Appendix B: Written Comments Submitted by Small Entity Representatives

Appendix B1: Written Comments from Potential Small Entity Representatives following the March 17, 2016 Pre-Panel outreach meeting/teleconference

Comments received from:

1. Benco Sales, Inc., Benny Bixenman
2. Fargo Painting, Donny Fargo
3. Savogran Company, Mark Monique
4. Tub Klass, Kris Estrada
5. W.M. Barr & Company, Inc., Lisa M. Sloan

1. Benco Sales, Inc., Benny Bixenman

Comments on the SER pre-panel discussion.

Methylene chloride is an essential ingredient for the furniture refinishing industry and other industries that use high performance coatings. Methylene chloride strippers are effective on older coatings like lacquers, shellac, and varnishes. Methylene chloride strippers also work well on newer cross-linked coatings like conversion finishes, UV finishes, epoxies, polyurethanes, and conversion lacquers. As coating technology improves, methylene chloride strippers offer the only effective product for finish removal which is needed to extend the life of coated materials and aid in recycling and reuse. Alternative products have little or no affect on newer coatings. Many alternative products have workplace hazards and environmental hazards, such as flammability and high VOC levels, that are not present in methylene chloride strippers. ATM (acetone, toluene, methanol) strippers are effective on older coatings, and not effective on cross linked coatings. They also are highly flammable. Non-chemical stripping is not appropriate for furniture because finish removal under the surface is necessary for aesthetic purposes and new finish integrity.

In the furniture refinishing industry, equipment is readily available to comply with OSHA exposure limits. Most furniture refinishers consolidate their stripping jobs, and operate only a few hours on one or two days a week. Because of the volatility of methylene chloride, reducing workplace exposure levels to 1% of current levels is not practical. There are approximately 5,000 furniture refinishers and many more employees affected by the proposed regulation. Industries compliant with the OSHA methylene chloride regulation are not encountering the chronic health effects calculated by this EPA regulation.

The cost estimates were not correct in the EPA assessment. Methylene chloride can be purchased in bulk quantities for about $2.00 - $3.00 per gallon. Benzyl alcohol in bulk is about $20.00 per gallon. While methylene chloride is more volatile, the quantity of a benzyl alcohol stripper necessary for a job is often higher because of the lack of stripping effectiveness. Hazardous waste generation would increase with non-methylene chloride strippers.
ATM strippers cost about the same as methylene chloride. However, the real hazard of extreme flammability and similar volatility is more likely to cause injury and/or death.

The Margin of Exposure method is easily disputed by long term epidemiology studies of worker populations exposed to methylene chloride for many years at exposure levels much higher than the current OSHA PEL. Well documented studies by Eastman Kodak and Celanese would show the health effects anticipated by the EPA Risk Calculations if the data extrapolation was correct. Such previous studies do not support the EPA Risk Calculations.

The Inhalation Unit Risk calculations were commented as being derived from data extrapolating cancer risk from animal data. PB-PK research data from 1992 and 1995 confirm that the metabolic pathway of methylene chloride in humans differs from the metabolic pathway in mice and rats, and that metabolized cancer-causing precursors are not evident in humans. It was commented that the extremely low proposed exposure level in the proposed regulation was made to reduce cancer deaths, and that this data was from extrapolation from animal studies. The long term epidemiology studies also do not support an increase in cancer deaths from exposure to methylene chloride.

1. Benco Sales, Inc., Benny Bixenman

The issue of acute overexposure can be reduced by improved labelling. We support enhanced labeling to reduce the possibility of acute exposure. The estimates for chronic exposure do not reliably exhibit data that reflect human studies and long term epidemiology studies.

Benny Bixenman
Benco Sales, Inc.

The response represents both Besway and Benco, and can be independently recorded that Mark Faulkner of Besway endorses Benny Bixenman's words.
Let me know if you have any questions.
Valeri Lennon
General Manager
Benco Sales, Inc.
931.484.9578
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March 30, 2016

EPA SBAR Panel
Small Business Entity
Feedback

Hi Niva,

Thank you for the consideration of our opinions and input. If I can help in any way just let me know. Here are a few thoughts I think that may be valid in regards to Methylene Chloride and NMP;

1. I truly believe that these substances should not be available to the general public by any size or quantity. Homeowners can sometimes barely be effective in handling standard house paints without making a mess. This speaks to itself.

2. There are conditions that exist, such as stripping a hand-carved front door, expensive cabinets or antique furniture that require a gel/liquid stripper. Other means of finish elimination do not work due to wood profile damage. Selling these components only in a 55 gallon drum will destroy this sector of the industry.

3. All states handle paint contractor licensing in separate fashion (some not at all). I do believe that if a paint contractor was to be required to hold a federal license in order to obtain products containing the elements in question this could allow this small segment of the industry to still operate. Products should only be vended through actual paint stores and not Home Depot and the likes. Having the licensing process annually be somewhat costly ($400-$500) could possibly keep the average homeowner at bay.

Sincerely,

Donny Fargo

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Licensed, Bonded & Insured - Residential License #163309 Commercial License #245086

From: Mark Monique [mailto:mmonique@savogran.com]
Sent: Tuesday, March 22, 2016 12:06 PM
To: Jutras, Nathaniel <Jutras.Nathaniel@epa.gov>
Subject: SER Pre-panel Comments

Following are my comments on the information presented during the SER pre-panel discussion.

There was little information presented concerning the retail paint remover market and the impact on the formulators most of which are small businesses.

The retail market is dominated by paint removers containing methylene chloride. The products are available in pint, quart and gallon size containers. A smaller fraction of the space consists of removers formulated with n-methyl-2-pyrrolidone as an ingredient. The NMP products are sold in quart and ½ gallon sizes. Gallon sizes are not offered due to a high retail price driven by raw material costs. Products formulated solely with benzyl alcohol as the principal ingredient have a negligible retail presence.

Of all the major retail outlets, I am only aware of one that sells a product with benzyl alcohol as the primary ingredient. The product is available only in a gallon size. The retail price is $65.29 per gallon. At the same retailer the nonflammable methylene chloride product retails for $32.79 per gallon. The benzyl alcohol product is almost double in price due to the high cost of the raw materials.

The dominance of the methylene chloride products is attributed to their utilitarian ability to remove all types of coatings from a variety of substrates effectively at a reasonable cost. As was acknowledged with the commercial refinishing shops, there is no solvent as effective as methylene chloride for the removal of paint.

The vast majority of consumers might only conduct a refinishing project once every ten or twenty years using less than a gallon of product. I did not hear any data estimating the risk to the consumer. I believe there was an acknowledgement that there is no chronic hazard to the consumer. The risk of concern appears to be acute overexposure.

EPA appeared to dismiss enhanced labeling as a regulatory option. The formulating community favors enhanced labeling to prevent the products from being used in enclosed spaces. Indeed, the industry supports a label that expressly cautions against use of methylene chloride to strip bathtubs, with accompanying graphics. I would like to know the data the Agency is relying upon to conclude that such enhanced labeling would not be effective?

I was surprised to see the 0.20 ppm AEL presented considering the rigorous process followed by the Occupational Safety & Health Administration (OSHA) in adopting a workplace standard for methylene chloride, including a 25ppm permissible exposure limit (PEL). On what basis would EPA propose an alternative workplace limit over 100 times lower when OSHA has already determined that 25 ppm addresses any significant risk. Moreover, EPA is not authorized by law to regulate the workplace.

I did not hear any discussion concerning the 50% VOC limit in California and the OTC states for paint remover. Methylene chloride is a critical VOC exempt ingredient used by formulators for compliance.

I was interested to hear the agency is considering limiting the sale of methylene chloride paint remover to solely 55 gallon drums. Most of our commercial refinishing business is conducted in five gallon pails for two reasons. The first is the 55 gallon drum is extremely heavy weighing over 600 pounds making it difficult to handle. Second, most of the shops aren't terribly well financed and purchase material as work presents itself. Perhaps most significantly for EPA, a limitation to 55 gallon drums would not prevent methylene chloride paint remover from reaching the bathtub refinishing trade. All that would be accomplished is market disruption, without achieving the intended purpose.

I heard one commenter proposing licensing as a solution. My reaction was that this is an entrepreneur seizing an opportunity to control a market for commercial gain.

3. Savogran Company, Mark Monique

The steps being considered by EPA would eliminate the majority of retail paint removers creating a significant financial burden on the small business formulating community. We strongly support sensible measures to keep these products from the bath tub refinishing trade, focused on increased awareness on the safe use of the products. The sensible solution going forward is enhanced labeling.

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Manufacturing paint remover, solvents, cleaning and patching compounds since 1875.

