Excel Spreadsheet: HBCD*.

Note: Gray Lit Results provided as a second PDF.

Legend for Gray Literature Bibliography Columns

Source		A brief description of the gray literature source that was searched	
General Information About Result	URL	The web address of the search result URL	
	Annotation	An brief description of the search result	
Subject-Matter Tags	Engineering	On topic	An "x" indicates the reference is on topic for the engineering/occupational exposure topic area
		Off topic	An "x" indicates the reference is off topic for the engineering/occupational exposure topic area
	Fate	On topic	An "x" indicates the reference is on topic for the fate topic area
		Off topic	An "x" indicates the reference is off topic for the fate topic area
	Exposure	On topic	An "x" indicates the reference is on topic for the exposure topic area
		Off topic	An "x" indicates the reference is off topic for the exposure topic area
	Human Health	On topic	An "x" indicates the reference is on topic for the human health topic area
		Off topic	An "x" indicates the reference is off topic for the human health topic area
Notes		Any notes about the search result, including a note about search results that were not tagged to individual topic areas but are considered "on topic" overall	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Office of Air Quality Planning and Standards (OAQPS)	www3.epa.gov/airquality/	N/A		X		X		X		X	
Office of Air: Ambient Water Quality Criteria documents	www.epa.gov/wqc	N/A		X		X		X		X	
Office of Air: HAPS	www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications	N/A		X		X		X		X	
Office of Air: NESHAP	www.epa.gov/technical-air-pollution-resources	N/A		X		X		X		X	
Office of Air: TRI	www.epa.gov/tri	N/A		X		X		X		X	
OPPT: TSCA Analog Identification Methodology (AIM)	http://www.epa.gov/tscsa-screening-tools/analog-identification-methodology-aim-tool	List and information about analogs from AIM tool		X		X	X			X	
Significant New Alternatives Policy (SNAP)	www.epa.gov/snap	N/A		X		X		X		X	
Safer Choice	https://www.epa.gov/saferchoice/partnership-evaluate-flame-retardant-alternatives-hbcd	HBCD Partnership overview page		X		X		X		X	
Safer Choice	https://www.epa.gov/saferchoice/partnership-evaluate-flame-retardant-alternatives-hbcd-publications	HBCD Partnership publications		X		X		X		X	
Safer Choice	https://www.epa.gov/saferchoice/reports-and-publications-design-environment-and-safer-choice-program	HBCD Alternatives Assessment; found in another source		X		X		X		X	
Safer Choice	https://www.epa.gov/saferchoice/design-environment-alternatives-assessments	Overview of alternatives assessments		X		X		X		X	
Safer Choice	https://www.epa.gov/saferchoice/staff-directory-safer-choice-and-design-environment	Staff Directory for Safer Choice		X		X		X		X	
Safer Choice	https://www.epa.gov/saferchoice/connect-safer-choice	Contacts for Safer Choice		X		X		X		X	
Pollution Prevention	www.epa.gov/p2/	N/A		X		X		X		X	
Pesticide Ingredients	www.epa.gov/ingredients-used-pesticide-products	N/A		X		X		X		X	
Hazardous Waste	www.epa.gov/hw/	N/A		X		X		X		X	
Superfund Enterprise Management System (SEMS)	cumulis.epa.gov/supercpad/cursites	N/A		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
CPCat	https://actor.epa.gov/cpcat/faces/search.xhtml	CPCat (Chemical and Product Categories) is a database containing		x		x	x			x	
CPCat	https://actor.epa.gov/cpcat/faces/search.xhtml	CPCat (Chemical and Product Categories) is a database containing		x		x	x			x	
NCEA IRIS	https://www.epa.gov/iris/iristrack	IRIS Tracker		x		x		x		x	
ChemView (CDR/IUR)	http://java.epa.gov/chemview	Substantial risk reports submitted by companies		x		x		x	x		
ChemView (CDR/IUR)	http://java.epa.gov/chemview	Hazard Characterization		x	x			x		x	
ChemView (CDR/IUR)	http://java.epa.gov/chemview	Design for Environment Alternative Assessment Hazard Summary Page		x	x			x		x	
ChemView (CDR/IUR)	http://java.epa.gov/chemview	Design for Environment Alternative Assessment Document		x	x		x			x	
ChemView (CDR/IUR)	http://java.epa.gov/chemview	Chemical data reporting	x			x		x		x	
Stationary Sources Air Pollution	www.epa.gov/stationary-sources-air-pollution/	N/A		x		x		x		x	
Asbestos	www.epa.gov/asbestos/	N/A		x		x		x		x	
Economic and cost assessment	www.epa.gov/economic-and-cost-analysis-air-pollution-regulations	N/A		x		x		x		x	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100N3YF.PDF?Dockey=P100N3YF.PDF	Formulation and Initial Assessment Cyclic Aliphatic Bromides Cluster	x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1007XEC.PDF?Dockey=P1007XEC.PDF	Metrics for the National Children's Study		x		x		x		x	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P10040DT.PDF?Dockey=P10040DT.PDF	State of the Great Lakes 2007 Draft		x		x	x			x	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1004IET.PDF?Dockey=P1004IET.PDF	State of the Great Lakes 2007 Draft		x		x		x		x	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/91019KKV.PDF?Dockey=91019KKV.PDF	Database (CORR) : October 31, 1991 Update		x		x		x		x	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/2000UFA4.PDF?Dockey=2000UFA4.PDF	Pollutants Summary Report August 11-14, 2003 Chicago, IL		x		x		x		x	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100O2G7.PDF?Dockey=P100O2G7.PDF	Challenge Awards Program: Summary of 2015 Award Entries and Recipients	X			X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100O2EV.PDF?Dockey=P100O2EV.PDF	Challenge Awards Program Summary of 2014 Award Entries and Recipients	X			X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100N2CG.PDF?Dockey=P100N2CG.PDF	Formulation and Initial Assessment Tetrabromobisphenol A and Related	X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100MXAQ.PDF?Dockey=P100MXAQ.PDF	Flame Retardants in Printed Circuit Boards	X			X	X			X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100AMEQ.PDF?Dockey=P100AMEQ.PDF	FY 2012 Annual Performance Plan		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100JIUB.PDF?Dockey=P100JIUB.PDF	Hexabromocyclododecane (HBCD) Final Report		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100MO2A.PDF?Dockey=P100MO2A.PDF	of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100LHEL.PDF?Dockey=P100LHEL.PDF	Highlights: Mobile Sensors and Applications for Air Pollutants		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100DF5X.PDF?Dockey=P100DF5X.PDF	FY 2011 Agency Financial Report		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100MXUQ.PDF?Dockey=P100MXUQ.PDF	Polyurethane Foam: An Alternatives Assessment Update		X		X	X			X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100FU5Q.PDF?Dockey=P100FU5Q.PDF	America's Children and the Environment, Third Edition		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100E67A.PDF?Dockey=P100E67A.PDF	Estimates for Committee on Appropriations, Fiscal Year 2013		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100J1F.PDF?Dockey=P100J1F.PDF	Polyurethane Foam: An Alternatives Assessment Update		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100NZC9.PDF?Dockey=P100NZC9.PDF	Protection Agency Fiscal Year 2017 Justification of Appropriation		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100A4HZ.PDF?Dockey=P100A4HZ.PDF	Estimates for Committee on Appropriations, Fiscal Year 2012		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100QRT4.PDF?Dockey=P100QRT4.PDF	Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100MX8E.PDF?Dockey=P100MX8E.PDF	Integrated Risk Information System (IRIS) Toxicological Review of		X		X	X		X		

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100LLVB.PDF?Dockey=P100LLVB.PDF	Exposure Assessment of Polybrominated Diphenyl Ethers	X		X		X			X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1003D0Q.PDF?Dockey=P1003D0Q.PDF	State of the Great Lakes Ecosystem 2007		X		X	X			X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100A42E.PDF?Dockey=P100A42E.PDF	FY 2010 Agency Financial Report		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100IO7V.PDF?Dockey=P100IO7V.PDF	Resource Pollution Prevention and Compliance Assistance for Healthcare		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/91014AF4.PDF?Dockey=91014AF4.PDF	Database (CORR) October 24, 1980 - December 31, 1994		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9101O4TN.PDF?Dockey=9101O4TN.PDF	Toxic Substances Control Act Sections 5/8 Inspection Guidance		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/901U0Q00.PDF?Dockey=901U0Q00.PDF	Proceedings of the 2005 National Forum on Contaminants in Fish		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1004BJN.PDF?Dockey=P1004BJN.PDF	State of the Great Lakes 2005 Draft for Discussion at SOLEC 2004		X		X	X			X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9101WLX8.PDF?Dockey=9101WLX8.PDF	Equilibrium Partitioning Sediment Guidelines (ESGs) for the Protection		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1004BSO.PDF?Dockey=P1004BSO.PDF	Great Lakes Binational Toxics Strategy 2005 Progress Report Draft		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100P2W4.PDF?Dockey=P100P2W4.PDF	Challenge Awards Program: Summary of 2016 Award Entries and Recipients	X			X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/901A0C00.PDF?Dockey=901A0C00.PDF	Polybrominated Diphenyl Ethers (PBDEs) Project Plan		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100BJSO.PDF?Dockey=P100BJSO.PDF	Challenge Awards Program: Nomination Package for 2012 Awards		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100MQZ1.PDF?Dockey=P100MQZ1.PDF	2012 Annual Effluent Guidelines Review Report	X			X	X			X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100NANN.PDF?Dockey=P100NANN.PDF	Office of Water - Water Research Update No. 2015-1		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100N4WQ.PDF?Dockey=P100N4WQ.PDF	Final 2012 and Preliminary 2014 Effluent Guidelines Program Plans		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100N3YF.PDF?Dockey=P100N3YF.PDF	Formulation and Initial Assessment Cyclic Aliphatic Bromides Cluster		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/910156A0.PDF?Dockey=910156A0.PDF	Master Testing List - 1992		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9100CHSE.PDF?Dockey=9100CHSE.PDF	Under the Toxic Substances Control Act	X			X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/91019KKV.PDF?Dockey=91019KKV.PDF	Database (CORR) : October 31, 1991 Update		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100O2G7.PDF?Dockey=P100O2G7.PDF	Challenge Awards Program: Summary of 2015 Award Entries and Recipients		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100P2W4.PDF?Dockey=P100P2W4.PDF	Challenge Awards Program: Summary of 2016 Award Entries and Recipients		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100MXAQ.PDF?Dockey=P100MXAQ.PDF	Flame Retardants in Printed Circuit Boards		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100DF5X.PDF?Dockey=P100DF5X.PDF	FY 2011 Agency Financial Report		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100AMEQ.PDF?Dockey=P100AMEQ.PDF	FY 2012 Annual Performance Plan		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100LHEL.PDF?Dockey=P100LHEL.PDF	Highlights: Mobile Sensors and Applications for Air Pollutants		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100MO2A.PDF?Dockey=P100MO2A.PDF	of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100JIUB.PDF?Dockey=P100JIUB.PDF	Hexabromocyclododecane (HBCD) Final Report		