

# Hazardous Waste Generator Regulations Compendium

Volume 14: Hazardous Waste Generators and the Mixture Rule  
January 2022

U.S. Environmental Protection Agency  
Office of Resource Conservation and Recovery  
Materials Recovery and Waste Management Division

## Main Index

### Volume 14: Mixing Hazardous Waste

Introduction .....	3
Resource View.....	5
Resources by Document Category.....	6
Code of Federal Regulations (CFR) View Index.....	13
CFR View.....	14

This document includes the following sections:

- Resource View – outlines the document types by which resources are organized.
- Resources by Document Category – lists resources for each document category outlined in the *Resource View*.
- CFR View – provides relevant Code of Federal Regulations (CFR) language reformatted for easy reading.

These three main sections are cross-referenced, i.e., each section includes hyperlinks to the other sections. In addition, each section and its accompanying index include a hyperlink to the Main Index that allows the user to easily navigate from one section to another.

## Introduction

Return to: [Main Index](#)

### *About the Compendium*

The Hazardous Waste Generator Regulations Compendium serves as a user-friendly reference to assist regulators, industrial facilities generating and managing solid and hazardous wastes, and the general public in locating resources relevant to specific regulatory topics within the federal hazardous waste generator program.

The objective of this document is to consolidate and streamline the various resources on a topic into a user-friendly format, including references to relevant CFR language, Federal Register (FR) notices, documents posted on RCRA Online (i.e., guidance in the form of memoranda issued by EPA, Q&As, and other publications), and other resources, such as Frequent Questions webpages. The Compendium has been divided into multiple volumes that are available here: [www.epa.gov/hwgenerators/hazardous-waste-generator-regulations-compendium](http://www.epa.gov/hwgenerators/hazardous-waste-generator-regulations-compendium).

This document does not change any of the existing solid or hazardous waste requirements, nor does it offer an exhaustive list of relevant resources, as new resources may come into being or older ones may be relevant to a specific issue, but not included. Certain available resources, such as superseded RCRA Online documents, have not been referenced. Rather than including or reproducing referenced resources, this document generally provides hyperlinks to individual resources. As an exception, the Compendium does include relevant sections of the most current CFR regulatory language (as of the date on the cover of the Compendium). The included CFR language has been reformatted to make it easier to read, but it is not a substitute for the official CFR itself, or for the requirements in the CFR. The Government Printing Office frequently updates the e-CFR website; where appropriate, hyperlinks to the respective CFR section at the e-CFR website are provided.

Most states are authorized to administer their own RCRA Subtitle C hazardous waste program. Therefore, states may have their own set of regulations that apply in lieu of federal regulations. State regulations must be at least as stringent as the federal standards, but they can be more stringent. Please visit the following website to determine if the state regulatory program is different from the federal program: <https://www.epa.gov/hwgenerators/links-hazardous-waste-programs-and-us-state-environmental-agencies>, and check with your state agency.

### *About the Mixing Hazardous Waste Volume*

This volume of the Compendium lists resources pertaining to provisions about generators mixing hazardous waste and solid waste, including the mixture rule. These provisions are found at 40 CFR Part 261 and 262. This volume does not cover “mixed waste,” a term for mixtures of hazardous waste and radioactive waste. Information on mixed waste can be found at [EPA’s site about how mixed waste is regulated](#). For more information regarding other topics that apply to facilities generating hazardous waste, refer to other volumes of the Compendium and [EPA’s Hazardous Waste Generators Webpage](#).

Please note that the Hazardous Waste Generator Improvements rule of 2016 created new sections in Part 262, which contains the regulations pertaining to generators. Accordingly, some citations in the generator requirements in older resources in this Compendium are outdated, including

references to § 261.5, § 262.34, and others. Please see the preamble to the final Hazardous Waste Generator Improvements rule for a discussion of the reorganization of the regulations (81 FR 85735–85740, November 28, 2016). For a specific crosswalk of the regulation citation changes, refer to [www.epa.gov/hwgenerators/hazardous-waste-generator-regulations-crosswalk](http://www.epa.gov/hwgenerators/hazardous-waste-generator-regulations-crosswalk).