4. Tub Klass, Kris Estrada

From: Tub Klass [mailto:tubklass@gmail.com]
Sent: Monday, April 04, 2016 5:05 PM
To: Jutras, Nathaniel <Jutras.Nathaniel@epa.gov>
Subject: Re: Additional Time to Provide Comments on Pre-Panel Materials for EPA's rulemaking under the Toxics Substances Control Act (TSCA) Section 6(a) for Methylene Chloride and N-Methylpyrrolidone in Paint and Coating Removers

Jutras Nathaniel,

My name is Kris Estrada from TUB KLASS I was one of the Bathtub Refinishers that sat with you on the 17th of March. I took it upon myself to contact a chemist and inform him of the pending rule change regarding M/C and NMP. We were able to come up with a prototype stripper that does not have either of these products and still performs quite quickly. I would like to present this to you for further evaluation as a preferred alternative for bathtub refinishers who have to strip and hopefully remove the danger from the industry. I am still testing and will have more info regarding this new product shortly..

Thank you,
Kris Estrada
Tub Klass
973-928-2033

06 Apr 2016

SER Response from W. M. Barr & Co.

Re: Methylene Chloride and n-Methylpyrrolidone (NMP) in Paint Removers

Attn: SBAR

I was not able to participate in the pre-panel outreach call and can only respond to the documents and information forwarded to me via email. The largest share of our paint remover products enter the market through home improvement channels for consumer use however professionals in the home improvement, industrial, automotive and marine industry purchase our products as well. Barr has many paint removers in the market that are formulated both with and without methylene chloride or NMP in a variety of sizes in the capacity of nationwide presence servicing the primary retail outlets. While we are happy to provide paint removers without methylene chloride or NMP, these products are not acceptable to consumers for all applications.

With a large portion of our business residing in the methylene chloride paint remover category, we are very close to the pulse of what is actually trending in this industry as well as how and where our products are used. Based on the information contained in the rulemaking deck, I feel that the information used by the EPA is too far removed from the market, OSHA requirements, and lacking scientific facts to form an adequate opinion regarding the safety and efficacy of methylene chloride paint removers versus available substitutes.

The suggested alternatives pose as many hazards as methylene chloride. The chronic and acute hazards specific to methylene chloride are preventable by the use of the same PPE that is required for all of the alternatives. For example, the inhalation of respirable crystalline silica dust, which is a byproduct of mechanical paint removal, causes more deaths annually by silicosis and also causes lung cancer and chronic obstructive pulmonary disease. The recorded deaths attributed to silicosis contracted in the work place is 1,000 times the events recorded from methylene chloride paint removers, so it begs the question are these methods viable safe alternatives as suggested by the EPA? Chemical alternatives mentioned in the ruling pose as many chronic health hazards as methylene chloride and have physical hazards not characteristic of methylene chloride. The physical hazard, flammability, is an increased risk not only to the person using the product but others nearby and the environment. One should also consider the duration of exposure to the agents. Barr has performed lab tests to compare efficacy of our formulas, competitor formulas, individual ingredients and alternative formulations. Toluene, acetone, methanol

and benzyl alcohol will not remove alkyd or epoxy paints in less than four hours and in some cases not at all, while methylene chloride removed both substrates within five minutes on painted surfaces and 15 minutes for cured coatings. The extended time required to remove paint with these agents as well as the additional applications of the alternative chemical removers necessary for efficacy increases personal exposure, especially for workforce which appears to be the EPA's main concern. We invited the EPA to attend a live demonstration comparing the efficacy of the paint removers tested in our lab, which included all of the currently proposed alternatives, for the DTSC in August of 2015 but no one was available to attend. Of course, we would be willing to repeat the demonstration for the EPA.

I understand that one potential option the EPA is considering to mitigate risk, is to limit the sale of methylene chloride paint removers to 55 gallon drums. Limiting methylene chloride paint removers to a 55 gallon drum is counterproductive to the objective of reducing of the risk of over exposure. An additional hazard created by this suggestion would be the transference of the product into secondary containers by the end user. While there are OSHA regulations addressing the transference and use of hazardous materials in a secondary container, this activity would undoubtedly add an additional risk to the worker. There are certainly many more potential risks this option has the opportunity to create that have not been considered by the EPA, but would be more adequately addressed by OSHA if the safety of workforce is the primary objective.

The industry research included in the deck does not match what has been observed by our sales force who are entrenched in these markets. For example, methylene chloride paint removers are used by about 50% of the automotive market both OEM and aftermarket. The armed forces, who use larger amounts of paint remover for both marine and aircraft, weren't considered in the rulemaking. The EPA claims that benzyl alcohol is a frequent substitute used by professionals. I challenge this conclusion with the fact that benzyl alcohol will not remove cured paint found on automobiles, aircraft and marine craft. It is not used as a substitute by the professionals we service. Again, we offer to perform a hands on demonstration for the EPA. The EPA's industry research labeled the sale of methylene chloride as a drastically declining market. We believe this is erroneous. As a major player in this market and supplier of the primary retail outlets, our sales have held relatively steady for methylene chloride paint removers.

There will be unintended consequences of action with the prohibition of methylene chloride paint removers via hazards associated with the alternatives. Banning methylene chloride paint removers will have a significant negative impact on work groups such as painters, refinishers and body shop employees due to exposure to greater/worse hazards from the alternatives they will be forced to use. Complete risk assessments of the

alternatives have not been performed. According to the information provided in the EPA deck, the adverse events associated with the use of methylene chloride paint removers occur exclusively in the work place and is limited to one specific application performed by 1,300 workers. The data presented by the EPA is not founded in solid research and user based understanding. The interpretive data has been positioned to support one view and can easily be used on contrast to this view. Instead of true data containing numbers and real statistics, the rulemaking is peppered with 'suspected' events, vague quantifications of 'many' and 'some' and prolific generalizations. The same arguments may be made for NMP based paint removers which are second in performance to methylene chloride paint removers and also exhibit low volatility and flammability.

In sum, Barr submits that the EPA needs to engage seriously in problem formulation. If the problem sought to be addressed is the avoidance of fatalities associated with use of methylene chloride to refinish bathtubs, there are specific steps that would be supported by the industry (e.g., labeling to specify that the products should not be used to strip bathtubs) that would be much more effective than the very disruptive approach of prohibiting sales in containers smaller than 55 gallon drums or usurping the authority of OSHA to set workplace limits.

Sincerely,

Lisa M. Sloan
Director, Product Compliance
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Appendix B: Written Comments Submitted by Small Entity Representatives

Appendix B2: Written Comments from Small Entity Representatives from the June 15, 2016 Panel Meeting

Comments received from:

1. Benco Sales, Inc., Benny Bixenman
2. Cyphers & Kallander Refinishers, John Moran
3. Dumond Chemicals, Inc., Erik Gertsen
4. Fargo Painting, Donny Fargo
5. Green Products Co., Guy Woods
6. Painting & Decorating Contractors of America (PDCA), Mark Casale
7. Restorations Unlimited, William Shotwell
8. Savogran Company, Mark Monique
9. W.M. Barr & Company, Inc., Lisa M. Sloan
10. Confidential Business Information comment from 1 company

1. Benco Sales, Inc., Benny Bixenman

Methylene chloride is an essential ingredient for the furniture refinishing industry and other industries that use high performance coatings. Methylene chloride strippers are effective on older coatings like lacquers, shellac, and varnishes. Methylene chloride strippers also work well on newer cross-linked coatings like conversion finishes, UV finishes, epoxies, polyurethanes, and conversion lacquers. As coating technology improves, methylene chloride strippers offer the only effective product for finish removal which is needed to extend the life of coated materials and aid in recycling and reuse. Alternative products have little or no effect on newer coatings. Many alternative products have workplace hazards and environmental hazards, such as flammability and high VOC levels, that are not present in methylene chloride strippers. ATM (acetone, toluene, methanol) strippers are effective on older coatings, and not effective on cross linked coatings. They also are highly flammable. Non-chemical stripping is not appropriate for furniture because finish removal under the surface is necessary for aesthetic purposes and new finish integrity.

The conversation during the panel discussion seemed to indicate that the reason for pursuing this regulation centered on fatalities from bathtub refinishing and concerns for cancer deaths from chronic exposure. It was stated that the basis for determination of cancer from exposure to methylene chloride was extrapolated from animal studies. There is significant data from studies in 1992 and 1995 that confirm that the metabolic pathway for methylene chloride in humans differs from mice and rats, and that the incident of potential cancer of the lung or liver in humans does not correlate with the animal studies. There have been significant epidemiology studies of workers at Eastman Kodak, Hoescht Celanese, and ICI fiber that involve thousands of workers exposed at levels of 200 ppm or more for decades. For additional information please review the attached paper discussing these and other epidemiology studies, which is incorporated by reference.

These studies do not show increases of liver or lung tumors when compared to the general population or to workers in the same companies that were not exposed to methylene chloride. Has EPA investigated these reports? Where are the cancers? At the potential cancer probabilities shown in the presentation, if the data does not correlate with reality, should not the data be researched further to find where it is in error? EPA states that they have identified risks for brain, hematapoetic, and other cancers. Are these findings replicated across the studies? Is there a pattern across the studies, or is this an incidental finding? The severity of the proposed regulation based on cancer studies demands clear, concise, replicable data. Where is the data on occupational deaths? What were the dates of the deaths? Are occupational deaths quantified prior to the 1997 OSHA Methylene Chloride regulation versus data after the regulations. Benco

Sales and Besway are not aware of any occupational deaths from use of their methylene chloride products.