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100A4HZ.PDF?Dockey=P100A4HZ.PDF	Estimates for Committee on Appropriations, Fiscal Year 2012		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100E67A.PDF?Dockey=P100E67A.PDF	Estimates for Committee on Appropriations, Fiscal Year 2013		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100JJ1F.PDF?Dockey=P100JJ1F.PDF	Polyurethane Foam: An Alternatives Assessment Update		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100MXUQ.PDF?Dockey=P100MXUQ.PDF	Polyurethane Foam: An Alternatives Assessment Update		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100NZC9.PDF?Dockey=P100NZC9.PDF	Protection Agency Fiscal Year 2017 Justification of Appropriation		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100QRT4.PDF?Dockey=P100QRT4.PDF	Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P10040DT.PDF?Dockey=P10040DT.PDF	State of the Great Lakes 2007 Draft		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1004IET.PDF?Dockey=P1004IET.PDF	State of the Great Lakes 2007 Draft		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1007XEC.PDF?Dockey=P1007XEC.PDF	Metrics for the National Children's Study		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100LLVB.PDF?Dockey=P100LLVB.PDF	Exposure Assessment of Polybrominated Diphenyl Ethers		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100MX8E.PDF?Dockey=P100MX8E.PDF	Integrated Risk Information System (IRIS) Toxicological Review of		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1003D0Q.PDF?Dockey=P1003D0Q.PDF	State of the Great Lakes Ecosystem 2007		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100A42E.PDF?Dockey=P100A42E.PDF	FY 2010 Agency Financial Report		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9100CHYX.PDF?Dockey=9100CHYX.PDF	Chemicals to Aquatic Organisms Using Structure Activity Relationships:		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/2000UFA4.PDF?Dockey=2000UFA4.PDF	Pollutants Summary Report August 11-14, 2003 Chicago, IL		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P10049P5.PDF?Dockey=P10049P5.PDF	for Furniture Fire Safety: Low-Density Furniture Foam, Volume 1 Draft		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1004A4U.PDF?Dockey=P1004A4U.PDF	Partnership: Environmental Profiles of Chemical Flame-Retardant		X		X	X			X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1004BJN.PDF?Dockey=P1004BJN.PDF	State of the Great Lakes 2005 Draft for Discussion at SOLEC 2004		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1004BSO.PDF?Dockey=P1004BSO.PDF	Great Lakes Binational Toxics Strategy 2005 Progress Report Draft		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/90050300.PDF?Dockey=90050300.PDF	: External Review Draft ; Nanotechnology White Paper		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1001AGW.PDF?Dockey=P1001AGW.PDF	2004 Effluent Guidelines Program Plan		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100BJ5O.PDF?Dockey=P100BJ5O.PDF	Challenge Awards Program: Nomination Package for 2012 Awards		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/901A0C00.PDF?Dockey=901A0C00.PDF	Polybrominated Diphenyl Ethers (PBDEs) Project Plan		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100N2CG.PDF?Dockey=P100N2CG.PDF	Formulation and Initial Assessment Tetrabromobisphenol A and Related		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1008PKH.PDF?Dockey=P1008PKH.PDF	Technologies for Remediation of Persistent Organic Pollutants in Soil		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100N4WQ.PDF?Dockey=P100N4WQ.PDF	Final 2012 and Preliminary 2014 Effluent Guidelines Program Plans		X		X		X		X	
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100MQZ1.PDF?Dockey=P100MQZ1.PDF	2012 Annual Effluent Guidelines Review Report		X		X		X		X	
Regulatory Development and Retrospective Review Tracker	yosemite.epa.gov/oepi/rulegate.nsf/	N/A		X		X		X		X	
"List of Lists"	https://www.epa.gov/sites/production/files/2015-03/documents/list_of_lists.pdf	Subject to the Emergency Planning and Community Right- To-Know Act	X			X		X		X	
TSCATS 2.0	https://yosemite.epa.gov/oppts/epatscat8.nsf/reportsearch?openform	TSCATS Low Detail Report		X	X		X		X		
HPV challenge submissions	https://cfpub.epa.gov/hpv-s/	ACC Brominated Flame Retardant Industry Panel; link not working		X		X		X		X	
CDAT - HPVIS Submissions	https://java.epa.gov/oppt_chemical_search/	HPVIS submission	X		X			X		X	
CDAT - HPVIS Submissions	https://java.epa.gov/oppt_chemical_search/	HPVIS submission: IUCLID data		X	X		X		X		
CDAT - HPVIS Submissions	https://java.epa.gov/oppt_chemical_search/	HPVIS submission		X	X		X		X		
CDAT - HPVIS Submissions	https://java.epa.gov/oppt_chemical_search/	HPVIS submission		X	X			X	X		
CDAT - HPVIS Submissions	https://java.epa.gov/oppt_chemical_search/	HPVIS submission		X	X			X	X		
OPPT Monitoring Database	Monitoring database	Monitoring database data		X		X	X			X	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0030	submitted by Juleen Lam, PhD, Associate Researcher, University of									TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.epa.gov/assessing-and-managing-chemicals-under-tasca/evaluating-risk-existing-chemicals-under-tscatable	Posting Memo									TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0027	submitted by Christine Ernst, Earthjustice									TSCA public comments are not tagged to specific discipline

Source	General Information about Result		Subject-Matter Tags								Notes	
	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0736-0056	submitted by Timothy J. Lafond, P.E., Chair, Environmental Committee,										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0736-0053	submitted by Eve Gartner, Staff Attorney, Earthjustice et al.										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0736-0046	submitted by the Environmental Defense Fund (EDF)										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0736-0066	submitted by Stephanie Fox-Rawlings, National Center for Health Research										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0736-0060	submitted by Susan Inglis, Executive Director, Sustainable Furnishings										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0736-0068	submitted by Juleen Lam, PhD, Associate Researcher, University of										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0022	submitted by Christina Franz, Senior Director, Regulatory & Technical										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0020	submitted by Elizabeth Hitchcock, Government Affairs Director and										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0023	submitted by Eve Gartner, Staff Attorney, Earthjustice on behalf of										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0025	submitted by Ruthann Rudel, Kathryn Rodgers, Silent Spring Institute										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0019	submitted by Adhesive and Sealant Council et al.										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0010	submitted by Stacy Tatman, MS, JD, Director, Environmental Affairs,										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0024	submitted by Stephanie Fox-Rawlings, National Center for Health Research										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0016	submitted by Susan Inglis, Executive Director, Sustainable Furnishings										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0003	Manufacturing, Processing, Distribution, Use, and Disposal: Cyclic										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0741-0021	submitted by Anthony Schatz, Ph.D, Director Occupational Health and										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0741-0007	submitted by Elizabeth Hitchcock, Government Affairs Director, Safer										TSCA public comments are not tagged to specific discipline

Source	General Information about Result		Subject-Matter Tags								Notes	
	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0733-0019	submitted by Kim Cox, Environmental Policy Manager, City of Portland										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0733-0014	submitted by James Cooper, Senior, Petrochemical Advisor, American Fuel										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0017	submitted by John E. Heinze, Extruded Polystyrene Foam										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0010	submitted by Arlene Blum, PhD., Executive Director and Avery E.										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0006	submitted by Robert J. Simon, Vice President, Chemical Products &										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0007	submitted by Veena Singla, Staff Scientist, Natural Resources Defense										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0008	submitted by Environmental Health Strategy Center, et al.										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0016	submitted by Patrick Morrison, Assistant, International Association of										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0018	submitted by Barbara S. Losey, Director, Alkylphenols & Ethoxylates										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0011	submitted by the Center for Environmental Health										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0026	submitted by Walter A. Reiter, III, Deputy Director, EPS Industry Alliance										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0022	submitted by Laurie Valeriano, Executive Director, Toxic-Free Future										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0030	submitted by Julia M. Rege, Director, Environment & Energy, Association of										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0029	submitted by Pamela Miller, Executive Director, Alaska Community Action on										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0735-0027	submitted by Julia M. Rege, Director, Environment & Energy, Association of										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0742-0026	Campaign sponsored by Earthjustice (web)										TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0013	submitted by Timothy A. Brown, Regulatory Counsel and Steven										TSCA public comments are not tagged to specific discipline

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0002	submitted by Eve Gartner, Staff Attorney, Earthjustice, Elizabeth									TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0006	submitted by Chris Trahan Cain, Director of Safety and Health, North									TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0021	submitted by Lindsay McCormick, Chemicals and Health Project									TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0017	submitted by Laurie Holmes, Senior Director, Environmental Policy, Motor									TSCA public comments are not tagged to specific discipline