For more information on these regulations and any other questions or comments concerning this document, please contact EPA’s Office of Resource Conservation and Recovery:

Kathy Lett

[lett.kathy@epa.gov](mailto:lett.kathy@epa.gov)

Mary Beth Sheridan

[sheridan.marybeth@epa.gov](mailto:sheridan.marybeth@epa.gov)

U.S. Environmental Protection Agency  
Office of Resource Conservation and Recovery  
1200 Pennsylvania Avenue, N.W. (MC: 5304T)  
Washington, DC 20460

## Resource View

Return to: [Main Index](#)

### Mixing Hazardous Waste

Resource Index:

- **[Table 1: Policy Memos on Mixing Hazardous and Solid Waste](#)**
  - [EPA Memoranda](#)
  - [Questions and Answers \(Q&As\)](#)
  - [Publications](#)
- **[Table 2: Memos on the “Contained-In” Policy and Mixtures of Hazardous Waste and Non-Waste](#)**
  - [EPA Memoranda](#)
  - [Questions and Answers \(Q&As\)](#)
  - [EPA Training Modules](#)
- **[Table 3: Memos with Examples of Mixture Scenarios](#)**
  - [EPA Memoranda](#)
  - [Questions and Answers \(Q&As\)](#)
- **[Table 4: Federal Register Notices](#)**
  - [Federal Register Notices](#)

## Resources by Document Category

Return to: [Main Index Resource View](#)

**Table 1: Policy Memos on Mixing Hazardous and Solid Waste**

Document Category	RCRA Online/ Resource	Resource Title	Document Date	Keyword(s)	Notes
<b>Memoranda</b>	<a href="#">12012</a>	Railroad Ties as Hazardous Waste Under Mixture Rule, Small Quantity Generator	11/17/1980	Creosote; Commercial Chemical Products; Discard	
	<a href="#">11004</a>	Regulation of Rinsate from Triple Rinsing of Containers	11/18/1980	Chemical Product; Rinsate	
	<a href="#">12030</a>	Mixing Rule Definition	06/09/1981	Delisting Petitions; Listed Wastes; Characteristic Wastes	
	<a href="#">11035</a>	Run-Off From Active Portions of Hazardous Waste Management Units	04/10/1984	Precipitation Run-Off; Landfill Run-Off; Leachate	
	<a href="#">12332</a>	Leachate and Precipitation Run-off at LFs, Waste Piles, and LT Units, Hazardous Waste from Mixture of	11/14/1984	Precipitation Run-Off; Landfill Run-Off; Leachate	Further explanation of the contents of RO 11035 from 04/10/1984.
	<a href="#">11106</a>	Mixture of Characteristic Waste and Listed Waste, Ash from Incineration	10/07/1985	Listed Hazardous Waste; Combustion Residuals	
	<a href="#">11173</a>	Treatment of Hazardous Waste in Pipelines Leading to a Wastewater Treatment Plant	08/19/1986	Laboratory Wastewater; De Minimis; Characteristic Hazardous Waste; Treatment	
	<a href="#">11327</a>	Wastes Containing F001–F005 Constituents	02/22/1988	Hazardous Constituents; Land Disposal Restrictions (LDR); Hazardous Waste Characteristics	

Document Category	RCRA Online/ Resource	Resource Title	Document Date	Keyword(s)	Notes
	<a href="#">11339</a>	Electroplating Rinsewaters Not in F007-009 Listings	04/07/1988	F-Wastes; Rinsewaters; Cyanide Plating	
	<a href="#">11626</a>	Application of the "Mixture" Rule to Petroleum Refinery Wastewater Systems	07/05/1991	Wastewater Separation Sludges; F037; F038	
	<a href="#">11845</a>	Interpretation of the Mixture Rule Exemption as it Relates to Scrubber Water from the Incineration of Certain Solvents	06/10/1994	Mixture Rule Exemption; Headworks Exemption; Scrubber Water; Wastewater	
	<a href="#">14045</a>	Clarification of the "Mixture Rule," the "Contained-In" Policy, Land Disposal Restrictions (LDR) Issues, and "Point of Generation" for U096	02/27/1996	U-Wastes; Spills	
	<a href="#">14256</a>	Clarification of Mixture Rule for Oil and Gas Exploration and Production Wastes	09/25/1997	Bevill Wastes; Oil and Gas Exploration and Production (E&P) Wastes; Treatment	
	<a href="#">14391</a>	Sludges From Wastewater Mixtures	09/13/1999	Mixed Wastewaters; F006; Precursor Wastewaters; Listed Wastewaters	
	<a href="#">14579</a>	Clarification of the New Mixture and Derived-From Rules for F003	12/11/2001	F003; Ignitability; Land Disposal Restrictions (LDR)	
	<a href="#">14749</a>	LDR Requirements for F003 and D001 Wastes	06/27/2005	F003; D001; Ignitability; Land Disposal Restrictions (LDR); Hazardous Waste Numbers	