The data used to determine exposures estimates (slide 17), also seem unrealistic. Were these numbers taken from well documented recent exposure estimates? In all the industries listed, what is the percentage of workers who actually are exposed to those levels 8 hours per day? The current OSHA exposure limit is 25 ppm for a TWA 8-hour day. Has EPA determined if there is a cancer risk at this exposure level? It was also commented by EPA that a worker exposed to 25 ppm for 8 hours would suffer CNS effects. Has this been researched and documented? If current regulated exposure levels provide safe work environments, why is stricter regulation being proposed?

EPA stated that many workers and the general public are not required to follow OSHA regulations. Individuals and federal, state, and municipal employees are not covered by OSHA. Has EPA researched the number of employees not covered by OSHA that use methylene chloride? How much methylene chloride would these workers use, what is the frequency of use, and what are the exposure levels? Implementing a very burdensome regulation on overall use on the basis that everyone is not covered by OSHA requires compelling information that there are in fact widespread excessive exposures outside of OSHA's jurisdiction.

Slide 23 states that the regulatory option chosen is the least burdensome option to adequately prevent against risk. Is there documentation showing that the current OSHA regulation does not adequately protect against risk?

Comments were made by EPA that the proposed potential PEL of .25 ppm was determined from cancer data. Incidental use by consumers does not present chronic health problems. Cancers are not seen at exposure levels 10 times higher than current OSHA levels. Are there any documented cancers from 25 ppm TWA exposures? If not, it would seem the current regulations are the least burdensome solution. There is no other basis for reducing exposure levels or banning use.

We are supportive of improved labeling to prevent acute exposure to consumers. Fatalities in bathtub refinishing were mentioned as a primary reason for the new regulation. CPSC has assisted in labeling to help prevent use in this environment. EPA states that labels are difficult to read or understand. Labeling stating methylene chloride cannot be used to strip bathtubs and must be used outside is not difficult to understand.

In the furniture refinishing industry, equipment is readily available to comply with OSHA exposure limits. Most furniture refinishers consolidate their stripping jobs, and operate only a few hours on one or two days a week. Because of the volatility of methylene chloride, reducing workplace exposure levels to 1% of current levels is not practical. There are approximately 5,000 furniture refinishers and many more employees affected by the proposed regulation. Industries compliant with the OSHA methylene chloride regulation are not encountering the chronic health effects calculated by this EPA regulation.

Packaging in 55 gallon quantities is not practical for all facilities. A 55 gallon drum of methylene chloride stripper can weigh 600 lbs. Some facilities are not at street level or have steps that do not allow transport of 55 gallon drums. Some facilities are required to keep chemicals in a fire cabinet. Were costs determined for the cabinets and handling equipment needed to handle 55 gallon drums?

1. Benco Sales, Inc., Benny Bixenman

Slide 40 states that there will be cost savings by switching from a methylene chloride product. This simplified statement that less product is required because of lower volatility does not take into account the reduced effectiveness of other formulations, the need for multiple coatings, the increase in cost, the increase in labor, or the increase in costs for waste removal. The methylene chloride prohibition cost slide 41 is not realistic and cannot be used as a basis for regulation. Cost will increase substantially for every industry sector. Increased cost and reduced effectiveness are substantial enough to cause closure of many small businesses. During the conference, a furniture refinisher stated that more than 75% of his business would be lost if the regulation as proposed is implemented. Furthermore, banning methylene chloride will result in disposal of many durable goods or items with historic or intrinsic value. These items could be recycled. The cost estimate of the regulation needs to include the cost of disposal and replacement of these items.

In reference to NMP, has EPA found evidence of commercial or consumer use that resulted in overexposure? It was commented that a laboratory incidence using 100% NMP was basis for the regulation. Are there any non-laboratory documented cases?

The product cost estimates were not correct in the EPA assessment. Methylene chloride can be purchased in bulk quantities for about $2.00 - $3.00 per gallon. Benzyl alcohol in bulk is about $20.00 per gallon. While methylene chloride is more volatile, the quantity of a benzyl alcohol stripper necessary for a job is often higher because of the lack of stripping effectiveness. Hazardous waste generation would increase with non-methylene chloride strippers.
ATM strippers cost about the same as methylene chloride. However, the real hazard of extreme flammability and similar volatility is more likely to cause injury and/or death.

Benco Sales and Besway sell predominately to commercial users. Over 95% of products sold contain methylene chloride. We also manufacture and sell Benzyl Alcohol, NMP, and ATM strippers. If there were cost savings in the non-methylene chloride products, the market among our customer base would be reflected in increased sales of those products. Methylene chloride products are more effective, non-flammable, much more cost effective, and safe to use. We have not seen incidences of death or cancer from using our products. We have been marketing these products for more than 40 years.

If the PEL is lowered to .25 ppm, all workers in a facility will be required to use air supplied respirators. Any use of methylene chloride in a facility cannot be contained by local exhaust ventilation and will permeate the facility at levels higher than .25 ppm. The high vapor pressure of methylene chloride will cause levels exceeding .25 ppm in an entire facility.

Benny Bixenman

Benco Sales, Inc.

SER Comments
Epidemiology – Eastman Kodak Study

The message from Nathaniel Jutras dated June 22, 2016 extending the comment period contained the following response to a question about how EPA was incorporating findings from an epidemiology study of Eastman Kodak workers:

> "Eastman Study:
>
> The Eastman study by Friedlander et al., 1978 was used in the EPA/IRIS Toxicological Review and in EPA's risk assessment for methylene chloride and cited as EPA, 2011. Findings from the Friedlander et al., 1978 study and the four additional cohort studies and 13 case-control studies were reviewed. Considering the full body of knowledge in humans, EPA identified increased risks for brain, specific hematopoietic and other cancers. EPA incorporated those findings in the weight of evidence in making the "likely to be carcinogenic to humans" determination."

The response above and the 2011 IRIS Assessment mischaracterize the Eastman Kodak and other epidemiology studies of workers exposed to methylene chloride. The Eastman Kodak study was described in a critical review as follows:

> *"Kodak summary.* Collectively, the studies conducted on the Kodak employees exposed to methylene chloride represent one of the best sources of information on the possible human health effects of occupational methylene chloride exposure. Although the early reports did not assess individual workers' methylene chloride exposure, the later updates drew on extensive exposure information. Corroborating the ambient methylene chloride exposure estimates were the biological monitoring of COHb in the blood and carbon monoxide (CO) in expired air (DiVincenzo and Kaplan 1981).
>
> "The more recent updates also provided between 20 and 50 years of follow-up; however, no clear cancer risk or exposure-response effect has been observed. In summary, the Kodak research was well designed, thoughtfully conducted, and appropriately expanded over time. Findings were consistently negative for causes of death hypothesized to be related to methylene chloride exposure, such as ischemic heart disease and cancers of the lung and liver, as well as for any other specific cause of death. The excess of pancreatic cancer noted for the 1964-1970

> cohort followed through 1984 was attenuated upon additional follow-up and was not seen in the overlapping 1946-1970 cohort (Hearne *et al*. 1992b)."[1]

The available epidemiology data base for methylene chloride is one of the most robust available for any industrial chemical. Studies of five occupational cohorts are available for the assessment of mortality effects. These include two cohorts of photographic film base manufacturing workers at an Eastman Kodak facility in New York, two cohorts of fiber production employees at plants in Maryland and South Carolina owned by Hoechst Celanese, and a cohort of fiber production workers in the United Kingdom. None of these studies shows an association between increased cancer risk and exposure to relatively high concentrations of methylene chloride.

The cohort studies have many features that make them useful for evaluating potential health effects associated with methylene chloride, including: (i) relatively large study groups with significant numbers of long-term employees; (ii) large numbers of workers with career mean and hourly exposures *above* currently permitted levels; and (iii) lengthy intervals between first exposure and the end of follow-up. In addition, as discussed in the excerpt above from Dell *et al.* (1999), the Eastman Kodak studies contain a detailed exposure characterization allowing dose-response analyses.

Considered as a whole, the available epidemiological evidence does not indicate a risk associated with occupational exposures to methylene chloride. The studies consistently demonstrate no excess mortality for all causes of death, total cancer, and the cancers that were observed in the one positive mouse bioassay – lung and liver cancers. EPA, as reflected in the 2011 IRIS Assessment, has tended to minimize the contribution of the occupational cohort studies while failing to recognize the weaknesses of the case control studies.[2]

The epidemiology studies also do not support an association between methylene chloride exposure and brain cancer. A study referenced by EPA as "suggestive" evidence for an association between methylene chloride exposure and astrocytic brain cancer is that of Heinemann *et al.* (1994);[3] the association resulted from the exposure matrix developed by the authors that used job codes to estimate whether and to what extent the workers had been exposed to methylene chloride and five other chlorinated compounds.