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0014	Campaign sponsored by Earthjustice (web) (Revised)									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0002	Problem Formulation and Initial Assessment									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0011	submitted by Steven W. LeVan, Albemarle Corporation									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0026	Public Comment - Environmental Defense Fund (EDF) Comments									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0015	submitted by Lindsay A. McCormick, Research Analyst et al.,									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0026	Assessment Comments Final With Exhibits									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0024	Public Comment - Prairie Band Potawatomi Nation									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0012	submitted by Stacy Tatman, MS, JD, Environmental Affairs Senior									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0003	submitted by Eve C. Gartner, Staff Attorney, Earthjustice and Veena									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0004	submitted by Robert J. Simon, Vice President, Chemical Products and									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.epa.gov/assessing-and-managing-chemicals-under-tsc/fact-sheet-assessing-risks-flame-retardants-0	Fact Sheet: Assessing Risks from Flame Retardants									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0007	submitted by Judy Levin, MSW, Pollution Prevention Director, Center									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0006	submitted by John E. Heinze, PhD, Extruded Polystyrene Foam									TSCA public comments are not tagged to specific discipline

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0008	submitted by Nathan Donley, PhD, Staff Scientist, Center for Biological									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0016	submitted by Eve Gartner, Staff Attorney, Earthjustice, Veena Singla,									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0016	submitted by Eve Gartner, Staff Attorney, Earthjustice, Veena Singla,									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0016	submitted by Eve Gartner, Staff Attorney, Earthjustice, Veena Singla,									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0013	submitted by Christina Franz, Senior Director, Regulatory & Technical									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0009	submitted by Arlene Blum, PhD, Executive Director, Avery Lindeman,									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0014	submitted by Pamela Miller, Executive Director, Alaska Community Action on									TSCA public comments are not tagged to specific discipline
TSCA Problem Formulations, Risk Assessments, and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0081-0010	submitted by Julia Rege, Director, Environment & Energy, Association of									TSCA public comments are not tagged to specific discipline
National Institutes of Health (NIH) ChemIDplus	http://chem.sis.nlm.nih.gov/chemidplus/	searches, govt regulatory documents, consumer product databases, etc.		x	x				x		x
National Institutes of Health (NIH) ChemIDplus	http://chem.sis.nlm.nih.gov/chemidplus/	searches, govt regulatory documents, consumer product databases, etc.		x		x			x		x
National Institutes of Health (NIH) ChemIDplus	http://chem.sis.nlm.nih.gov/chemidplus/	searches, govt regulatory documents, consumer product databases, etc.		x		x			x		x
National Institutes of Health (NIH) ChemIDplus	http://chem.sis.nlm.nih.gov/chemidplus/	searches, govt regulatory documents, consumer product databases, etc.		x		x			x		x
NIH PubChem Compound Database	https://www.ncbi.nlm.nih.gov/pccompound	pubmed, products, MSDS, human health ROE	x		x				x	x	
NIH PubChem Compound Database	https://www.ncbi.nlm.nih.gov/pccompound	Contains search results with links to all stereo isomers	x			x			x		x
NIH HazMap	http://hazmap.nlm.nih.gov/index.html	Contains links to HSDB, ChemID Plus, pubmed	x			x			x	x	
NIH Household Products Database	http://householdproducts.nlm.nih.gov/	containing ingredient, NLM databases HSBDB, TOXNET, ChemID Plus,		x		x		x			x

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
FDA Databases	http://www.accessdata.fda.gov/drugsatfda_docs/nda/2007/021742s000_PharmR_P5.pdf	Not chemical of interest		X		X		X		X	
FDA Databases	http://www.accessdata.fda.gov/scripts/SDA/sf/Navigation.cfm?sd=PhishPharm&displayAll=true	Link not working		X		X		X		X	
OSHA Occupational Safety and Health Administration	https://www.osha.gov/dsg/PEL-forum-comments2010.html	PEL Forum Email Database 2010	X			X		X		X	
OSHA Occupational Safety and Health Administration	https://www.osha.gov/dts/chemicalsampling/toc/chmn_G.html	Chemical Sampling Information Index of Chemical Sampling ...		X		X		X		X	
NIST	https://www.nist.gov/document-7990	EPA powerpoint on flame retardants, mentions IRIS and TSCA status		X		X		X		X	
NIST	https://www.nist.gov/document/06272016-guidetousapparelhouseholdtextiles.pdf	Guide to textile requirements		X		X		X		X	
NIST	https://www.nist.gov/document/guide-us-furniture-compliance-requirements	Guide to furniture requirements		X		X		X		X	
NIST	https://www.nist.gov/document/guide-us-footwear-compliance-requirements	Guide to footwear requirements		X		X		X		X	
NIST	https://www.nist.gov/document-12284	SRM spotlight news letter		X		X		X		X	
NIST	https://www.nist.gov/document-7988	Powerpoint on flame retardant testing		X		X		X		X	
NIST	https://www.nist.gov/node/605436	Peer reviewed abstracts		X		X		X		X	
NIST	https://www.nist.gov/news-events/news/2007/08/trms-track-fire-retardants-humans-and-environment	Research announcement		X		X		X		X	
NIST	https://www.nist.gov/programs-projects/measurements-and-standards-contaminants-environmental-samples	Research announcement		X		X		X		X	
NIST	https://www.nist.gov/programs-projects/marine-environmental-specimen-bank	Specimen bank announcement		X		X		X		X	
NIST	https://www.nist.gov/sites/default/files/documents/el/fire_research/3-Blum.pdf	Powerpoint w slides on health effects		X		X		X		X	
NIST	https://www.nist.gov/document-7986	Powerpoint overview of REACH		X		X		X		X	
NIST	https://www.nist.gov/programs-projects/advanced-gas-phase-fire-retardants-project	Project summary on phosphate flame retardants		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
NIST	https://www.nist.gov/node/1077671	Peer reviewed abstracts		X		X		X		X	
NIST	https://www.nist.gov/node/561531	Peer reviewed abstracts		X		X		X		X	
NIST	https://www.nist.gov/publication-type/journals?page=961	Peer reviewed abstracts		X		X		X		X	
NIST	https://www.nist.gov/programs/projects/nist-aids-national-oceanic-and-atmospheric-administration-noaa-area-marine-animal	Project overview on dolphin monitoring program for Ocs		X		X		X		X	
US Geological Survey	www.usgs.gov	N/A		X		X		X		X	
Department of Energy	https://www.energy.gov/sites/prod/files/2016/12/134/SA-DOE-GreenBuyAwardGuide-FY2017.pdf	DOE GreenBuy Award Program Fiscal Year 2017		X		X		X		X	
PNNL Pacific Northwest National Laboratory	www.pnnl.gov/	N/A		X		X		X		X	
US Geological Survey publications	https://pubs.er.usgs.gov/publication/70037105	Peer reviewed journal article		X		X		X		X	
European Commission	https://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-409-EN-F1-1-ANNEX-1.PDF	on HBCD - exemptions and levels permitted	X			X		X		X	
European Commission	https://ec.europa.eu/irc/sites/ircsh/files/irc76111_lb_na_25598_en_n.pdf	range given of HBCD levels in STW sludge (limited to one data range)		X		X	X			X	
European Commission	eur-lex.europa.eu/collection/eu-law.html	N/A		X		X		X		X	
ECHA Documents	https://echa.europa.eu/substance-information/-/substanceinfo/100_042_848	profile	X			X		X		X	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/4/8#	partition coefficient		X	X			X		X	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/4/9#	solubility		X	X			X		X	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/5/2/3#	hydrolysis		X	X			X		X	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/5/3/2#	biodegradaton in water		X	X			X		X	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/5/3/4#	biodegradaton in soil		X	X			X		X	EPA is in process of capturing all information contained in dossier

Source	General Information about Result		Subject-Matter Tags								Notes	
	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
ECHA Documents	https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/5/4/2#	bioaccumulation		x	x				x		x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/5/5/2#	adsorption		x	x				x		x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/9#	safe use	x				x		x		x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/02861a44-bbbc-4756-9e11-e61105119d86	uses in articles	x				x		x		x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/13640/prioritisation_results_6th_rec_en.pdf		x				x		x		x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/47d061d9-e336-4139-883b-f00331278cda	ECHA agreement on HBCDD as SVHC		x	x				x		x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/21774240/Annex_to_news_alert_RAC_and+ SEAC_final.pdf	uses	x				x		x		x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/661bff17-dc0a-4475-9758-40bdd6198f82	Risk assessment	x		x			x		x		EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/7959599c-20e2-4d13-a1df-94fcdd23434e	Chemical safety report; alternatives also discussed	x		x			x			x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/18074545/a4a_comment_569_1_attachment_en.pdf	alternative	x				x		x		x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/13640/hbcdd_en.pdf	bckgrnd document	x				x		x		x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/8284634d-8fa9-43ad-acaa-f449dc28ff8c	report	x		x			x		x		EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/5164baf4-1f50-45a5-97e2-1c9c7597a692	alternatives analysis	x				x		x		x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/ab1917e-a290-4d75-b253-da14ce3dd076	Chemical safety report	x		x			x			x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/18074545/a4a_comment_583_1_attachment_en.doc		x				x		x		x	EPA is in process of capturing all information contained in dossier
ECHA Documents	https://echa.europa.eu/documents/10162/0144eda8-0377-4cc6-aa94-c0de9a5a9456	emission factors	x				x		x		x	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/documents/10162/5afded42-74eb-42e9-9e27-0de48b3f3831	summary of risk assessment-very relevant	x		x			x		x		information contained in REACH registration dossiers

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
ECHA Documents	https://echa.europa.eu/documents/10162/02861a44-bbbc-4756-9e11-e61105119d86	applications	X			X		X		X	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/documents/10162/3f5de199-8732-4881-aec6-730bf9499a36	SVHC	X		X		X		X		information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/documents/10162/13563a9e-x_hbcd_en.pdf/94153761-41e3-4073-baef-030712209ec	report	X		X			X		X	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/documents/10162/42ddec00-863a-4cff-abd2-6d4b39abe114	background	X		X		X			X	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/documents/10162/13640/tech_rep_hbcd_en.pdf		X			X		X		X	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/brief-profile/-/briefprofile/100.042.848	brief profile of chemical	X		X		X		X		information contained in REACH registration dossiers
ECHA Documents	links in excel file	Links to registration dossiers	X		X		X		X		information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/documents/10162/661bff17-dc0a-4475-9758-40bdd6198f82	risk assessment	X		X		X		X		information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/documents/10162/01ed2593-1748-4f51-8b9b-d01ce4b3592f	summary fact sheet		X	X		X			X	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/3/1/4#	industrial uses	X			X		X		X	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/3/1/5#	uses	X			X		X		X	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/3/1/6#	uses	X			X		X		X	information contained in REACH registration dossiers