Document Category	RCRA Online/ Resource	Resource Title	Document Date	Keyword(s)	Notes
	<a href="#">14827</a>	Containers that Once Held P-Listed Pharmaceuticals	11/04/2011	Warfarin; Nicotine Products; Residues; Counting; Triple Rinsing	
	<a href="#">14836</a>	Clarification on the Dilution of Listed F003 Hazardous Waste	03/01/2013	F003; Ignitability; Dilution; Land Disposal Restrictions (LDR)	
	<a href="#">14883</a>	Memo on Fuel/Water Mixtures	11/01/2016	Benzene; Fuel Mixture; Commercial Chemical Product (CCP)	
<b>Q&amp;As</b>	<a href="#">12721</a>	Hazardous Wastes Listed Solely for Subpart C Characteristics	09/01/1986	Listed Hazardous Waste; Delisting	
	<a href="#">13097</a>	Mixture Rule – Discharges to Wastewater	12/01/1987	Solvents; Commercial Chemical Products (CCPs); Spills; De Minimis Losses	
	<a href="#">13419</a>	Mixture Exclusion	11/01/1990	Mixture Rule Exemption; Headworks Exemption; Sludges; Wastewater Treatment Facilities	
	<a href="#">14181</a>	De Minimis Wastewater Mixtures Sent Off Site	03/01/1998	Discarded Commercial Chemical Products (CCPs); Wastewater Exclusion; Transport Off Site	
	<a href="#">14334</a>	Pickling Bath Carryover and K062	01/01/1999	Steel Finishing; Pickling Liquor; Rinsewaters; Spent Materials	
	<a href="#">14633</a>	Mixture Rule Exclusion for Wastewater Containing Toxic Waste	09/01/2002	Wastewater; Characteristic Wastes; Laboratory Wastewater	
	<a href="#">14644</a>	Applicability of LDR to Bevill Mixtures	11/01/2002	Bevill Mixtures; Non-Excluded Wastes; Underlying Hazardous Constituents (UHCs); Land Disposal Restrictions (LDR); Treatment	



Document Category	RCRA Online/ Resource	Resource Title	Document Date	Keyword(s)	Notes
<b>Publications</b>	<a href="#">EPA530/K-01/004</a>	Exemption of Oil and Gas Exploration and Production Wastes from Federal Hazardous Waste Regulations	October 2002	Exemptions; Treatment; Caustic Soda	See pages 13–17. Document available at EPA’s <a href="#">National Service Center for Environmental Publications.</a>

**Table 2: Memos on the “Contained-In” Policy and Mixtures of Hazardous Waste and Non-Waste**

Return to: [Main Index](#) | [Resource View](#)