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[1] Dell, LD, Mundt, KA, McDonald, M, Tritschler II, JP, Mundt, DJ, Critical Review of the Epidemiology Literature on the Potential Cancer Risks of Methylene Chloride, *Int Arch Occup Environ Health* 72: 429-442 (1999).

[2] With regard to animal studies, the EPA IRIS Assessment also erroneously concludes that drinking water bioassays conducted by Kirschman and Serota in the early 1980s for the National Coffee Association are positive, based on the Hazelton laboratory's statistical analysis. Both the study authors and reviewers (including EPA in its earlier assessments) have always considered these studies negative. The Hazelton report states that the incidence of hepatocellular adenomas and carcinomas in treated male mice was slightly higher than controls. It goes on to state, however, that the increase was not dose-related or statistically significant when compared to concurrent controls. Furthermore, the incidence of the lesions in the treated males was well within the historical range of control values both at Hazelton and in the literature. As no treatment-related effects were noted for any of the other endpoints examined, the authors concluded that methylene chloride did not induce a carcinogenic response in male mice, the same conclusion reached for female mice and for rats of both sexes.

[3] Heineman EF, Cocco P, Gomez MR, Dosemeci M, Stewart PA, Hayes RB, Hoar Zahm S, Thomas TL, Blair A Occupational Exposure to Chlorinated Aliphatic Hydrocarbons and Risk of Astrocytic Brain Cancer, *Am J Ind Med* 26: 155-169 (1994).

The bases for assigning methylene chloride exposures and the grading of the exposures are not explicit even in the paper dedicated to describing the framework of the job exposure matrix (Gomez *et al*., 1994).[4] However, a "high probability of exposure" was linked to the occupations of painting, paint or varnish manufacture, ship or boat building and repair, and electronics manufacture. None of these occupations, however, carries a high probability of exposure to methylene chloride. These supposed high-probability occupations are also considered to involve high-intensity exposures as are those in roofing and pharmaceutical manufacture. As expressed in the publication, it appears that exposures to methylene chloride may have been grossly misclassified, which would render the marginal results uninterpretable. Put another way, as described in Norman (1996),[5] the problem with the exposure matrix was that it had exactly reversed the exposure probabilities, so that workers were shown to be widely exposed to carbon tetrachloride, for example, decades after it had ceased being used. The authors acknowledged this mistake, and also acknowledged that the absence of any direct exposure information must be interpreted cautiously (Gomez *et al.*, 1996).[6]

In any event, a recently published comprehensive study of chlorinated solvents and brain cancer found no association between exposure to any of six chlorinated solvents, including methylene chloride, and glioma risk (Ruder *et al.*, 2014).[7] This study specifically referenced Heineman *et al.* (1994), among others, as follows: "Three consecutive case–control studies of glioma and other cause deaths used occupational information from death certificates, next-of-kin interview and job-exposure matrices to estimate solvent exposure with the strongest association for methylene chloride and risk of glioma with increasing probability of exposure and with increasing duration of exposure in high-exposed jobs." "The primary hypothesis was that at least one of these chlorinated solvents would be associated with increased glioma risk." The authors concluded, however, that:

- "In our study of exposure to six chlorinated solvents and glioma, we did not find a higher risk of glioma among solvent-exposed participants"
- "Our results suggest that exposure to chlorinated solvents does not increase the risk of glioma"
- "Study strengths include the large number of histologically confirmed gliomas and the use of population-based controls. Another strength was the estimation of workplace exposure determinants by industrial hygienists blinded to the case–control status of participants, with documented published literature to rigorously estimate intensity. . . . Most of the earlier studies of solvent exposure and brain cancer had greater limitations. Only one previous study

[4] Gomez MR, Cocco P, Dosemeci M, Stewart PA, Occupational Exposure to Chlorinated Aliphatic Hydrocarbons: Job Exposure Matrix, *Am J Ind Med* 26: 171-183 (1994).

[5] Norman, WC, Flawed Estimates of Methylene Chloride Exposures, *Am J Ind Med* 30: 504-505 (1996).

[6] Gomez MR, Cocco P, Dosemeci M, Stewart PA, Occupational Exposure to Chlorinated Aliphatic Hydrocarbons: Job Exposure Matrix, *Am J Ind Med* 26: 171-183 (1994).

[7] Ruder AM, Yiin JH, Waters MA, *et al*., The Upper Midwest Health Study: Gliomas and Occupational Exposure to Chlorinated Solvents, *Occup Environ Me*d 70: 73-80 (2013).

> included interviews with cases and controls. In the others, occupational information was obtained entirely from cases, from proxies [reference to Heineman *et al.*] or was based on a single occupation on a death certificate.

In conclusion, the absence of associations in well-defined cohorts having experienced high exposures suggests that the carcinogenic hazard of methylene chloride to man is extremely low or non-existent, as summarized in the review by Dell *et al.*:

> "No strong or consistent finding for any site of cancer was apparent despite several studies of large occupational cohorts of workers potentially exposed to high concentrations of methylene chloride. Sporadic and weak associations were reported for cancers of the pancreas, liver and biliary passages, breast, and brain. Although these studies collectively cannot rule out the possibility of any cancer risk associated with methylene chloride exposure, they do support a conclusion of no substantive cancer risk."[8]

[8] Dell, LD, Mundt, KA, McDonald, M, Tritschler II, JP, Mundt, DJ, Critical Review of the Epidemiology Literature on the Potential Cancer Risks of Methylene Chloride, *Int Arch Occup Environ Health* 72: 429-442 (1999).

2. Cyphers & Kallander Refinishers, John Moran

Nathaniel, I wanted you to have this information in case it helps with your decision on methylene cloride. this is a quick background on our furniture refinishing business. Started 1949 in seattle and stayed there until 2001. Relocated to Tacoma and now here for 15 years.
We have a small 2 person shop, gross 150,000 to 160,000 per year. We use 1 drum of lacquer thinner and 1 drum of acetone per year. Our paint remover waste is 30 to 40 gallons per year, taken away by Chemcare of Univar Chemicals.Our 500 gallon acetone tank
contains 55 to 90 gallons that we use for stripping small items that are solid wood. We have not found an alternative to semi paste paint remover. The NMP removers darken the wood and so we can not use that. We have found that acetone and methylene chloride fumes are low to the ground , so a ground fan works better than a supplied air system. But a supplied air system is better working in tight quarters or on cabinet boxes because fumes and also finishes stay wet much longer when semi enclosed (such as a bathtub or concave enclosure). We do not take painting jobs or do paint removal. We have been looking into dry ice blasting because it is gentle on delicate wood, but so far is too expensive to invest in.

--
Thanks,

John
Cyphers & Kallander Refinishers
253-475-6448
253-475-6889

--

3. Dumond Chemicals, Inc., Erik Gertsen

From: Erik Gertsen
To: Jutras, Nathaniel
Subject: RE: Reminder Regarding Your Input by this Friday, July 1 and instructions for submitting CBI
Date: Tuesday, June 28, 2016 3:40:54 PM

Nate,

These are the answers to your questions, sorry for the delay:

1) What percent of your business product lines are paint removers? **85%**
   a. Of that, what percent contain methylene chloride? **Less than 1%**
   b. Of that, what percent contain NMP? **5%**
   c. Can you provide the sales volume or revenue by product or primary active solvent (methylene chloride, NMP, etc.)? **$500,000**
2) Do you sell paint removers containing alternative chemicals to methylene chloride and NMP? **Yes**
   a. If so, can you provide information on the sales volume of these product lines? **$10,000,000**
   b. Have you noticed an increase in sales of these products over the past few years? **Yes**
3) Can you distinguish in any way the portion of your product sales between sales to consumers and sales to professional users? **Yes**
   a. If so, can you provide what that breakdown is? **15% Consumer and 85% Professional.**
4) Is it possible to distinguish at your level between customers who are individuals/hobbyists vs. commercial users, particularly commercial users of small quantities of products? **85% of our customers are commercial users on larger projects and 15% are either homeowners or small contractors on small projects or home projects.**
5) Can you distinguish wholesale product sales (larger volume containers, such as 55 gal drums) versus small product volume sales? **Yes.** And if so can you separate sales percentages between the wholesale products and those of smaller containers? **Yes, larger containers make up 80% of our sales and 20% of all smaller sizes.**
6) In which retailers or other channels are your sales conducted? **Paint store channel, hardware stores, safety supply, big box, construction supply, marine supply.**

Sincerely,

Erik Gertsen

Dumond Chemicals, Inc
VP of Operations
1475 Phoenixville Pike
Suite 18
West Chester, PA 19380
PH 609.655.7700
FX 609.655.7725
CE 484.678.8108
egertsen@dumondglobal.com

4. Fargo Painting, Donny Fargo

July 4, 2016

EPA SBAR Panel
Small Business Entity
#2 Feedback

Hi Niva,

Thank you for the consideration of our opinions and input. If I can help in any way just let me know. Here are a few thoughts I think that may be valid in regards to Methylene Chloride and NMP;

1. I truly believe that these substances should not be available to the general public by any size or quantity. Homeowners can sometimes barely be effective in handling standard house paints without making a mess. This speaks to itself.