ECHA Documents	https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/4/7#	vap pressure		X	X			X		X	information contained in REACH registration dossiers
OECD HPV Programme	http://webnet.oecd.org/hpv/ui/AllChemicals.aspx	SIDS Initial Assessment	X		X		X		X		
OECD Emission Scenario Documents	http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=en/imm/monod/200924&doclang=en	Documents on Coating Industry (Paints, Lacquers and Varnishes).	X		X		X			X	
OECD Emission Scenario Documents	oecd.org/chemicalsafety/risk-assessment/emissionscenariodocuments.htm	operation and Development), Emission Scenario Document on Use	X		X		X			X	
OECD Emission Scenario Documents	http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=en/imm/monod/200412&doclang=en	operation and Development), Emission Scenario Document on	X		X		X			X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
WHO Insitutional Repository for Information Sharing (IRIS)	apps.who.int/iris/	N/A		X		X		X		X	
World Health Organization- Regional Office for Europe	www.euro.who.int/en/home	N/A		X		X		X		X	
Stockholm Convention on Persistent Organic Pollutants	http://chm.pops.int/TheConvention/ThePOPs/ListingofPOPs/tabid/2509/Default.aspx	UNEP/POP Risk profile	X		X		X		X		
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/news-and-events/chemical-gazette/numbers/2018/02-august/List-of-priority-existing-chemicals	List of priority existing chemicals - NICNAS		X		X		X		X	
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/_data/assets/pdf_file/0017/34613/NICNAS_Annual_Report_2012-13.pdf	ANNUAL REPORT 201213		X		X		X		X	
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/chemical-information/factsheets/chemical-name/hexabromocyclododecane	NICNAS chemical profile	X		X		X		X		
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/glossary	Glossary - NICNAS		X		X		X		X	
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/news-and-events/Topics-of-interest/subjects/endocrine-disrupting-chemicals	Endocrine-disrupting chemicals - NICNAS		X		X		X		X	
of Health, National Industrial Chemicals; NICNAS	http://www.nicnas.gov.au/chemical-information/factsheets/chemical-name/hexabromocyclododecane	International cooperative programs - NICNAS		X		X		X		X	
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/_data/assets/word_doc/0005/34826/PEC20-PBFR.docx	NICNAS chemical assessment report - PBFRs	X		X		X		X		
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/_data/assets/word_doc/0018/20484/NA649FR.docx	TEST FACILITY Huntingdon Life Sciences Ltd. (1997a)		X		X		X		X	
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/_data/assets/word_doc/0020/39305/PBDE.docx	PBDE [WORD 408 KB]		X		X		X		X	
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/_data/assets/word_doc/0019/18073/PEC-34-Hexabromocyclododecan-HBCD.docx	Chemical assessment report	X		X		X		X		
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/chemical-information/pec-assessments?result_34791_result_page=H	Priority Existing Chemical (PEC) assessments - NICNAS	X			X		X		X	
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/chemical-information/factsheets?result_30847_result_page=H	Fact sheets - NICNAS		X		X		X		X	
of Health, National Industrial Chemicals; NICNAS	http://www.nicnas.gov.au/chemical-information/imap-assessments?result_30847_result_page=H	Inventory Multi-tiered Assessment and Prioritization (IMAP) - NICNAS		X		X		X		X	
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/chemical-information/imap-assessments	Inventory Multi-tiered Assessment and Prioritization - NICNAS		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
of Health, National Industrial Chemicals; NICNAS	https://www.nicnas.gov.au/_data/assets/word_doc/0011/12215/LTD1689-FR-Final.docx	LTD/1689		X		X		X		X	
Canada Chemicals Portal	http://chemicalsubstanceschimiques.gc.ca/index-eng.php	General description of Canada's actions with respect to the chemical	X			X		X		X	
CAREX Canada	www.carexcanada.ca/en/	no results		X		X		X		X	
Government of Japan: Ministry of the Environment	https://www.env.go.jp/en/focus/docs/files/20141113-49.pdf	Latest Development of Chemical Substances Control Law in Japan		X		X		X		X	
Government of Japan: Ministry of the Environment	https://www.env.go.jp/en/focus/docs/files/20120101-36.pdf	Food & blood POP intake		X		X	X			X	
Government of Japan: Ministry of the Environment	http://www.env.go.jp/en/statistics/contents/2016/E2016_Ch7.pdf	Results of environmental monitoring		X		X	X			X	
Government of Japan: Ministry of the Environment	https://www.env.go.jp/en/chemi/pops/Appendix03-CIE/Summary2001.xls	2001-eng		X	X		X			X	
Substances in Preparations in Nordic Countries (SPIN) Database	http://www.spin2000.net/spinmyphp/	Summary by chemical	X			X	X			X	
Lowell Center for Sustainable Production	http://www.sustainableproduction.org/downloads/AlternativesToTBBPAandHBCD.pdf	Tetrabromobisphenol A (TBBPA) and ...	X		X			X		X	
Lowell Center for Sustainable Production	http://www.sustainableproduction.org/downloads/DecaBDESubstitutesFinal4-15-05.pdf	Contains market demand data from 2001	X			X		X		X	
Consumer Products Information Database (CPID)	https://www.whatsinproducts.com/chemicals/index/1	Products containing chemical		X		X	X			X	
Pollution Prevention Infohouse	http://infohouse.p2ric.org/ref/47/46709.pdf	Use of HCBd as an alternative to flame retardant deca-BDE		X		X		X		X	
Pollution Prevention Infohouse	http://infohouse.p2ric.org/ref/47/46834.pdf	Bioconcentration, biodegradation, partition coefficients		X	X			X		X	
Pollution Prevention Infohouse	http://infohouse.p2ric.org/ref/19/18713/cpch3.pdf	Production demand	X			X		X		X	
Pollution Prevention Infohouse	http://infohouse.p2ric.org/ref/12/11553.pdf	Quantifying Losses Of Plant Nutrients And Elements During ...		X		X		X		X	
Pollution Prevention Infohouse	http://infohouse.p2ric.org/ref/46/45240.ppt	National Pollution Prevention Roundtable (NPPR)		X		X		X		X	
Pollution Prevention Infohouse	http://infohouse.p2ric.org/ref/47/46435.ppt	CERCLA		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Pollution Prevention Infohouse	http://infohouse.p2ric.org/ref/42/41728.pdf	January 24, 2007 Senator John L. Martin, Chair ... - P2 InfoHouse		x		x		x		x	
Kirk Othemer Encyclopedia	Book	mp, bromine content, producers	x		x			x		x	
Kirk Othemer Encyclopedia	Book	HBCD in flame retardants- uses, process, health hazards	x			x	x			x	
Kirk Othemer Encyclopedia	Book	Styrene Plastics, in Kirk-Othmer Encyclopedia of Chemical	x			x		x		x	
Ashford's Dictionary of Industrial Chemicals, 2001	Book		x			x		x		x	
ATSDR	www.atsdr.cdc.gov/hac/pha/			x		x		x		x	
State sites	http://www.health.state.mn.us/divs/eh/hazardous/topics/toxfreekids/pclis/hbcd.pdf	Hexabromocyclododecane (HBCD): Priority Chemical ...		x		x	x			x	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2010/upload/90007.pdf	Arctic Environment – Trends and New Candidates		x		x	x			x	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2004/upload/90007.pdf	1,2,5,6,9,10-Hexabromocyclododecanes		x		x		x		x	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2007/upload/P056.pdf	Spatial Distribution of PBDEs and HBCD in Fish, Marine Mammals ...		x		x	x			x	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2004/upload/90007.pdf	hexabromocyclododecane by LC/MS/MS		x		x		x		x	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2004/upload/90007.pdf	Levels and Trends of Brominated Flame Retardants in the Arctic		x		x	x			x	
State sites	https://www.dtsc.ca.gov/SCP/upload/HBN-testimony-to-DTSC-SCP-on-SPF.pdf	Healthy building network		x		x		x		x	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2007/upload/O-18.pdf	Sludge from 50 Swedish Sewage Treatment Plants: Evidence of		x	x		x			x	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2004/upload/90007.pdf	Screening and Time Trend Study of Decabromodiphenylether and		x		x	x			x	
State sites	http://www.nj.gov/dep/wms/Emerging%20Contaminants%20of%20Concern%20web%20-%20EPA.pdf	Emerging Contaminants Identification Concerns Actions		x		x		x		x	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2004/upload/90007.pdf	Flame Retardants in the European Environment		x		x	x			x	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
State sites	http://www.health.state.mn.us/divs/eh/risk/guidance/dwec/screening/hbcd.pdf	HBCD Screening Profile (November 2015; PDF)		X		X		X		X	
State sites	http://www.health.state.mn.us/divs/eh/hazardous/topics/toxfrekids/report2016.pdf	Minnesota Chemicals of High Concern List Update Report 2016		X		X		X		X	
State sites	http://www.health.state.mn.us/divs/eh/hazardous/topics/toxfrekids/pclist/pccsummaries.pdf	Minnesota Priority Chemicals List Methodology and Summaries		X		X	X			X	
State sites	http://www.health.state.mn.us/divs/eh/risk/studies/retardantreport.pdf	Flame Retardants and Firefighter Exposure and Health (PDF)		X		X	X			X	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2010/upload/90066.pdf	"New" Flame Retardants in the Global Atmosphere under the GAPS Network		X		X	X			X	
State sites	http://www.biomonitoring.ca.gov/chemicals/brominated-and-chlorinated-flame-retardants	Brominated and Chlorinated Flame Retardants Biomonitoring ...		X		X	X			X	
State sites	https://www.dtsc.ca.gov/ECL/upload/ECL_Presentation_GreatLakes-Ecosystem.pdf	Organophosphorus and Brominated Flame ...		X		X	X			X	
State sites	http://www.health.state.mn.us/divs/eh/hazardous/topics/toxfrekids/priority.html	Chemicals - EH: Minnesota Department ...		X		X	X			X	
State sites	http://www.maine.gov/dep/rules/	Department Proposed Rulemaking, Maine DEP		X		X		X		X	
State sites	https://www.pca.state.mn.us/quick-links/green-chemistry-and-design-formaldehyde-and-hbcd-building-products-project	Formaldehyde and HBCD in building ...		X		X		X		X	
State sites	http://www.health.state.mn.us/divs/eh/hazardous/topics/toxfrekids/pclist/selection.pdf	Section I. Selection of Priority Chemicals		X		X		X		X	
State sites	https://www.dtsc.ca.gov/PollutionPrevention/GreenChemistryInitiative/upload/GRSP_SC1_Att.pdf	GRSP - Topic #1 Alternatives Assessments (AB 1879) Attachments		X		X		X		X	
State sites	https://oehha.ca.gov/proposition-65/proposition-65-list	List of chemicals in Prop 65, California		X		X	X			X	
State sites	http://biomonitoring.ca.gov/sites/default/files/downloads/04112013SGPStapleton.pdf	Consumer Products, Dust and Biospecimens		X		X	X			X	
State sites	http://hr.ca.gov/bfr2013/abstract_download/2004/upload/90066.pdf	PBDE and HBCDD Levels in Blood from Dutch Mothers and Infants		X		X	X			X	
State sites	http://www.health.state.mn.us/divs/eh/hazardous/topics/toxfrekids/pclist/pctable.pdf	Priority Chemicals Table: Minnesota Department of Health, March ...		X		X		X		X	
State sites	http://www.ecy.wa.gov/programs/eap/toxics/pbt.html	Persistent, Bioaccumulative, Toxics Monitoring Program Toxics ...		X		X	X			X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
State sites	https://www.dtsc.ca.gov/PollutionPrevention/GreenChemistryInitiative/upload/AA1_Symposium_Clive_Davies.pdf	US EPA Design for the Environment Program		X		X		X		X	
State sites	http://www.ecy.wa.gov/programs/swfa/mrw/ppt/2005/AnnBlakePBDEsUpdate.ppt	PBDEs and Brominated Flame Retardants: Current Issues and ...		X		X		X		X	
State sites	http://www.health.state.mn.us/divs/eh/hazardous/topics/toxfreekids/comments/eps053111.pdf	EPS Molders Association Comments on Listing of HBCD as a ...		X		X		X		X	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2004/upload/90071.pdf	disrupting potency of brominated flame retardants and their metabolites		X		X		X	X		