Document Category	RCRA Online/ Resource	Resource Title	Document Date	Keyword(s)	Notes
<b>Memoranda</b>	<a href="#">11125</a>	Mixture Rule Applied to Leaks, Spills, and Illegal Discharges of Listed Wastes to Surface Waters	01/23/1986	Sediment Contamination; Industrial Wastewater Discharges; Point Source Discharge	
	<a href="#">11195</a>	Groundwater Contaminated with Hazardous Waste Leachate	11/13/1986	Groundwater Contamination; Corrective Action	
	<a href="#">11455</a>	Dredge Sediments	08/11/1989	Dredged Sediments; Contaminated Sediments; Contained-In Policy; Clean Water Act (CWA)	
	<a href="#">11707</a>	Classification of F003 Wastes	11/04/1992	Xylene; Acetone; Contaminated Soil; Land Disposal Restrictions (LDR)	
	<a href="#">11387</a>	Regulatory Status of Personnel Protective Equipment	01/03/1998	Personal Protective Equipment (PPE); Treatment	
	<a href="#">14291</a>	Management of Remediation Waste Under RCRA	10/14/1998	Contained-In Policy; Land Disposal Restrictions (LDR); Treatment Standards; Debris	This memo does not address the mixture rule specifically, but is a good overview of the contained-in policy and related policy.
<b>Q&amp;As</b>	<a href="#">13373</a>	Groundwater “Contained In” Policy	05/01/1990	Groundwater; Storage Tanks; Legitimate Recycling	
<b>EPA Training Modules</b>	<a href="#">EPA530-K-05-012</a>	Introduction to Hazardous Waste Identification (40 CFR Part 261)	09/01/2005	Mixture Rule; Derived-From Rule; Contained-In Policy	See Section 2.6 for the mixture rule and Section 2.7 for the contained-in policy.

**Table 3: Memos with Examples of Mixture Scenarios**

Return to: [Main Index](#) | [Resource View](#)

Document Category	RCRA Online/ Resource	Resource Title	Document Date	Notes
<b>Memoranda</b>	<a href="#">12126</a>	Mixing of Methanol as Non-Hazardous Waste	07/12/1983	
	<a href="#">11140</a>	Mixture of Methanol and Solid Waste Which Does Not Exhibit Any Characteristics	03/21/1986	
	<a href="#">11146</a>	Carbon Regeneration Facility, Mixture of Solid and Hazardous Waste (Calgon)	04/23/1986	
	<a href="#">11198</a>	Regulatory Status of Electroplating Rinsewater Containing Cyanides	11/24/1986	
	<a href="#">11213</a>	Mixtures of Solid and Hazardous Wastes	01/27/1987	
	<a href="#">11220</a>	Process Wastes Containing Inks, Paints, and Adhesives	02/19/1987	
	<a href="#">11269</a>	F009 Listing and the Mixture Rule to Electroplating Rinsewaters and Resins; Electroplating Rinsewaters	07/28/1987	
	<a href="#">11283</a>	Caustic Rinsing Metal Parts	08/07/1987	
	<a href="#">11320</a>	Waste Generated by an Incinerator Trial Burn of Sand Spiked With Trichlorobenzene and Hexachloroethane	01/14/1988	
	<a href="#">11447</a>	Acetone and Methanol Contaminated Washwaters	07/21/1989	
	<a href="#">11619</a>	Position Paper on Spent Absorbent Materials	06/21/1991	
	<a href="#">13570</a>	Regulatory Requirements Pertaining to the Management of Waste Solvents and Used Oil	10/28/1992	Memo came out before the part 279 Used Oil Standards were promulgated.
<b>Q&amp;As</b>	<a href="#">12849</a>	F006 Electroplating Wastewater Treatment Sludge	02/01/1987	

**Table 4: Federal Register Notices**

Return to: [Main Index](#) | [Resource View](#)

Document Category	RCRA Online/ Resource	Resource Title	Document Date	Keyword(s)	Notes
<b>Federal Register Notices</b>	<a href="#">54 FR 36592</a>	Mining Waste Exclusion Final Rule	09/01/1989	Bevill Exclusion; Mixtures	See pages 36622–36623 of the preamble.
	<a href="#">57 FR 7628</a>	Hazardous Waste Management System; Definition of Hazardous Waste; “Mixture” and “Derived-Form” Interim Final Rule	03/03/1992	Mixture Rule; Hazardous Waste	
	<a href="#">63 FR 28556</a>	Land Disposal Restrictions Phase IV Final Rule	05/26/1998	Bevill Exclusion; Mixtures	See pages 28596–28597 of the preamble.
	<a href="#">66 FR 27266</a>	Hazardous Waste Identification Rule (HWIR): Revisions to the Mixture and Derived-From Final Rule	05/16/2001	Mixture Rule; Hazardous Waste	Contains a useful legal history of these rules.
	<a href="#">81 FR 85732</a>	Hazardous Waste Generator Improvements Rule	11/28/2016	Mixture Rule; Hazardous Waste	See pages 85756–85757 of the preamble.