2. There are conditions that exist, such as stripping a hand-carved front door, expensive cabinets or antique furniture that require a gel/liquid stripper. Other means of finish elimination do not work due to wood profile damage. Selling these components only in a 55 gallon drum will destroy this sector of the industry.

3. All states handle paint contractor licensing in separate fashion (some not at all). I do believe that if a paint contractor was to be required to hold a federal license in order to obtain products containing the elements in question this could allow this small segment of the industry to still operate. Products should only be vended through actual paint stores and not Home Depot and the likes. Having the licensing process annually be somewhat costly ($400-$500) could possibly keep the average homeowner at bay.

4. Licensing could be similar to EPA RRP Rule.

5. For smaller businesses, 1 gallon containers are critical. 55 gallon drums are impractical for most painting contractors.

Sincerely,

Donny Fargo

Fargo Painting – P.O. Box 72660, Phoenix AZ 85050 - 623-869-7271
Licensed, Bonded & Insured - Residential License #163309 Commercial License #245086

5. Green Products Co., Guy Woods

From: "**guy woods**" <greenpro@sbcglobal.net>
Date: Fri, Jul 1, 2016 at 3:36 PM -0400
Subject: Re: FW: SBAR Panel for Paint Removers under TSCA Section 6a - Follow Up and Reminder Regarding SER Input by July 1
To: "Steve Bennett" <sbennett@cspa.org>

Hi Steve Attached is my answered questions about our paint remover. Does EPA have a working replacement for methylene chloride? The main function for a methylene chloride based paint remover is to get antique furniture into a functioning use and not cut down more trees to make new furniture. One of our furniture refinishers reconstructs furniture that is over 100 years old and uses our paint remover that contains less than 30% methylene chloride. I have a Navy veteran employee that makes our paint removes and his job will go away if we cannot make paint removers containing very little methylene chloride.
The 1976 methylene chloride study if I remember right used mice that was exposed to Hugh volumes of methylene chloride that would not even come close to what our customers are exposed to in methylene chloride based paint removers. I know studies are expensive to conduct but it may be time to upgrade the studies.
Thanks,
Guy Woods
Green Products Co.
510 235 9667

Dear Small Entity Representatives,

Thank you again for your time and valuable contributions to last Wednesday's panel outreach meeting for the proposed rulemaking for paint removers under TSCA Section 6a. As EPA emphasized, the Agency is interest in learning more about sales to commercial and consumer users of methylene chloride and NMP in paint and coating removal. In addition to the questions circulated earlier for discussion, the information below would be most helpful to the Panel.

Additionally, EPA was also asked how it was incorporating findings from the Eastman study on methylene chloride exposure. Information on that is below:

Sales-related questions:

1) What percent of your business product lines are paint removers? **Four (4) %**
   a. Of that, what percent contain methylene chloride? **Fifty (50) %**
   b. Of that, what percent contain NMP? **NONE**
   c. Can you provide the sales volume or revenue by product or primary active solvent (methylene chloride, NMP, etc)? **NA**
2) Do you sell paint removers containing alternative chemicals to methylene chloride and NMP? **NO**
   a. If so, can you provide information on the sales volume of these product lines? **N/A**
   b. Have you noticed an increase in sales of these products over the past few years? **No**
3) Can you distinguish in any way the portion of your product sales between sales to consumers and sales to professional users? **No**
   a. If so, can you provide what that breakdown is? **N/A**

4) Is it possible to distinguish at your level between customers who are individuals/hobbyists vs. commercial users, particularly commercial users of small quantities of products? **No**
5) Can you distinguish wholesale product sales (larger volume containers, such as 55 gal drums) versus small product volume sales? **NO sales of larger volume**.
And if so can you separate sales percentages between the wholesale products and those of smaller containers? **N/A**
6) In which retailers or other channels are your sales conducted? **Ace Hardware**

Eastman Study:
The Eastman study by Friedlander et al., 1978 was used in the EPA/IRIS Toxicological Review and in EPA's risk assessment for methylene chloride and cited as EPA, 2011. Findings from the Friedlander et al., 1978 study and the four additional cohort studies and 13 case-control studies were reviewed. Considering the full body of knowledge in humans, EPA identified increased risks for brain, specific hematopoietic and other cancers. EPA incorporated those findings in the weight of evidence in making the "likely to be carcinogenic to humans" determination.

As you may recall, EPA had requested to receive your written feedback to the outreach meeting by next Wednesday, June 29. However, given these additional questions for your consideration, we will accept written comments through the close of business on Friday, July 1. Please note, that if you believe any of the information you have includes, Confidential Business Information (CBI), which is broadly defined as proprietary information, considered confidential to the submitter, the release of which would cause substantial business injury to the owner, you contact me immediately. You should not submit CBI by email. Instead, please call me at (202) 564-0301 so provide you details about the proper handling and mailing procedures.

Thank you again and please do not hesitate to contact me if you have any questions.

Nathaniel Jutras | U.S. Environmental Protection Agency | Regulatory Management Division | 202.564.0301

On Fri, 6/24/16, Steve Bennett <sbennett@cspa.org> wrote:
Subject: FW: SBAR Panel for Paint Removers under TSCA Section 6a - Follow Up and Reminder Regarding SER Input by July 1
To: "Woods, Guy (greenpro@sbcglobal.net)" <greenpro@sbcglobal.net>
Date: Friday, June 24, 2016, 6:32 AM

Guy,

I encourage you to submit comments to the questions below. I think your perspective and challenges would be very persuasive. Don't hesitate to contact me with any questions or concerns. Thanks

Steven Bennett, Ph.D.
Senior Director, Scientific Affairs & Sustainability

5. Green Products Co., Guy Woods

Polishes &Floor Maintenance Division Staff Executive

Consumer Specialty Products Association
1667 K Street NW, Suite 300
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Direct: 202-833-7330
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email sbennett@cspa.org
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PDCA is the voice of the paint coating application industry.

July 7, 2015

Regulatory Management Division
US Environmental Protection Agency
Document Control Office (7407M),
Office of Pollution Prevention and Toxics
1200 Pennsylvania Ave, NW.
Washington, DC 20460-0001

Regarding: Comments as requested for the

Proposed Rulemaking for N-Methylpyrrolidone and Methylene Chloride in Paint Removers –
SBAR panel outreach meeting June 15, 2016 and related information distributed by the EPA

To whom it may concern,

Preamble

In response to the Environmental Protection Agency's (Agency) request for comments concerning the proposed rulemaking of N-Methylpyrrolidone and Methylene Chloride in Paint Removers including information shared at the recent SBAR Panel meeting (June 15, 2016), and the proposed rulemaking in general, the Painting & Decorating Contractors of America (PDCA) submit the following remarks for consideration.

PDCA is a national organization representing paint and coating application contracting businesses. In addition, beyond the membership and for the greater painting industry, we create and articulate educational resources, standards for professional and legally binding craftsmanship, and analogously relevant, we promulgate a code of ethics that industry constituents conduct operations in a best practice manner, which safeguard the general public, customers, associates and the environment. More detailed organizational information may be found at www.PDCA.org.

Member companies qualify as small business entities per the definition applicable to the current regulatory process and as recognized by the three panel participants: OMB, SBA and the Agency. PDCA members are appreciative of the opportunity to participate as a small entity representative in the proposed regulation of N-Methylpyrrolidone and Methylene Chloride in Paint Removers.

The PDCA commentary is presented in three sections: Section I General Remarks, Section II Answers to the Presentation Questions and Section III Conclusion.

Section I

General Remarks

It seems that the proposed regulation is based on error prone assumptions, which skew the hazard risks higher and business compliance and ancillary costs lower. The Agency's cited justification for the proposed rulemaking is fundamentally flawed. The EPA's designations – just two broad groups - "manufacturers and users" may not provide a reality based look into actual health risks and user costs of the suggested rulemaking, as well as costs for employing alternative paint removal methods. If the proposed rules are

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enacted, the increased removal costs will greatly impact consumers as professionals juggle to develop new stripping methods.

It is most relevant to note that there are alternative chemical paint removal mixtures in the marketplace today, however none are as efficient at removal for many projects and most are not effective on catalyzed coatings as N-Methylpyrrolidone and Methylene Chloride based removers. In general, paint and coating removal is a specialty business where most of the activity performed is executed by a trained workforce. During the SBAR Panel Meeting, an EPA staff person erroneously suggested blasting with walnut shells was an equal technique or alternative removal methodology that is as effective as N-Methylpyrrolidone and/or Methylene Chloride based paint/coating removal. Simply, that statement is inaccurate, uninformed and misleading.