State sites	http://www.health.state.mn.us/divs/eh/hazardous/topics/toxfreekids/report2013.pdf	MDH 2013: Minnesota Chemicals of High Concern Report		X		X		X		X	
State sites	http://dhr.ca.gov/bfr2013/abstract_download/2004/upload/90071.pdf	HBCDD in Blood and Milk from Mexican Women		X		X	X			X	
State sites	https://www.pca.state.mn.us/waste/safer-product-chemistry-program	Safer Product Chemistry Program Minnesota Pollution Control ...		X		X		X		X	
State sites	http://www.ecy.wa.gov/programs/hwtr/rtt/cspa/pdf/cspaguide_pgl.pdf	Children's Safe Product Act – Reporting Rule – WAC 173-334		X		X		X		X	
State sites	http://www.maine.gov/dep/safechem/highconcern/	Chemicals of High Concern		X		X		X		X	
State sites	https://oehha.ca.gov/proposition-65	Proposition 65 OEHHA		X		X		X		X	
State sites	http://oehha.ca.gov/health/eis/propo65/health/neighborhood/ToxicSubstances/Document/033_016_final.pdf	List of High Priority Chemicals of Concern for Children's Health		X		X		X		X	
State sites	http://www.health.state.mn.us/divs/eh/risk/guidance/dwec/chemstatus.pdf	Nominated Contaminants Status Table		X		X		X		X	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2010/upload/90071.pdf	Measurement of vapor pressures of some PBDEs and HBCD ...		X	X			X		X	
State sites	http://www.maine.gov/dep/safechem/highconcern/	Chemicals of High Concern, Safer Chemicals, Maine DEP		X		X		X		X	
State sites	http://dhr.ca.gov/bfr2013/abstract_download/2004/upload/90071.pdf	An Attempt to Assess the Present Commercial Production of ...	X			X		X		X	
State sites	https://www.dep.state.fl.us/water/wqssp/docs/esoc_fdep_report_12_8_08.pdf	Emerging Substances of Concern (ESOC)		X		X		X		X	
State sites	http://www.dtsc.ca.gov/PollutionPrevention/GreenChemistryInitiative/upload/CBAdraftfinalreport.pdf	Cost-Benefit Analysis Support for California EPA's Green Chemistry ...		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
State sites	http://www.dep.state.fl.us/waste/quick_topics/publications/showmedia/EmergingContaminantsPresentation_12-22-06.pdf	Emerging Pollutants Contaminants Substances of Concern		X		X		X		X	
State sites	https://www.dtsc.ca.gov/ECL/upload/ECL_Presentation-Spectrometry.pdf	Analysis of Untargeted Organic Chemicals of Interest in ...		X		X		X		X	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2007/upload/P020.pdf	Levels and trends of HBCD and BDEs in the European and Asian ...		X		X	X			X	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2004/upload/1of4/0402Papers/BFR2004%20Abstract%200208%20May16.pdf	Hexabromocyclododecane in Detroit River Suspended		X		X	X			X	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2007/upload/P006.pdf	Analysis of HBCD and TBBPA by GC-MS versus LC-MS-MS ...		X		X		X		X	
State sites	http://dtsc.ca.gov/bfr2013/abstract_download/2007/upload/P016.pdf	Hexabromocyclododecane (HBCD) isomers ...		X		X	X			X	
State sites	Google State Custom Search Engine	N/A		X		X		X		X	
Trade Associations	acmanet.org			X		X		X		X	
Trade Associations	aia-aerospace.org			X		X		X		X	
Trade Associations	http://www.americanchemistry.com/Media/PressReleases/Newsroom/ACC%20Issue%20Release/ACC%20Issue%20Release%20Final%20Version%20Clean%20Copy%2012%2012%2012.pdf	article regarding HBCD uses		X		X	X			X	
Trade Associations	http://www.americanchemistry.com/News/PressReleases/Newsroom/ACC%20Issue%20Release/ACC%20Issue%20Release%20Final%20Version%20Clean%20Copy%2012%2012%2012.pdf	article on chemical screening tools - HBCD in one table with no data		X		X		X		X	
Trade Associations	https://responsiblecare.americanchemistry.com/Search.aspx?topic=&srchtext=&page=161	ACC contact information		X		X		X		X	
Trade Associations	https://eefc.americanchemistry.com/Healthy-Environments/	document for avoiding flame retardants in built environment		X		X	X		X		
Trade Associations	http://www.americanchemistry.com/News/PressReleases/Newsroom/ACC%20Issue%20Release/ACC%20Issue%20Release%20Final%20Version%20Clean%20Copy%2012%2012%2012.pdf	search results for list of multiple articles		X		X		X		X	
Trade Associations	https://plastics.americanchemistry.com/Search.aspx?topic=&srchtext=&page=162	search results for list of multiple articles		X		X		X		X	
Trade Associations	http://www.americanchemistry.com/News/PressReleases/Newsroom/ACC%20Issue%20Release/ACC%20Issue%20Release%20Final%20Version%20Clean%20Copy%2012%2012%2012.pdf	search results for list of multiple articles		X		X		X		X	
Trade Associations	https://chlorine.americanchemistry.com/Search.aspx?topic=&srchtext=&page=160	search results for list of multiple articles		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	https://phthalates.americanchemistry.com/Search.aspx?topic=&srchtext=&page=161	search results for list of multiple articles		X		X		X		X	
Trade Associations	https://phthalates.americanchemistry.com/Search.aspx?topic=&srchtext=&page=161	search results for list of multiple articles		X		X		X		X	
Trade Associations	https://phthalates.americanchemistry.com/Search.aspx?topic=&srchtext=&page=161	search results for list of multiple articles		X		X		X		X	
Trade Associations	https://flameretardants.americanchemistry.com/Safety-Regulations/	QA of flame retardant safety regulations	X			X	X			X	
Trade Associations	http://www.americanchemistry.com/Media/PressReleases/Transcripts/CC/pressrelease/NAFRA_Environmental_Health_Perspective_Study.pdf	response letter to Environmental Health Perspective study		X		X		X		X	
Trade Associations	https://eefc.americanchemistry.com/Resources/Facts-About-Flame-Retardants-Building-Insulation.pdf	information sheet about flame retardants		X		X	X			X	
Trade Associations	http://www.americanchemistry.com/Media/PressReleases/Transcripts/NAFRA_Environmental_Health_Perspective_Study.pdf	NAFRA Environmental Health Perspective study		X		X		X	X		
Trade Associations	https://eefc.americanchemistry.com/RB152-16/	HBCD on mentioned in regards to health risks		X		X		X	X		
Trade Associations	http://www.americanchemistry.com/Media/PressReleases/Transcripts/ACC_Contact_Information.pdf	ACC contact information		X		X		X		X	
Trade Associations	asphaltroofing.org			X		X		X		X	
Trade Associations	canadianchemistry.ca			X		X		X		X	
Trade Associations	http://www.cefic-efra.com/images/stories/factsheet/EFRAHBCDFactSheet1106-1_00.pdf	chemical safety sheet	X		X		X			X	
Trade Associations	http://www.cefic-efra.com/index.php/en/structural-elements-construct-en-gb	same info as 7156-HBCD-7, did not download	X			X		X		X	
Trade Associations	http://www.cefic-efra.com/index.php/en/introduction-sp-18177-en-gb	same info as 7156-HBCD-5, did not download	X			X		X		X	
Trade Associations	http://www.cefic-efra.com/index.php/en/factsheets-substances-en-gb/bromine-en-gb	parent portal to weblinks already captured		X		X		X		X	
Trade Associations	http://www.cefic-efra.com/images/stories/Newsletter/EFra_Newsletter_October_2016.pdf	talks about recycling foam with HBCD	X			X		X		X	
Trade Associations	http://www.cefic-efra.com/images/stories/Newsletter/EFra_Newsletter_December_2014.pdf	talks about voluntary limit set on 1000 ppm for HBCD material	X			X	X			X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.cefic-efra.com/images/stories/News/2011/vecap_2010_press_release_4_april-1_.pdf			X		X		X		X	
Trade Associations	http://www.cefic-efra.com/images/stories/News/2012/enfro_abstract-book_2012-11-07-08.pdf	abstract summary. Could provide insights onto chemical longevity	X			X	X			X	
Trade Associations	http://www.cefic-efra.com/index.php/en/13-efra/glossary/108-glossary-en-gb	glossary		X		X		X		X	
Trade Associations	http://www.cefic-efra.com/images/stories/Position_Paper/71_News/2012/EFRA%20Basement%20to%20BoHS_20100415.pdf			X		X		X		X	
Trade Associations	http://www.cefic-efra.com/index.php?option=com_content&view=article&id=5749&Itemid=19&lang=en			X		X		X		X	
Trade Associations	http://www.cefic-efra.com/images/stories/News/2012/efra%20recycling%20paper_bcd_plastics_pmi_2012.pdf			X		X		X		X	
Trade Associations	http://www.cefic-efra.com/index.php/en/vecap-en-gb			X		X		X		X	
Trade Associations	http://www.cefic-efra.com/images/stories/Newsletter/efra%20newsletter_spring-2012.pdf			X		X		X		X	
Trade Associations	http://www.cefic-efra.com/images/stories/News/2011/EFRA%20Factbook%20BoHS%202011_final_EN.pdf			X		X		X		X	
Trade Associations	http://www.cefic-efra.com/images/stories/IMG-BROCHURE-2.4/EFRA_Transport_Edition-2015.pdf	Contains emission data	X			X		X		X	
Trade Associations	http://www.cefic-efra.com/index.php/en/34-news/general			X		X		X		X	
Trade Associations	http://www.cefic-efra.com/images/stories/Newsletter/efra_newsletter_march_2013.pdf			X		X		X		X	
Trade Associations	http://www.cefic-efra.com/images/stories/News/2011/20110215_efra_comments_on_detra_ecolabel_study_final2-1_.pdf			X		X		X		X	
Trade Associations	http://www.cefic-efra.com/index.php/fr/glossary-fr-fr	link broken, can not find		X		X		X		X	
Trade Associations	http://www.cefic-efra.com/index.php/en/18-efra/sustainability	just mentions that production will go down		X		X		X		X	
Trade Associations	http://www.cefic-efra.com/index.php/en/9-efra/publications-and-press/352-hexabromocyclohexane-hbcd			X		X		X		X	
Trade Associations	http://www.cefic-efra.com/images/stories/News/2010/keepingfireincheck_eeedevices-1_.pdf	report on use but not of HBCD		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre/legislation-evaluation-and-authorisation-and-restriction-of-chemicals-reach-and-rtba			X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre/the-existing-substances-regulation-est/what-is-the-est	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/our-substances	overview that links to other hits on this list		X		X		X		X	
Trade Associations	http://www.ebfrp.org/uploads/Press/documents/Statement%20Jan%202007.pdf			X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/our-substances/tbbpa	is about TBBPA		X		X		X		X	
Trade Associations	http://www.ebfrp.org/uploads/Press/documents/Norway%20act%20of%20the%20parliament%20of%20the%2019th%20of%20June%202007.pdf			X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/press/legislation/2004-2	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/our-substances/decabde	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrp.org/uploads/Press/documents/EBFRIP%20press%20release%20update%20C-REDO-FIRE%20project.pdf	effects in flounder when exposures to levels above those found in EU for		X		X	X			X	
Trade Associations	http://www.ebfrp.org/uploads/Press/documents/EBFRIP%20press%20release%20update%20C-REDO-FIRE%20project.pdf	of HBCD under reach and why that should not be the case		X	X		X			X	
Trade Associations	http://www.ebfrp.org/uploads/Press/documents/UBA%20paper_EBFRIP%20comments%20final_2%20May.pdf	E B F R I P comments to report released by UBA	X		X		X			X	