## CFR View Index

Return to: [Main Index](#)

CFR Location	Title/Topic
<a href="#">261.3</a>	Definition of Hazardous Waste
<a href="#">262.13(f)</a>	Mixing Hazardous Wastes with Solid Wastes

## CFR View

Return to: [Main Index](#)

**NOTE: The CFR language may have been excerpted, reformatted and appended with subheadings and explanations/terms in brackets.**

### § 261.3 Definition of Hazardous Waste

[View Resources](#) | Go to [e-CFR](#) | Return to: [CFR Index](#) | [Resource View](#) | [Main Index](#)

(a) A solid waste, as defined in § 261.2, is a hazardous waste if:

(1) It is not excluded from regulation as a hazardous waste under § 261.4(b); and

(2) It meets any of the following criteria:

(i) It exhibits any of the characteristics of hazardous waste identified in subpart C of this part. However, any mixture of a waste from the extraction, beneficiation, and processing of ores and minerals excluded under § 261.4(b)(7) and any other solid waste exhibiting a characteristic of hazardous waste under subpart C is a hazardous waste only if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if such mixture had not occurred, or if it continues to exhibit any of the characteristics exhibited by the non-excluded wastes prior to mixture. Further, for the purposes of applying the Toxicity Characteristic to such mixtures, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in table 1 to § 261.24 that would not have been exceeded by the excluded waste alone if the mixture had not occurred or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture.

(ii) It is listed in subpart D of this part and has not been excluded from the lists in subpart D of this part under §§ 260.20 and 260.22 of this chapter.

(iii) [Reserved]

(iv) It is a mixture of solid waste and one or more hazardous wastes listed in subpart D of this part and has not been excluded from paragraph (a)(2) of this section under §§ 260.20 and 260.22, paragraph (g) of this section, or paragraph (h) of this section; however, the following mixtures of solid wastes and hazardous wastes listed in subpart D of this part are not hazardous wastes (except by application of paragraph (a)(2)(i) or (ii) of this section) if the generator can demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under either section 402 or section 307(b) of the Clean Water Act (including wastewater at facilities which have eliminated the discharge of wastewater) and;

(A) One or more of the following spent solvents listed in § 261.31—benzene, carbon tetrachloride, tetrachloroethylene, trichloroethylene or the scrubber waters derived-from the combustion of these spent solvents—*Provided*, That the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 1 part per million, OR the total measured concentration of these solvents entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act, as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed 1 part per million on an average weekly basis. Any facility that uses benzene as a solvent and claims this exemption must use an aerated biological wastewater treatment system and must use only lined surface impoundments or tanks prior to secondary clarification in the wastewater treatment system. Facilities that choose to measure concentration levels must file a copy of their sampling and analysis plan with the Regional Administrator, or State Director, as the context requires, or an authorized representative (“Director” as defined in 40 CFR 270.2). A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Director. The Director may reject the sampling and analysis plan if he/she finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Director rejects the sampling and analysis plan or if the Director finds that the facility is not following the sampling and analysis plan, the Director shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

(B) One or more of the following spent solvents listed in § 261.31-methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents, 2-ethoxyethanol, or the scrubber waters derived-from the combustion of these spent solvents—*Provided* That the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million, OR the total measured concentration of these solvents entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes

fugitive emissions), does not exceed 25 parts per million on an average weekly basis. Facilities that choose to measure concentration levels must file a copy of their sampling and analysis plan with the Regional Administrator, or State Director, as the context requires, or an authorized representative (“Director” as defined in 40 CFR 270.2). A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Director. The Director may reject the sampling and analysis plan if he/she finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Director rejects the sampling and analysis plan or if the Director finds that the facility is not following the sampling and analysis plan, the Director shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