Perhaps, there is a lack of trade knowledge or a simple misconception at the Agency regarding the specifics of removing paint/coatings from substrates. There are many wooden and even some metal architectural features that are not capable of withstanding any type of concentrated blasting when certain coatings have been applied. Some "gentle" blasting techniques (baking soda/walnut shells) are not effective at removing various paint/coatings. Often more aggressive blast media may cause substrate damage or at the very least, cost several times more than N-Methylpyrrolidone and/or Methylene Chloride based paint/coating removal due to engineering controls and increased labor.

Briefly, please allow us the liberty of commenting on the manufacturing N-Methylpyrrolidone and Methylene Chloride. Although PDCA is not representing manufacturers, reasonable deduction indicates that OSHA regulates employee health risks of factory/production workers while the Agency may enforce environmental impacts for the process of chemical production and other related ecological concerns including waste disposal from the same. In the proposed regulation, the EPA does not provide evidence of detrimental production worker exposures or manufacturers disregarding the environment or irresponsibly disposing of waste.

Apparently, manufacturer employee health risks and environmental damage from N-Methylpyrrolidone and Methylene Chloride production are not widespread issues. To accurately determine health risks, manufacturer's chemical production should NOT be intermingled with user health risks. The same goes for the potential compliance costs of this proposed rulemaking.

Also, whether there are 100 million tons of chemical produced or 10 billion tons, as long as the manufacturing procedures sufficiently protect workers and the environment, production quantity should not be calculated into any factory employee health hazard assessment. On the other hand, if the EPA has evidence, rather than the published "estimates", the information may be relevant to risk consideration and should be shared. PDCA comments are based on the information published to date.

Lastly regarding manufacturers, the Agency's cost analysis may be fundamentally inaccurate if big business cost structures were amalgamated with small businesses, like contractors. For any relevant cost justification manufacturers should be considered separately from users. Another point to regard, there may be some N-Methylpyrrolidone and Methylene Chloride producers that operate as qualified small businesses, yet these organizations should not be mixed with users for health risk or cost analyses.

For this proposed regulation, the EPA designates "users" under a single category. Again, this is an assumption that does not accurately reflect health risks and potential compliance costs. Firstly, the Agency mixes consumers with professional contractors under the term "users", which may be compared to stating that a patient's capacity to handle multiple prescriptions from various specialists is similar to a doctor's

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knowledge and practice of prescription assignment. In any case, professional use of N-Methylpyrrolidone and Methylene Chloride in paint removers varies greatly from consumer use.

Consumer use calculations should be considered separately and differently than professional use for any health risk hazard evaluation to be accurate and relevant. First, OSHA already regulates worker protection from health risks and the Agency does the same for ecological concerns for businesses that remove paint and coatings. Consumer health issues should be studied and documented aside from professionals and not lumped with trained experts.

Second, it seems that the EPA based the risk assessment and possible compliance costs on estimates that are skewed inaccurately, because of the consumer mix and also from designating all professional users under one group. Professional use of N-Methylpyrrolidone and Methylene Chloride vary greatly and health hazard assessment and compliance costs should be calculated accordingly. It is most reasonable to deduct that furniture refinishing facilities operate in a controlled environment; one in which the air, exhaust, personal protective equipment and the scope process can be refined to protect the worker and the environment.

In fact, the PDCA's ad hoc committee understands that there is established science indicating that the furniture refinishing industry's use of N-Methylpyrrolidone and Methylene Chloride over a significantly long time (25 plus years) has yielded unremarkable health risks. This information was not found in the Agency's published analysis. Apparently, the EPA relied on estimates that may have been innately skewed based on the mixing of inappropriate data samples.

Looking at the other professional users of N-Methylpyrrolidone and Methylene Chloride in paint removers, it seems that at least two other groups should be examined separately. The lead abatement professionals and the graffiti removals experts are specifically trained in paint and coating removal. The scale of professional knowledge and practice is vastly greater than consumer's use of paint removers and even more nuanced than other professional companies that perform limited removal services. In general, lead abatement and graffiti removal professionals execute work scopes on commonly mobile locations and at an assortment of project sites including commercial, industrial, institutional, marine and residential.

Lead abatement professionals and the graffiti removals experts are already regulated by OSHA and the Agency. In fact, very often N-Methylpyrrolidone and Methylene Chloride paint removers are employed as the "safest" methodology to abate lead-based paints. It has been established that other lead-based paint abatement methods generate more dust remnants and are not as cost effective for consumers as the N-Methylpyrrolidone and Methylene Chloride paint removers.

In addition, historical restoration projects may be inclined to "replace", rather than save older structures or significant appurtenances if the N-Methylpyrrolidone and Methylene Chloride is overburdened with regulation or taken from the marketplace by ruling. Also, without N-Methylpyrrolidone and Methylene Chloride in paint removers, disposal and demolition may become more prominent due to replacement, which may quite possibly exacerbate processing lead-based paint and other complicated debris.

The Agency's health risk assessment "estimate" for "bystanders and adjacent workers" when considering the furniture refinishing, lead abatement and graffiti removal segments, also should not be amalgamated with other "users" since furniture coating removal is processed at a facility designed for such activity void of "bystanders" and the abatement and graffiti professionals mostly operate in segregated, non-public accessible project areas.

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Another user group that merits commentary is the Bathtub Refinishing segment. Again, this is a specialty operation and according to the ad hoc committee understanding, less than 1% of all N-Methylpyrrolidone and Methylene Chloride in paint removers are deployed here. Various covering materials and systems are used more often than actual bathtub refinishing. It is very relevant to consider, of the bathtubs that are refinished, most do not require coating removal. The Agency cited a worker mortality statistic that may or may not be affected by regulation.

The PDCA believes that since the amount of bathtub coating removal from N-Methylpyrrolidone and Methylene Chloride based removers is so minimal as compared to the other professional user groups, education would curb the worker mortality more effectively than rulemaking. We reasonably conclude that if less than 1% of professional users have an issue, regulating the remaining 99% is unneeded and over burdensome. Perhaps, the Agency will consider allocating equal resources for professional education as compared to the expenditure of developing and enforcing a regulation.

Finally, it is important for PDCA to share the general perspective of paint and coating application professionals. There are many different segments in the industry and N-Methylpyrrolidone and Methylene Chloride is used to clean equipment and to remove paint and coatings. However, the use is ancillary to the craft's main purpose of professional application. Skill technicians are trained to work with a variety of chemicals; flammable, combustible, reactive, and more. Already, OSHA regulates employee education and protection and the EPA regulates storage and disposal.

PDCA represents thousands of industry constituents and tens of thousands of skilled workers and we have no data indicating a crisis or any issue with N-Methylpyrrolidone and Methylene Chloride in paint removers. On the contrary, like other professionally used solvents and products, N-Methylpyrrolidone and Methylene Chloride in paint removers is essential to the industry. When another combination of chemical removal is developed that is as efficient and effective, our best practice focus will direct us to educate the greater industry largely causing a shift to the new superior products/methodology.

Section II

Answers to the Presentation Questions

The following is from materials distributed for the June 15 SBAR meeting.

EPA: For all users of paint removers (all industries):
4) Current work practices related to paint removal:

a. How often do you conduct paint or coating removal?
The frequency varies depending on market segment. Unless the professional paint and coating application business also works in lead abatement and/or graffiti removal, the frequency outside of equipment cleaning is occasional…perhaps monthly or quarterly.

i. Do you typically use chemical or mechanical means to remove paint? (sanding, heat gun, blasting, other)?
Please know that wholesale paint/coating removal is NOT typical preparation for repainting. Removal is a specialty and not typical. Heat gun removal use is not common. Blasting is almost exclusively limited to industrial and typical used on steel and some masonry substrates.

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ii. What factors into your decision whether to use chemical or mechanical methods of paint removal?
Professionals perform individual project risk assessments and if the scope requires removal, the most effective methodology is employed. N-Methylpyrrolidone and Methylene Chloride chemical based removal is an essential option for many projects.

b. How significant is paint or coating removal to your business overall?
Please see 4a

c. Coatings:
i. What type of coatings do you most frequently remove?
For application professionals outside of lead abatement and graffiti removal, failed coatings from age and improper maintenance or non-professional application are the most frequent reasons for removal.

ii. How many layers of coating do you most frequently remove?
Coating layers vary by project and often depend on age. N-Methylpyrrolidone and Methylene Chloride based paint removers are the most effective for many projects and very effective multiple coating layers.

iii. Do any particular coatings or substrates present special challenges for removal?
Yes, some projects the challenge may be restoring the substrate, while others may be the removal of catalyzed coatings…or an abundance of coating mil thickness. N-Methylpyrrolidone and Methylene Chloride based paint removers are the most effective in these circumstances.

d. How does the time to remove paint vary by method or chemical used?
Since time equates to customer cost in the form of labor hours, it is unethical to perform a removal scope not alerting the customer that the methodology is not the most efficient. Chemical removal has become more effective, since lead abatement has been regulated. For that type of project, the use of N-Methylpyrrolidone and Methylene Chloride based paint removers is already regulated.

e. Do you tend to look for specific chemicals in your paint removers, or do you prefer to look for brand names or product names?
Each professional is individual and some find success with a particular brand and stay with it. Also, the concentration of N-Methylpyrrolidone and/or Methylene Chloride varies by product so the performance characteristics are generally matched to the project scope's needs.

i. How do you know which chemicals are in the products you are using?
Professionals are trained to read the manufacturer's ingredient data so appropriate PPE may be worn, proper product storage and disposal and effective work performance may be executed (existing regulations from OSHA & EPA).

ii. What are trusted sources of information for you about products or chemicals used in your business?
Manufacturer and the PDCA network are common and trusted resources.

f. What do you feel is the most important factor in paint removal: client preference, dwell time, ease of removing the coating, impact on the substrate, price of materials, worker safety, total job time, or other factors?
Every factor is important; however public, customer, worker and environmental safety take top priority.