Trade Associations	http://www.ebfrp.org/main-nav/subnav/sitemap	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre/legislation-evaluation-and-authorisation-and-restriction-of-chemicals-reach-and-rtba	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/our-substances/deca-bde	about DECABDE		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre/the-existing-substances-regulation-est/the-est-and-tbbpa	about TBBPA		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/our-substances/fire-safety-benefits	links to other links in the spread sheet		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre/the-existing-substances-regulation/esr/the-esr-and-deca-bde	about DECABDE		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre/legislation/regulation-and-authorisation-and-restriction-of-chemicals/reach-in-reach	about Reach		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre/legislation/regulation-and-authorisation-and-restriction-of-chemicals/reach-in-reach	about DECABDE		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/press/legislation/2007-2	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrp.org/uploads/Press/documents/rainwater_report.html	rain water. No source location of how samples were collected, just that only	X			X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre/the-existing-substances-regulation/esr/the-esr-and-hbcd	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre/classification-and-labelling	about DECABDE		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre/legislation/regulation-and-authorisation-and-restriction-of-chemicals/reach-in-reach	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre/reach-and-other-legislations	no direct link to HBCD		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/european-regulatory-centre/directive-on-radio-telecommunications/rctd/what-is-the-rctd-directive	no direct link to HBCD		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/subnav/register-for-updates			X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/press	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/press/legislation/2008-2	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/press/legislation/2009-2	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/subnav/disclaimer	copyright page		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/contact-us	contact page		X		X		X		X	
Trade Associations	http://www.ebfrp.org/main-nav/our-substances/how-brominated-flame-retardants-work	mentions how flame retardants work		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.ebfrip.org/main-nav/press/news	links to nothing relevant		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/european-regulatory-centre/water-framework-directive-wfd	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/european-regulatory-centre/ecolabels	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/who-we-are	who we are page		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/european-regulatory-centre/Marketing-and-use-of-dangerous-substances	links to nothing relevant		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/european-regulatory-centre/Marketing-and-use-of-dangerous-substances	about DECABDE		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/european-regulatory-centre/Marketing-and-use-of-dangerous-substances	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/press/ebfrip-reports-and-publications/2011-news	links to nothing relevant		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/press/legislation/2011-press	links to nothing relevant		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/press/legislation/2001-2	links to nothing relevant		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/press/legislation/2001-2	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/press/legislation/17-2	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/press/legislation/2006-2	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/press/legislation/2005-2	links to nothing relevant		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/press/ebfrip-reports-and-publications/1998-3	links to nothing relevant		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/press/ebfrip-reports-and-publications/2000-3	links to nothing relevant		X		X		X		X	
Trade Associations	http://www.ebfrip.org/main-nav/press/legislation/2003-2	links to nothing relevant		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.ebfrjp.org/main-nav/press/legislation/2002-2	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/main-nav/press/ebfrjp-reports-and-publications/2010-3	links to nothing relevant		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/main-nav/press/ebfrjp-reports-and-publications/2008-3	links to nothing relevant		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/main-nav/press/legislation/2010-2	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/main-nav/our-substances/alternative-flame-retardants	alternatives to brominated flame retardants	X			X		X		X	
Trade Associations	http://www.ebfrjp.org/main-nav/press/ebfrjp-reports-and-publications/2009-3	links to other links in the spread sheet		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/uploads/Press/documents/TBBPA%20review%2012042010_Dekam%20Report.pdf	about TBBPA		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/uploads/Press/documents/EBFRJP%20Position%20on%20the%20revision%20of%20the%20REACH%20Annex%20II%20on%2015.pdf	talks about potential ban in EU		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/uploads/Press/documents/EBFRJP%20update%20TBBPA%20RA%20Dec%2006.pdf	about TBBPA		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/uploads/Press/documents/statement_on_ra_conclusion_18sept07.pdf	about TBBPA		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/uploads/Press/documents/EBFRJP%20Statement%20on%20the%20revision%20of%20the%20REACH%20Annex%20II%20on%2015.pdf	talks about potential ban in EU		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/uploads/Press/documents/lnes_-_6_march_2007.pdf	about TBBPA		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/uploads/Press/documents/VECAP%20Annual%20Progress%20Report%202006.pdf	about VECAP program but not HBCD yet		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/uploads/Press/documents/core.html	removed when the product that used asbestos is done being used	X			X		X		X	
Trade Associations	http://www.ebfrjp.org/uploads/Press/documents/71_News%20EBFRJP%20Statement%20on%20the%20revision%20of%20the%20REACH%20Annex%20II%20on%2015.pdf	priority under REACH, no more info provided		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/	portal to other pages found within this list		X		X		X		X	
Trade Associations	http://www.ebfrjp.org/uploads/Press/documents/Col%20and%20the%20revision%20of%20the%20REACH%20Annex%20II%20on%2015.pdf	priority under REACH, no more info provided		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.ebfrip.org/uploads/Press/documents/poortere.pdf	in citation		X		X		X		X	
Trade Associations	http://www.ebfrip.org/uploads/Press/documents/UBA%20FP%20dt_ERBIP%20Kommentar_final.pdf	E B F R I P comments to report released by UBA in German	X		X		X			X	
Trade Associations	http://www.ebfrip.org/uploads/Press/documents/19%2011%2027_EN_VECA%20Report%20Press%20Release.pdf	talks about reduction of emissions in EU		X		X		X		X	
Trade Associations	http://www.jpma.org/news/294609/Flame-Retardants-A-Guide-to-Current-State-Regulations.htm	restriction on children products with chemicals for various states		X		X	X			X	
Trade Associations	http://www.jpma.org/news/294609/Flame-Retardants-A-Guide-to-Current-State-Regulations.htm	restriction on children products with chemicals for various states		X		X	X			X	
Trade Associations	http://www.jpma.org/news/320867/Washington-State-Chemical-Update.htm	ppm in Washington state, info already provided in 7172-Asb_1-1		X		X		X		X	
Trade Associations	nam.org			X		X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/313-n-57-13-regulatory-news	regulatory overview of what HBCD is allowed to be in	X			X		X		X	
Trade Associations	http://www.pinfa.org/images/newsletters/pinfa_Newsletter_Issue_1_April_2010.pdf	update of potential banning and phase out of HBCD		X		X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/314-n-57-14-french-agency-asses-evaluates-the-role-of-frs-in-furniture-and-frs-safety	and the human health/exposure to them. Found that it can not exclude all		X		X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/530-n-66-19-other-news	washing state's proposal to ban use of HBCD in its full extent		X		X	X			X	
Trade Associations	http://pinfa.org/index.php/15-glossary-of-abbreviations	abbreviation page		X		X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news?start=160	links to not relevant files, children also found in this sheet		X		X		X		X	
Trade Associations	http://www.pinfa.org/documents/Media/Events/pinfa_era_e-e-com-hal_flame-retardants_markets-trends_2012-11_v01_ab.pdf	of HBCD and that it is listed as high priority substances in EU		X		X		X		X	
Trade Associations	http://www.pinfa.org/documents/Media/Reources/pinfa_presentations_egg2012.pdf	HBCD and that it is listed as high priority substances in EU		X		X		X		X	
Trade Associations	http://pinfa.org/documents/Media/Newsletter/pinfa_Newsletter_Issue_no8_March_2011.pdf	Oekotex label already bans HBCD in their labeled products	X			X		X		X	
Trade Associations	http://pinfa.org/index.php/en/media-events/news/531-n-66-20-correction	true reduction of the recycling process for HBCD	X			X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.pinfa.org/documents/Media/Newsletter/pinfa_newsletter_issue_no44_august-2014.pdf	better FR than HBCD, with a polymeric one being the most	X			X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/495-n-64-12-recycling-of-plastics-containing-hazardous-substances	talks about recycling foam with HBCD	X			X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/495-n-64-12-recycling-of-plastics-containing-hazardous-substances	about washing state's ban and correction to recycling HBCD material	X			X	X			X	
Trade Associations	http://www.pinfa.org/images/newsletters/Pinfa_Newsletter_Issue_no57_November-2015.pdf	EU allows for HBVCD to be used for set products and regulations	X			X	X			X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/802-n-70-34-aarhus-university	Bio page		X		X		X		X	
Trade Associations	http://www.pinfa.org/images/newsletters/Pinfa_Newsletter_Issue_no49_February-2015.pdf	mentions TSCA will consider HBCD		X		X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/sustainability/environment	links to an offsite page about HBCD		X		X		X		X	
Trade Associations	http://www.pinfa.org/documents/Media/Newsletter/pinfa_newsletter_issue_6_December_2010.pdf	talks about listing if a piece of furniture has over .1% of HBCD		X		X		X		X	
Trade Associations	http://pinfa.org/documents/Media/Newsletter/pinfa_newsletter_issue_no24_nov-2012.pdf	prohibiting HBCD from being manufactured or imported for all but	X			X		X		X	
Trade Associations	http://pinfa.org/index.php/en?option=com_content&view=article&id=766:n-69-19-great-lakes&catid=32:news&Itemid=11	targets list of chemicals to be reduced in the great lakes region		X		X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/870-n-74-05-review-of-flame-retardants-in-the-environment	discusses fates of persistent chemicals, no specific info provided		X		X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/631-n-53-06-aerospace-industry-launches-chemical-reporting	aerspace identifies chemicals like HBCD will be banned or already are		X		X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/sustainability/regulatory	talks about Stockholm convention without much more info		X		X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/pinfa-04-newsletters-archive/191-pinfa-newsletter-issue-n-35	HBCD in foam, only brominated polymer was considered a possible	X			X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/595-n-56-16-other-news	summary of review papers on FR toxicity		X		X	X			X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/598-n-55-03-pinfa-na-flammability-requirements-in-construction	alternative chemical for HBCD, this info was presented in another link that	X			X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/345-n-59-09-inflame-project	talks about possible uptake routes		X		X	X			X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/pinfa-newsletters-archive/11/maint-16-newsletter-issue-n-66-june-2016-final-version.pdf	shifting production away from HBCD because of HBCD banning under	X			X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/pinfa-newsletters-archive/11/maint-16-newsletter-issue-n-66-june-2016-final-version.pdf	performing FR than HBCD from 7200-HBCD-35	X			X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/pinfa-newsletters-archive/11/maint-16-newsletter-issue-n-66-june-2016-final-version.pdf	products paper reviewed, not specific on how degradation products being	X			X		X		X	