(C) One of the following wastes listed in § 261.32, provided that the wastes are discharged to the refinery oil recovery sewer before primary oil/water/solids separation—heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K050), crude oil storage tank sediment from petroleum refining operations (EPA Hazardous Waste No. K169), clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations (EPA Hazardous Waste No. K170), spent hydrotreating catalyst (EPA Hazardous Waste No. K171), and spent hydrorefining catalyst (EPA Hazardous Waste No. K172); or

(D) A discarded hazardous waste, commercial chemical product, or chemical intermediate listed in §§ 261.31 through 261.33, arising from *de minimis* losses of these materials. For purposes of this paragraph (a)(2)(iv)(D), *de minimis* losses are inadvertent releases to a wastewater treatment system, including those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing. Any manufacturing facility that claims an exemption for *de minimis* quantities of wastes listed in §§ 261.31 through 261.32, or any nonmanufacturing facility that claims an exemption for *de minimis* quantities of wastes listed in subpart D of this part must either have eliminated the discharge of wastewaters or have included in its Clean Water Act permit application or submission to its pretreatment control authority the constituents for which each waste was listed (in 40 CFR 261 appendix VII) of this



part; and the constituents in the table “Treatment Standards for Hazardous Wastes” in 40 CFR 268.40 for which each waste has a treatment standard (*i.e.*, Land Disposal Restriction constituents). A facility is eligible to claim the exemption once the permit writer or control authority has been notified of possible *de minimis* releases via the Clean Water Act permit application or the pretreatment control authority submission. A copy of the Clean Water permit application or the submission to the pretreatment control authority must be placed in the facility's on-site files; or

(E) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in subpart D of this part, Provided, That the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pre-treatment system or provided the wastes, combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pre-treatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation; or

(F) One or more of the following wastes listed in § 261.32—wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157)—*Provided* that the maximum weekly usage of formaldehyde, methyl chloride, methylene chloride, and triethylamine (including all amounts that cannot be demonstrated to be reacted in the process, destroyed through treatment, or is recovered, *i.e.*, what is discharged or volatilized) divided by the average weekly flow of process wastewater prior to any dilution into the headworks of the facility's wastewater treatment system does not exceed a total of 5 parts per million by weight OR the total measured concentration of these chemicals entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed 5 parts per million on an average weekly basis. Facilities that choose to measure concentration levels must file copy of their sampling and analysis plan with the Regional Administrator, or State Director, as the context requires, or an authorized representative (“Director” as defined in 40 CFR 270.2). A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Director. The Director may reject the sampling and analysis plan if he/she finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Director rejects the sampling and analysis plan or if the Director finds that the facility is not following the sampling and analysis plan, the Director shall notify the facility

to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

(G) Wastewaters derived from the treatment of one or more of the following wastes listed in § 261.32—organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156).—*Provided*, that the maximum concentration of formaldehyde, methyl chloride, methylene chloride, and triethylamine prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 milligrams per liter OR the total measured concentration of these chemicals entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed 5 milligrams per liter on an average weekly basis. Facilities that choose to measure concentration levels must file copy of their sampling and analysis plan with the Regional Administrator, or State Director, as the context requires, or an authorized representative (“Director” as defined in 40 CFR 270.2). A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Director. The Director may reject the sampling and analysis plan if he/she finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Director rejects the sampling and analysis plan or if the Director finds that the facility is not following the sampling and analysis plan, the Director shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected.

(v) *Rebuttable presumption for used oil.* Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subpart D of part 261 of this chapter. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in appendix VIII of part 261 of this chapter).

(A) The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins, if they are processed, through a tolling agreement, to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed.

(B) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(b) A solid waste which is not excluded from regulation under paragraph (a)(1) of this section becomes a hazardous waste when any of the following events occur:

(1) In the case of a waste listed in subpart D of this part, when the waste first meets the listing description set forth in subpart D of this part.

(2) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in subpart D is first added to the solid waste.

(3) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in subpart C of this part.

(c) Unless and until it meets the criteria of paragraph (d) of this section:

(1) A hazardous waste will remain a hazardous waste.

(2)(i) Except as otherwise provided in paragraph (c)(2)(ii), (g) or (h) of this section, any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)

(ii) The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste:

(A) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC Codes 331 and 332).