5) Using methylene chloride or NMP in your business:
a. How is methylene chloride or NMP currently used in your business?

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Please see 4a, 4ai & 4aii

i. How often do you use methylene chloride? In what context?
ii. **Please see 4a, 4ai & 4aii**

iii. How much methylene chloride does your business use in a typical year?
For paint and coating application professionals outside of lead abatement and graffiti removal, the quantity may be measured from a few gallons to 100 gallons depending on company size and project scopes.

iv. How often do you use NMP? In what context?
Please see 5aiii. The context for paint and coating application professionals is mostly as a solvent.

v. How much NMP does your business use in a typical year?
Please see 5aiii.
vi. Do you use NMP as a substitute for methylene chloride?
In general, no…NMP does not remove certain coatings or multiple layers as effectively as methylene chloride, however depends on the use purpose.

vii. What quantities do you purchase? (gallon containers, 55-gallon drums, etc.)
Please see 5aiii…similar to methylene chloride purchasing…specialty product; not everyday use.
Would a requirement to purchase material in a 55-gallon drum significantly affect your business?
Yes, that concept is ridiculous paint and coating application professionals.

viii. Where/how do you purchase these products (distributor/direct sales, store, etc)?
Professional paint and coating application businesses purchase the larger part of supplies from industry specific stores, commercial outlets and to a lesser degree big box stores.

viii. How much do product labels (particularly hazard labels on products) inform your use of the paint remover?
In general, professionals are informed and research product.

b. If paint removers containing methylene chloride or NMP were not available, what would the impacts be on your business?
The impacts are immediately negative, equipment may have to be replaced, rather than cleaned (very costly) and project scopes may change dramatically and scope performance costs would increase significantly.

c. What are the benefits to your business of using methylene chloride or NMP?
Professionals need these chemicals until equally or more effective alternatives are developed.
Please see general comments – Section I.

d. What are the challenges to your business of using methylene chloride or NMP?
Professionals following existing OSHA & EPA regulations have only the cumbersome rules to follow as a challenge. Responsible businesses will protect the public, customers, employees and the environment whether there are rules to follow or not.

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e. We have heard that many businesses involved in repainting or refinishing aircraft, marinecraft, bathtubs, and cars are moving away from using methylene chloride in paint removal. In your experience, is this correct?
Not applicable to paint and coating application business with the exception of a very small percentage that perform bathtub refinishing. Again, most bathtubs do not require wholesale removal for refinishing. However, for bathtub coating removal, methylene chloride is the preferred active removal agent.

6) Exposure reduction for workers
a. What are your experiences with:
i. Installing or updating ventilation and local exhaust
OSHA regulations require that professionals implement appropriate engineering protocols for all project scopes for the protection of workers. PPE and appropriate equipment must be used to perform skilled work.

ii. Installing or operating other engineering controls
Please 6ai
iii. Equipment changes to reduce exposures
Please 6ai

iv. Monitoring worker exposures to chemicals in the air
Depends on project scope and circumstance; this already regulated by OSHA
v. Air-supplied respirators
Please see above
vi. Specialized gloves (such as Silver Shield
Please see above

vii. Other personal protective equipment
Please see above

viii. Worker training to reduce exposures
Please see above

b. If you have changed or updated your exposure reduction technology or methods, how long did that process take?
Appropriate engineering controls and PPE are regularly updated as technology provides opportunities to reduce risk.

c. What do you do to comply with OSHA standards for methylene chloride?
Please see above

d. What do you currently do to reduce environmental releases of methylene chloride? **Professionals follow approved procedures and depending on the scope or chemical purpose may additionally check with local and/or state officials.**

How do you manage emissions and waste disposal?
Please see above

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e. Have you had any worker incidents, accidents, or complaints related to paint removal?
PDCA does not collect such data, however we follow industry trends closely and have access to a large network of professional N-Methylpyrrolidone and Methylene Chloride based paint remover users.

i. Do you have concerns about worker exposure to methylene chloride?
No…PDCA is always concerned for worker safety in general. Methylene chloride does not pose an extraordinary concern.

ii. What do you do to address worker risks or concerns for chemical exposures, and specifically for methylene chloride?
Please see above

f. Have you received any customer feedback about methylene chloride use?
No, PDCA's experience shows that customers are concerned with achieving results cost effectively, safely and environmentally responsibly.

g. Do you have concerns about worker exposure to NMP?
No…PDCA is always concerned for worker safety in general. NMP does not pose an extraordinary concern.

i. What do you do to address worker risks or concerns for chemical exposures, and specifically for NMP?
Please see above

h. Have you received any customer feedback about NMP use?
No, PDCA's experience shows that customers are concerned with achieving results cost effectively, safely and environmentally responsibly.

7) Substitutes and alternatives:
a. What alternative chemicals or methods have you tried, and what are the results?
No other chemical paint removers are effective as methylene chloride for certain scopes. Professionals have a wide range of experience and industry knowledge.
b. What is the impact of dwell time for any substitutes, and are there any workarounds?
Depends on the project scope, often chemical removal or solvent cleaning is the best methodology and Methylene chloride and/or NMP is the only appropriate choice.

c. How do you learn about new chemicals, products, or methods for paint removal? (sales representative or materials, trade press, other?)
PDCA serves as an informational hub, industry professional publications and manufacturer's representatives.

d. If you have tried or switched to alternative chemicals or methods, how long did that process take?
Again, professionals are trained experts and many have years of experience, for many scopes, there are no alternatives Methylene chloride and NMP.

e. What resources or tools does you need to move to adopting alternatives to Methylene chloride and NMP?
When one becomes available, professionals would utilize a more effective chemical removal option.

f. Chemical replacement:
i. What is important to you when considering chemical replacement or process change? (ease of use, flammability, efficacy, speed, price, other)

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Please see General Remarks

ii. Have you replaced chemicals, products, or processes in the past?
Yes, technology has revolutionized some paint and coatings and professionals have changed procedures and tools/equipment to perform specific applications.

8) Regulatory options
a. Which of the regulatory options presented today would you recommend?
NONE…the education option makes the most sense.
b. Cost estimates: In your experience, are the cost estimates accurate for both options presented?
Absolutely not; please see general comments.

c. Can you think of ways to add flexibility to this rulemaking for your small business?
Yes, small business and specific industries must remain an integral part of any proposed regulation. Also, costs impacts to small businesses a priority when developing any rules. Most importantly, the EPA must be data driven, not "estimate" driven, as well as each regulation must empirically show its affect or be terminated.
d. How do you learn about EPA regulations and what you should do to comply?
PDCA represents the industry and a sincere makes an effort to follow governmental rule development.
e. What is the best way to reach out to members of your industry?
Professionals respond to education efforts more readily than regulations.

SBAR Panel Discussion Questions – Paint Removers
Additional questions for paint remover users conducting renovations in residences, hotels, etc.:
1) General questions:
a. Who are your customers? (Individuals, hotels, apartment building owners, property managers, non-residential building owners, others)
Professionals perform work scopes for varies segments. Please see Section I General Remarks.

b. How much do client preferences determine how paint is removed?
Depends on the situation…it is more common for the professional to specify a removal procedure.

Section III

Conclusion

Due to time constraints of the PDCA's ad hoc committee regarding the proposed Rulemaking for N-Methylpyrrolidone and Methylene Chloride in Paint Removers, the conclusion may be uncharacteristically short and may not emphasize every salient aspect why the EPA should reconsider this proposed rule. With that in mind, PDCA notifies the SBAR panel that at a later opportunity some portions of the commentary may be expanded.

In general, PDCA follows the conviction that proposed federal rules must be based on empirical evidence, not error prone assumptions based on estimated data. Further, new regulation should not in any way impinge or complicate other existing federal rules. We adhere to the concept that all rules must not be over burdensome, unnecessary or questionably justified. PDCA strongly supports a regulatory model where Agency rules are developed through a transparent process that stakeholders can easily see their input affect outcomes and all cited information and related research have the capacity to navigate through a well-thought, vigorous and independent review.

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Further, please consider that resources expended for education may be more effective in addressing health hazards, rather than adding rules to the existing OSHA and EPA documents. The contractor compliance and ancillary costs are high and over burdensome for the proposed rulemaking. Lastly, any worthwhile proposal should have a data based measuring mechanism with the facility to illustrate rule effectiveness.