Trade Associations	http://www.pinfa.org/documents/Media/Newsletter/pinfa_Newsletter_Issue_7_February_2011.pdf	Leed will investigate getting rid of HBCD in their LEED certifications		X		X		X		X	
Trade Associations	http://www.pinfa.org/images/newsletters/Pinfa_Newsletter_Issue_no64_April-2016.pdf	with the updated correction in one source from the PINFA webpages	X			X		X		X	
Trade Associations	http://www.pinfa.org/documents/Media/Newsletter/pinfa_Newsletter_Issue_no9_May_2011.pdf	in 2009 than 2008 but no hard numbers		X		X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news873-n-75-01-smouldering-cigarette-test-for-furniture-not-effective	Product Safety Commission says HBCD presents no harm to consumer		X		X		X		X	
Trade Associations	http://www.pinfa.org/documents/Media/Newsletter/pinfa_newsletter_issue_no25_dec-2012_v1.pdf	proposal to band HBCD in Canada and Reach restrictions		X		X		X		X	
Trade Associations	http://pinfa.org/images/newsletters/Pinfa_Newsletter_Issue_no62_February-2016.pdf	products paper reviewed, not specific on how degradation products being	X			X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/pinfa-04-newsletters-archive/207-pinfa-newsletter-issue-n-42	contamination in food and finding an alternative with companies		X		X		X		X	
Trade Associations	http://www.pinfa.org/documents/Media/Newsletter/pinfa_newsletter_issue_no30_may-2013.pdf	convention, but can opt out of restriction for 5 years to find	X			X		X		X	
Trade Associations	http://www.pinfa.org/images/newsletters/Pinfa_Newsletter_Issue_no66_May-2016.pdf	Washington with products over 0.01 HBCD by mass		X		X	X			X	
Trade Associations	http://www.pinfa.org/images/newsletters/pinfa_Newsletter_Issue_2_June_2010.pdf	support banning HBCD in their products	X			X		X		X	
Trade Associations	http://www.pinfa.org/images/core/brochures/PINFA_Transportation_Brochure_2010_Final_Version.pdf	can be used for HBCD in transportation manufacturing	X			X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/pinfa-newsletters-archive/11/maint-16-newsletter-issue-n-66-june-2016-final-version.pdf	talks about possible uptake routes		X		X	X			X	
Trade Associations	http://pinfa.org/images/newsletters/pinfa_Newsletter_Issue_4_October_2010.pdf	only in glossary		X		X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/pinfa-04-newsletters-archive/205-pinfa-newsletter-issue-n-40	HBCD without specifics. Can be found at:		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.pinfa.org/index.php/en/flame-retardants/glossary-of-abbreviations	abbreviation page		X		X		X		X	
Trade Associations	http://pinfa.org/documents/Media/Newsletter/pinfa_newsletter_issue_no29_may-2013.pdf	certify protection for workers/consumers of cell phones to	X			X		X		X	
Trade Associations	http://pinfa.org/documents/Media/Newsletter/pinfa_newsletter_issue_no19_may-2012v2.pdf	Chemical Agency if their products use or if they import chemicals such as		X		X		X		X	
Trade Associations	http://pinfa.org/documents/Media/Newsletter/pinfa_Newsletter_Issue_no12_Oct-2011.pdf	chemicals such as HBCD in polyesterene		X		X		X		X	
Trade Associations	http://pinfa.org/index.php/en/media-events/news/624-n-54-14-us-regulatory-and-media	items and upholstered furniture in Minnesota		X		X	X			X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/511-n-65-40-dow-chemical-usa	epa proposes that polymeric FR is better than HBCD	X			X		X		X	
Trade Associations	http://www.pinfa.org/documents/Media/Newsletter/pinfa_Newsletter_Issue_5_November_2010.pdf	HBCD regulations across the world		X		X		X		X	
Trade Associations	http://www.pinfa.org/index.php/en/media-events/news/676-n-50-10-washington-state-report-on-flame-retardants	mentions washing state's proposal to ban use of HBCD		X		X		X		X	
Trade Associations	plasticpipe.org			X		X		X		X	
Trade Associations	http://www.sips.org/green-building/expanded-polystyrene-flame-retardants	sources of HBCD in the indoor environment	X			X	X			X	
Trade Associations	http://www.sips.org/technical-information/fire-performance	no HBCD in link or children		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information/american-chemistry-council	links to a American chemistry council page, no HBCD info on the page		X		X		X		X	
Trade Associations	http://www.sips.org/policies	dues page		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information/building-with-chemistry	links to a build with chemistry page, no HBCD info on the page		X		X		X		X	
Trade Associations	http://www.sips.org/about/sipa-prepares-for-ibs-2017-in-orlando-florida	sponsor page		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information/apa-structural-insulated-panels-product-guide-pdf	product guide, guide has no info on HBCD		X		X		X		X	
Trade Associations	http://www.sips.org/about	about us page		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.sips.org/green-building/2015-building-excellence-kenmare-strip-mall	case study no HBCD mentioned		X		X		X		X	
Trade Associations	http://www.sips.org/training/improving-your-building-performance-and-your-bottom-line-with-sips	training on green building, no mention of HBCD on power point or main page		X		X		X		X	
Trade Associations	http://www.sips.org/about/privacy-policy	privacy page		X		X		X		X	
Trade Associations	http://www.sips.org/members/styropek-usa	link broken, can not find		X		X		X		X	
Trade Associations	http://www.sips.org/green-building/2015-building-excellence-red-mountain-cabin	case study no HBCD mentioned		X		X		X		X	
Trade Associations	http://www.sips.org/press-releases/archived-newsletters	no link to a page contained on SIPA had HBCD		X		X		X		X	
Trade Associations	http://www.sips.org/about/member-benefits	member benefits page		X		X		X		X	
Trade Associations	http://www.sips.org/about/sipa-board-of-directors	board of director's page		X		X		X		X	
Trade Associations	http://www.sips.org/green-building/2015-building-excellence-award-winners	award page for 2015		X		X		X		X	
Trade Associations	http://www.sips.org/green-building/2015-building-excellence-pizza-ranch	case study no HBCD mentioned		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information/ansi-ape-standard-for-performance-rated-sips-in-wall-applications	standards performance, no HBCD mentioned in PDF or main page		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information/air-infiltration	case study no HBCD mentioned		X		X		X		X	
Trade Associations	http://www.sips.org/green-building/2015-building-excellence-park-row-apartments	case study no HBCD mentioned		X		X		X		X	
Trade Associations	http://www.sips.org/sipa-booth-at-aec-st-virtual-tradeshow	digital booth at a trade convention		X		X		X		X	
Trade Associations	http://www.sips.org/contact	contact page		X		X		X		X	
Trade Associations	http://www.sips.org/training	training programs with pay wall		X		X		X		X	
Trade Associations	http://www.sips.org/members/energy-panel-structures-inc	location of member		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.sips.org/training/residential-design-with-structural-insulated-panels-video-training	training programs with pay wall		X		X		X		X	
Trade Associations	http://www.sips.org/green-building/federal-tax-credits	tax credit page		X		X		X		X	
Trade Associations	http://www.sips.org/members/j-deck-inc	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/stiles-machinery	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/gallery/school-photos	case study no HBCD mentioned		X		X		X		X	
Trade Associations	http://www.sips.org/members/eps-molders-association	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/wright-engineers	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/extreme-panel-technologies-inc	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/premier-sips-by-insulfoam	link broken, can not find		X		X		X		X	
Trade Associations	http://www.sips.org/members/panelworks-plus-inc	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/sipsmart-building-systems	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/sip-building-solutions	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information/use-of-sips-in-seismic-design-categories	building specification in zones with earthquakes		X		X		X		X	
Trade Associations	http://www.sips.org/members/smc-construction-inc	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/hall-wright-builders-llc	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/blog	blog posts, no HBCD		X		X		X		X	
Trade Associations	http://www.sips.org/2014-building-excellence-pearl-izumi-headquarter	case study no HBCD mentioned		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.sips.org/members/aman-developers	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/greenway-builders-products	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/green-building/department-of-energy-resources	no reference to HBCD on page		X		X		X		X	
Trade Associations	http://www.sips.org/training/sipa-registered-master-builder-erskin-construction	info about a member, no HBCD		X		X		X		X	
Trade Associations	http://www.sips.org/blog/nyserda	case study no HBCD mentioned		X		X		X		X	
Trade Associations	http://www.sips.org/gallery/renovation-photos	case study no HBCD mentioned		X		X		X		X	
Trade Associations	http://www.sips.org/members/crowley-builders-inc	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/go-modular-sips	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/member-directory	list of location of member		X		X		X		X	
Trade Associations	http://www.sips.org/gallery/project-highlight	list of projects that were done by members, no HBCD		X		X		X		X	
Trade Associations	http://www.sips.org/members/schaefer	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/green-building/2015-building-excellence-cedarwood-zero-energy-home	case study no HBCD mentioned		X		X		X		X	
Trade Associations	http://www.sips.org/members/portersips-division-of-porter-corp	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information/technical-bulletins	portal to use of HBCD		X		X		X		X	
Trade Associations	http://www.sips.org/members/precision-site-management-llc	link broken, can not find		X		X		X		X	
Trade Associations	http://www.sips.org/blog/doe-better-buildings-residential-network	link to DOE and no mention of HBCD on webpage		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information/technical-bulletins	technical bulletin on HBCD in EPA and XPS	X			X	X			X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.sips.org/members/basf-corporation	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/transitions-design-build-llc	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/panel-setters-plus-inc	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/sipa-registered-master-builder-panelworks-plus-inc	info about a member, no HBCD		X		X		X		X	