(B) Waste from burning any of the materials exempted from regulation by § 261.6(a)(3)(iii) and (iv).

(C)(1) Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of K061, K062 or F006 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth furnace/electric furnace combinations or industrial furnaces (as defined in paragraphs (6), (7), and (13) of the definition for "Industrial furnace" in 40 CFR 260.10), that are disposed in subtitle D units, provided that these residues meet the

generic exclusion levels identified in the tables in this paragraph for all constituents, and exhibit no characteristics of hazardous waste. Testing requirements must be incorporated in a facility's waste analysis plan or a generator's self-implementing waste analysis plan; at a minimum, composite samples of residues must be collected and analyzed quarterly and/or when the process or operation generating the waste changes. Persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements.

Constituent	Maximum for any single composite sample—TCLP (mg/l)
Generic exclusion levels for K061 and K062 nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70
Generic exclusion levels for F006 nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Cyanide (total) (mg/kg)	1.8
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70

(2) A one-time notification and certification must be placed in the facility's files and sent to the EPA region or authorized state for K061, K062 or F006 HTMR residues that meet the generic exclusion levels for all constituents and do not exhibit any characteristics that are sent to subtitle D units. The notification and certification that is placed in the generators or treaters files must be updated if the process or operation generating the waste changes and/or if the subtitle D unit receiving the waste changes. However, the generator or treater need only notify the EPA region or an authorized state on an annual basis if such changes occur. Such notification and certification should be sent to the EPA region or authorized state by the end of the calendar year, but no later than December 31. The notification must include the following information: The name and address of the subtitle D unit receiving the waste shipments; the EPA Hazardous Waste Number(s) and treatability group(s) at the initial point of generation; and, the treatment standards applicable to the waste at the initial point of generation. The certification must be signed by an authorized representative and must state as follows: "I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characteristic of hazardous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

(D) Biological treatment sludge from the treatment of one of the following wastes listed in § 261.32—organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156), and wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157).

(E) Catalyst inert support media separated from one of the following wastes listed in § 261.32—Spent hydrotreating catalyst (EPA Hazardous Waste No. K171), and Spent hydrorefining catalyst (EPA Hazardous Waste No. K172).

(d) Any solid waste described in paragraph (c) of this section is not a hazardous waste if it meets the following criteria:

(1) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in subpart C of this part. (However, wastes that exhibit a characteristic at the point of generation may still be subject to the requirements of part 268, even if they no longer exhibit a characteristic at the point of land disposal.)

(2) In the case of a waste which is a listed waste under subpart D of this part, contains a waste listed under subpart D of this part or is derived from a waste listed in subpart D of this part, it also has been excluded from paragraph (c) of this section under §§ 260.20 and 260.22 of this chapter.

(e) [Reserved]

(f) Notwithstanding paragraphs (a) through (d) of this section and provided the debris as defined in part 268 of this chapter does not exhibit a characteristic identified at subpart C of this part, the following materials are not subject to regulation under 40 CFR parts 260, 261 to 266, 268, or 270:

(1) Hazardous debris as defined in part 268 of this chapter that has been treated using one of the required extraction or destruction technologies specified in Table 1 of § 268.45 of this chapter; persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements; or

(2) Debris as defined in part 268 of this chapter that the Regional Administrator, considering the extent of contamination, has determined is no longer contaminated with hazardous waste.

(g)(1) A hazardous waste that is listed in subpart D of this part solely because it exhibits one or more characteristics of ignitability as defined under § 261.21, corrosivity as defined under § 261.22, or reactivity as defined under § 261.23 is not a hazardous waste, if the waste no longer exhibits any characteristic of hazardous waste identified in subpart C of this part.

(2) The exclusion described in paragraph (g)(1) of this section also pertains to:

(i) Any mixture of a solid waste and a hazardous waste listed in subpart D of this part solely because it exhibits the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (a)(2)(iv) of this section; and

(ii) Any solid waste generated from treating, storing, or disposing of a hazardous waste listed in subpart D of this part solely because it exhibits the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (c)(2)(i) of this section.

(3) Wastes excluded under this section are subject to part 268 of this chapter (as applicable), even if they no longer exhibit a characteristic at the point of land disposal.

(4) Any mixture of a solid waste excluded from regulation under § 261.4(b)(7) and a hazardous waste listed in subpart D of this part solely because it exhibits one or more of the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (a)(2)(iv) of this section is not a hazardous waste, if the mixture no longer exhibits any characteristic of hazardous waste identified in subpart C of this part for which the hazardous waste listed in subpart D of this part was listed.

(h)(1) Hazardous waste containing radioactive waste is no longer a hazardous waste when it meets the eligibility criteria and conditions of 40 CFR part 266, Subpart N (“eligible radioactive mixed waste”).

(2) The exemption described in paragraph (h)(1) of this section also pertains to:

(i) Any mixture of a solid waste and an eligible radioactive mixed waste; and

(ii) Any solid waste generated from treating, storing, or disposing of an eligible radioactive mixed waste.

(3) Waste exempted under this section must meet the eligibility criteria and specified conditions in 40 CFR 266.225 and 40 CFR 266.230 (for storage and treatment) and in 40 CFR 266.310 and 40 CFR 266.315 (for transportation and disposal). Waste that fails to satisfy these eligibility criteria and conditions is regulated as hazardous waste.

### § 262.13(f) Generator Category Determinations

[View Resources](#) | Go to [e-CFR](#) | Return to: [CFR Index](#) | [Resource View](#) | [Main Index](#)

A generator must determine its generator category. A generator's category is based on the amount of hazardous waste generated each month and may change from month to month. This section sets forth procedures to determine whether a generator is a very small quantity generator, a small quantity generator, or a large quantity generator for a particular month, as defined in § 260.10 of this chapter.

(f) Mixing hazardous wastes with solid wastes—

(1) Very small quantity generator wastes.

(i) Hazardous wastes generated by a very small quantity generator may be mixed with solid wastes. Very small quantity generators may mix a portion or all of its hazardous waste with solid waste and remain subject to § 262.14 even though the resultant mixture exceeds the quantity limits identified in the definition of very small quantity generator at § 260.10 of this chapter, unless the mixture exhibits one or more of the characteristics of hazardous waste identified in part 261 subpart C of this chapter.

(ii) If the resulting mixture exhibits a characteristic of hazardous waste, this resultant mixture is a newly-generated hazardous waste. The very small quantity generator must count both the resultant mixture amount plus the other hazardous waste generated in the calendar month to determine whether the total quantity exceeds the very small quantity generator calendar month quantity limits identified in the definition of generator categories found in § 260.10 of this chapter. If so, to remain exempt from the permitting, interim status, and operating standards, the very small quantity generator must meet the conditions for exemption applicable to either a small quantity generator or a large quantity generator. The very small quantity generator must also comply with the applicable independent requirements for either a small quantity generator or a large quantity generator.



(iii) If a very small quantity generator's wastes are mixed with used oil, the mixture is subject to 40 CFR part 279. Any material produced from such a mixture by processing, blending, or other treatment is also regulated under 40 CFR part 279.

(2) Small quantity generator and large quantity generator wastes.

(i) Hazardous wastes generated by a small quantity generator or large quantity generator may be mixed with solid waste. These mixtures are subject to the following: the mixture rule in §§ 261.3(a)(2)(iv), (b)(2) and (3), and (g)(2)(i); the prohibition of dilution rule at § 268.3(a); the land disposal restriction requirements of § 268.40 if a characteristic hazardous waste is mixed with a solid waste so that it no longer exhibits the hazardous characteristic; and the hazardous waste determination requirement at § 262.11.

(ii) If the resulting mixture is found to be a hazardous waste, this resultant mixture is a newly-generated hazardous waste. A small quantity generator must count both the resultant mixture amount plus the other hazardous waste generated in the calendar month to determine whether the total quantity exceeds the small quantity generator calendar monthly quantity limits identified in the definition of generator categories found in § 260.10 of this chapter. If so, to remain exempt from the permitting, interim status, and operating standards, the small quantity generator must meet the conditions for exemption applicable to a large quantity generator. The small quantity generator must also comply with the applicable independent requirements for a large quantity generator.