Trade Associations	http://www.sips.org/blog/videos	video on how to install install rough electrical wiring		X		X		X		X	
Trade Associations	http://www.sips.org/members/fenster	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/lamit-industries-inc	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/	home page		X		X		X		X	
Trade Associations	http://www.sips.org/green-building/indoor-air-quality	links to 7209-HBCD-1, no new HBCD info		X		X		X		X	
Trade Associations	http://www.sips.org/members/wickiup-builders	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/building-excellence-awards	awards that were given in 2017		X		X		X		X	
Trade Associations	http://www.sips.org/members/west-eco-panelized-building-systems	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information	links to results that were not useful		X		X		X		X	
Trade Associations	http://www.sips.org/members/innova-eco-building-systems	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/sipa-registered-master-builder-bridlewood-builders	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/korwall-industries-inc	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/aspen-building-design-llc	location of member		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.sips.org/about/industry-links	links to other organizations		X		X		X		X	
Trade Associations	http://www.sips.org/events	event calendar		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information/chemical-safety-facts-wwwchemicalsafetyfactsorg	links to on offsite page		X		X		X		X	
Trade Associations	http://www.sips.org/green-building/2015-building-excellence-woodinville-whiskey	case study no HBCD mentioned		X		X		X		X	
Trade Associations	http://www.sips.org/about/member-testimonials	testimonies by members. No HBCD mentioned		X		X		X		X	
Trade Associations	http://www.sips.org/doe-zero-energy-ready-homes-and-partnership-with-sipa	plan of launching initiatives of zero energy homes		X		X		X		X	
Trade Associations	http://www.sips.org/gallery/multi-family-photos	photos of a member project		X		X		X		X	
Trade Associations	http://www.sips.org/blog/sipa-attends-capital-hill-luncheon-hpbc-april-21-2016	discusses SIPA's influences High Performance Building Caucus		X		X		X		X	
Trade Associations	http://www.sips.org/members/general-panel-corporation	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/news	links to joint actions or other relevant news		X		X		X		X	
Trade Associations	http://www.sips.org/members/energy-panel-structures-phode-island	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/blog/sipa-proudly-sponsors-the-2017-doe-race-to-zero-student-design-competition	sponsor students in DOE's zero building challenge		X		X		X		X	
Trade Associations	http://www.sips.org/blog/building-excellence-awards	winner's of various SIPS awards		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information/oak-ridge-national-labs-data	links to oak rdige reports, still under sips ut no HBCD data		X		X		X		X	
Trade Associations	http://www.sips.org/blog/green-builder-medias-2016-readers-choice-awards	green winner choice awards are SIPs members		X		X		X		X	
Trade Associations	http://www.sips.org/members/timber-engineering-lc	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information/prescriptive-method	how to properly install SIPs		X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	http://www.sips.org/members/hsbcad-north-america	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/sipengineering	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/members/amerisips	location of member		X		X		X		X	
Trade Associations	http://www.sips.org/about/what-are-sips	what are SIPs		X		X		X		X	
Trade Associations	http://www.sips.org/training/sipa-registered-master-builder-bliss-building-inc	info about a member, no HBCD		X		X		X		X	
Trade Associations	http://www.sips.org/blog/message-from-the-sipa-president2	message from SIP'S president		X		X		X		X	
Trade Associations	http://www.sips.org/technical-information/sip-thermal-performance	info on various SIPs properties and links to those documents, no HBCD		X		X		X		X	
Trade Associations	socma.com			X		X		X		X	
Trade Associations	www.acmanet.org			X		X		X		X	
Trade Associations	www.afma.org			X		X		X		X	
Trade Associations	www.afsinc.org			X		X		X		X	
Trade Associations	www.aga.org			X		X		X		X	
Trade Associations	www.ahrinet.org			X		X		X		X	
Trade Associations	www.aluminum.org			X		X		X		X	
Trade Associations	www.ame.org			X		X		X		X	
Trade Associations	www.ansi.org	article regarding HBCD uses		X		X	X			X	
Trade Associations	www.ansi.org			X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	www.api.org			X		X		X		X	
Trade Associations	http://www.ascouncil.org/blogpost/1268738/EPA-UPDATE-TSCA-CHEMICAL-WORK-PLAN-LIST-FOR-CHEMICAL-ASSESSMENTS	EPA update on chemical workplan		X	X			X		X	
Trade Associations	http://www.ascouncil.org/blogpost/1268738/News-Press?tag=ADGPC&Site=ADGPC&Page=37	list of search results on ASC website		X		X		X		X	
Trade Associations	http://www.ascouncil.org/blogpost/1268738/News-Press?tag=ASC+Press+Releases&DGPC&Site=ADGPC&Page=5	EPA update on chemical workplan		X	X			X		X	
Trade Associations	www.awc.org			X		X		X		X	
Trade Associations	http://www.bifma.org/resource/resmgr/misc_furniture_guide.pdf	Furniture Compliance Requirements		X		X		X		X	
Trade Associations	www.cancentral.com			X		X		X		X	
Trade Associations	www.chlorinated-solvents.eu			X		X		X		X	
Trade Associations	www.cibo.org			X		X		X		X	
Trade Associations	www.cleaninginstitute.org			X		X		X		X	
Trade Associations	www.copper.org			X		X		X		X	
Trade Associations	https://www.flexpack.org/assets/1/22/X_X_Enviro_Issues_Index201407.pdf	environmental issues index		X		X		X		X	
Trade Associations	www.gasketfab.com			X		X		X		X	
Trade Associations	https://www.globalautomakers.org/media/agency-comments/comments-on-epa-proposed-significant-new-use-rule-for-hbcd	comment letter on new use rule of HBCD		X		X	X			X	
Trade Associations	https://www.globalautomakers.org/media/agency-comments/comments-on-epa-proposed-significant-new-use-rule-for-hbcd	comment letter on new use rule of HBCD		X		X	X			X	
Trade Associations	www.gmaonline.org			X		X		X		X	
Trade Associations	www.hsia.org			X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	www.irma.org			X		X		X		X	
Trade Associations	www.inda.org			X		X		X		X	
Trade Associations	https://www.ipc.org/3.0_Industr/3.4_EHS/2007/IPCCCommNorwayProposa081007.pdf	Industry response to Norway ruling, amounts of HBCD in various resins	X			X		X		X	
Trade Associations	http://www.ipc.org/3.0_Industr/3.4_EHS/EU-Council-compromise-position-Sept2009.pdf			X		X		X		X	
Trade Associations	http://www.ipc.org/3.0_Industr/3.4_EHS/2013/IPC-Comments-on-the-Review-of-Substances-under-RoHS2.pdf			X		X		X		X	
Trade Associations	http://www.ipc.org/Content/Press.aspx?pageid=IPC-Successful-in-Efforts-to-Keep-Additional-Substances-Restrictions-Out			X		X		X		X	
Trade Associations	http://www.ipc.org/3.0_Industr/3.4_EHS/2013/IPC-Comments-on-1st-Stakeholder-Consultation-02092013.pdf			X		X		X		X	
Trade Associations	http://www.ipc.org/3.0_Industr/3.4_EHS/2010/Comments-on-India-RoHS-Proposal-080610.pdf			X		X		X		X	
Trade Associations	http://www.ipc.org/3.0_Industr/3.4_EHS/2013/IPC-Comments-on-TBBA-Draft-Screening-Assessment-Report.pdf			X		X		X		X	
Trade Associations	http://www.ipc.org/committees/drafts/4-33_d_IPC-WP_TR-584A%20FD%20Proposed%20Techn%20Comm%20Reso%205-24-07.pdf	Listing of HBCD uses in circuit board printing processes	X			X		X		X	
Trade Associations	www.isri.org			X		X		X		X	
Trade Associations	www.issa.com			X		X		X		X	
Trade Associations	http://www.jpma.org/news/294609/Flame-Retardants-A-Guide-to-Current-State-Regulations.htm	List of banned uses by state	X			X		X		X	
Trade Associations	http://www.jpma.org/news/320867/Washington-State-Chemical-Update.htm	List of banned uses in Washington State	X			X		X		X	
Trade Associations	https://www.mema.org/state-issue-update-23	Industry comment on TSCA	X			X		X		X	
Trade Associations	https://www.mema.org/state-issue-update-23			X		X		X		X	
Trade Associations	https://www.mema.org/state-issue-update-24			X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	https://www.mema.org/state-issue-update			X		X		X		X	
Trade Associations	www.nasf.org			X		X		X		X	
Trade Associations	http://www.nema.org/Policy/Environmental-Stewardship/Documents/Evans%20Report.pdf			X		X		X		X	
Trade Associations	www.ngsa.org			X		X		X		X	
Trade Associations	www.nmpgroup.com			X		X		X		X	
Trade Associations	www.pei.org			X		X		X		X	
Trade Associations	www.personalcarecouncil.org			X		X		X		X	
Trade Associations	www.pmpa.org			X		X		X		X	
Trade Associations	www.powertoolinstitute.com			X		X		X		X	
Trade Associations	www.printing.org			X		X		X		X	
Trade Associations	https://www.pstc.org/files/public/Rose.pdf			X		X		X		X	
Trade Associations	http://www.roofcoatings.org/wp-content/uploads/2016/07/03-Lorraine-Ross-Intech.pdf			X		X		X		X	
Trade Associations	www.sema.org			X		X		X		X	
Trade Associations	www.sme.org			X		X		X		X	
Trade Associations	www.socma.com			X		X		X		X	
Trade Associations	www.steel.org			X		X		X		X	
Trade Associations	www.tcata.org			X		X		X		X	

Source	General Information about Result		Subject-Matter Tags								Notes
	URL	Annotation	Engineering		Fate		Exposure		Human Health		
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	
Trade Associations	www.trsa.org			X		X		X		X	
Trade Associations	www.vinylsiding.org			X		X		X		X	
Trade Associations	http://www.xpsa.com/health-and-safety.html			X		X		X		X	
Trade Associations	http://www.xpsa.com/pdf/XPSA-Statement-on-EPA's-Proposal-to-Add-HBCD-to-the-Toxic-Release-Inventory1.pdf			X		X		X		X	
Trade Associations	http://www.xpsa.com/pdf/XPSA_White_Paper_Final.pdf	Explains use in building insulation panels and MOE	X			X	X			X	
Trade Associations	http://www.xpsa.com/pdf/1404931473_XPSA_DIE_Press_Release_July_2014_FINAL.pdf			X		X		X		X	
Trade Associations	http://www.xpsa.com/pdf/XPSA_QA_on_HBCD_and_DIE_Report_Final.pdf			X		X		X		X	
Trade Associations	http://www.xpsa.com/pdf/11%20-%20PFS%20Industry%20Perspective%20on%20Sustainable%20and%20Environmental%20XPS.pdf	White paper on alternatives and state of the science	X		X		X			X	
Trade Associations	http://www.xpsa.com/pdf/XPSA-Statement-on-Flame-Retardant-Safety-and-Household-Dust1.pdf			X		X		X		X	
Trade Associations	http://www.xpsa.com/press.html			X		X		X		X	
Other items from ERG search to support lifecycle diagrams	Document in preparation	Protection Agency), Use and Market Profile for Hexabromocyclododecane	X			X		X		X	
OPPT Hazard Characterizations	https://olmpub.epa.gov/oppt/hpv_hc_characterization.get_report_by_cas?doctype=2	OPPT Hazard Characterizations		X		X		X		#N/A	#N/A
EHPV Program Submissions - Supporting Information	https://www.regulations.gov/docket?D=EPA-HQ-OPPT-2006-1020	EHPV Program Submissions - Supporting Information		X		X		X		#N/A	#N/A
OPPT Risk-Based Prioritizations	https://iaspub.epa.gov/oppt/hpv/existchem_hpv_prioritizations.report	OPPT Risk-Based Prioritizations		X		X		X		#N/A	#N/A
NIH LACTMED	https://toxnet.nlm.nih.gov/newtoxnet/lactmed.htm	NIH LACTMED		X		X		X		#N/A	#N/A