PDCA urges the EPA, OMB and SBA to postpone the proposed rulemaking until such a time that improved data may be considered and to specifically separate manufacturers and consumers from professional users. Simply put, once the irrelevant data is subtracted, PDCA does not foresee any need or health risk benefits for the proposed regulation.

Respectfully submitted,

Mark Casale, Advisor to PDCA
CC: Rob French, Chair; Ad Hoc Committee; Steve Skodak, Executive Director

7. Restorations Unlimited, William Shotwell

Restorations Unlimited, Inc.
100 Executive Drive #4
Sterling, Va. 20166
703.904.9575

June 30, 2016

Dear Nathanial,

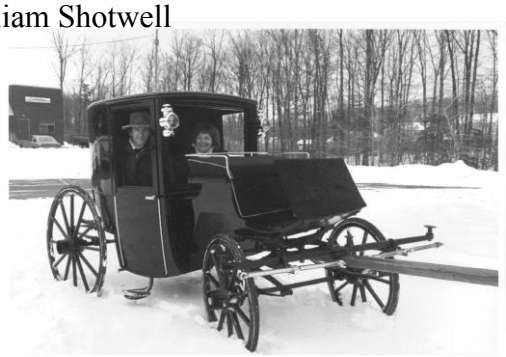
Sir, I hope these comments help with your decision regarding methylene chloride (CH2Cl2).

I started in this industry in 1970, as a young finisher/restorer and apprentice under an Italian craftsman for a year. Then, I was hired as an in-home shop/touch up/finisher for the Levitz Corporation for 3 years.

In 1973, I decided to go in business for myself.
As a small business man in this craft/art business, I took any project. We restored furniture, pianos, antiques, works of art, and doors.
Two years in, I bought out an existing "stripping" business that specialized in just paint varnish and lacquer removal from wood and metal. Now, I didn't have to sub-contract this portion of my job. We could now do all work, in-house; we had quality control.
My world was now dealing with this very powerful and efficient chemical. We purchased Kwik® Marine gel-stripper in single gallons and CH2Cl2 in 55 gallon drums from Benco in Tennesee.

Because, all of my employees were family members at that time, I was and still am, very concerned about protecting them from any hazards related to the use, handling and disposal of chemicals. Of the total revenues our small business receives annually, approximately, 20 to 25% is attributed to the paint and varnish removal (stripping) portion of any finishing project.

7. Restorations Unlimited, William Shotwell



We have protocols and have implemented ventilation systems, air showers and personal protection equipment.
Although CH2Cl2 is inherently dangerous, and it is the nature of this business to be around hazardous materials, with proper training and adequate safety systems installed, risk of over exposure can be greatly if not completely mitigated.

In conclusion, methylene chloride should be regulated by permits for purchase and use by licensed and qualified persons. Furthermore, restricting the sale of methylene chloride to permitted users would in my opinion, help protect against irresponsible use and disposal as well as personal injury or abuse.

Please feel free to contact me with any questions or concerns.

Respectfully,

William Shotwell
Founder, V.P. & Sr. Restorer

8. Savogran Company, Mark Monique

From: Mark Monique
To: Jutras, Nathaniel
Subject: Comments - SBAR pre-panel discussion on June 16, 2016
Date: Thursday, June 16, 2016 3:47:41 PM

Following are my comments on the information presented during the SBAR pre-panel discussion on June 16, 2016.

Savogran formulates and distributes paint and varnish removers to the paint, hardware and home center trade. Savogran does not participate in the bath refinishing trade channel.

EPA during the course of the discussion stated that there is no chronic hazard to the retail DIY consumer.

EPA is basing their decision to ban methylene chloride (DCM) containing paint removers from the consumer market based on some unquantifiable acute consumer risk.

Our DCM containing product labels clearly state to use the product outdoors. Furthermore, in consultation with the Consumer Product Safety Commission (CPSC), the consumer based formulators have proposed additional cautionary language that warns of the acute hazard, and specifically of the dangers associated with bath tub refinishing. The primary focus of the revised label is to prevent the products from being used in confined spaces, and specifically not to be used at all to strip bath tubs.

We believe the cautionary language would be effective and provide the consumer products formulators the flexibility to eliminate the risk associated with the products being used in confined spaces with an emphasis on the bath tub refinishing application. The agency seems to want to dismiss this option without any empirical data to support their conclusion, but I believe that this matter of labeling (both what is required and whether it is effective) falls within the jurisdiction of the CPSC. In any event, how can anyone judge the effectiveness of a label before it has been used?

The EPA continues to ignore the financial impact on the formulators such as Savogran. The agency has not presented any cost estimates as to the impact on the formulators most of which are small businesses. TSCA § 6 is very specific in that EPA must consider the costs and benefits (and cost-effectiveness) of the proposed regulatory action and alternatives, including the economic consequences for small business. EPA cannot make any such findings without supporting data.

EPA seems to think that the products can simply be reformulated. This is incorrect. A ban of DCM containing paint removers will cause entire product lines to disappear. There are no drop in replacements for DCM. Wholesale reformulation would need to occur. Overnight our costs to manufacture the product would exceed our selling prices. Alternative formulations do not strip the range of coatings and substrates that DCM containing products can. It is unfair to conclude that "people will have to make do" with expensive inferior products. This strategy would decimate the trade.

EPA presented a chart listing alternative chemicals/methods for removing paint (Slide 39). The consumer alternative options presented show a clear lack of knowledge of the market. I would challenge EPA to demonstrate how the "percent adopting each alternative" number was derived. The options listed are not practical alternatives. As an example ATM removers would need to contain 50% acetone in order to be VOC compliant. A paint remover formulation with 50% acetone would present an unacceptable acute fire hazard. Furthermore, caustic removers are products used by trained professionals due to the products' corrosive characteristic. DBE removers are not effective unless formulated with n-methyl pyrrolidone. Benzyl alcohol products simply don't work and haven't been able to establish any significant consumer acceptance.

In conclusion, I would urge the EPA to consider additional labeling as the primary regulatory option for the consumer market to mitigate the acute risk associated with the misuse in the bath tub refinishing trade. This option would entail supporting revision of the September 14, 1987 CPSC Notice of Interpretation and Enforcement Policy for Labeling of Certain Household Products Containing Methylene Chloride to include warnings about the acute as well as the chronic hazard associated with DCM use.

8. Savogran Company, Mark Monique

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Manufacturing paint remover, solvents, cleaning and patching compounds since 1875.

Savogran Supplemental SER DCM Comment
Impact of New TSCA Legislation

I. Gap Filling Purpose of TSCA

Toxic Substances Control Act ("TSCA") § 9, as originally enacted and as updated by the Frank R. Lautenberg Chemical Safety for the 21st Century Act, requires EPA to consult and coordinate with other federal agencies "for the purpose of achieving the maximum enforcement of this Act while imposing the least burdens of duplicative requirements on those subject to the Act and for other purposes."[1] Worker and consumer health and safety fall under the jurisdictions, respectively, of the federal Occupational Safety and Health Administration (OSHA) and the federal Consumer Product Safety Commission (CPSC), and use of methylene chloride (dichloromethane or "DCM") in paint stripping is already more than adequately regulated under the Occupational Safety and Health Act and the Federal Hazardous Substances Act. This comprehensive regulatory framework provides adequate protections with respect to the same potential adverse impacts and potential exposure pathways targeted by the current EPA initiative. Taking steps that may lead to the removal of products from the marketplace because workers or consumers failed to comply with these existing requirements is not consistent with TSCA either as initially enacted or as revised.

Indeed, in 1985 EPA initiated a priority review of risks of human cancer from exposures to DCM, using its authority under TSCA § 4(f). As part of its TSCA § 4(f) review, EPA issued an advance notice of proposed rulemaking (ANPR) in which it announced that it would be conducting, in consultation with other federal agencies, a comprehensive and integrated regulatory investigation of DCM.[2] Thereafter, EPA reported on how "the integrated regulatory investigation led to significant exposure reductions in the major chlorinated solvent use applications, and established a precedent for future cooperative regulatory endeavors."[3] The notice indicated that an Interagency Work Group, chaired by EPA's Office of Toxic Substances, had been formed "to determine whether DCM presents a significant risk to human health or the environment, and to determine if regulatory actions are needed to limit exposures to DCM." The notice then described risk management actions completed by each agency, as well as a discussion of ongoing risk control activities.

The discussion with SERs on June 15 gave the impression that EPA is pursuing regulation of DCM in paint stripping primarily due to concern about reported fatalities from bathtub refinishing. This is a legitimate concern but, as discussed below, there are much more targeted ways to address it than the broad restrictions (in effect a prohibition) being

[1] TSCA § 9(d).

[2] 50 Fed. Reg. 42037 (October 17, 1985).

[3] 56 Fed. Reg. 24811 (May 31, 1991).

considered by EPA. EPA should carefully consider the recommendations below as to how best to address this concern.

OSHA Regulation of Workplace Exposure

OSHA has regulated occupational exposure to DCM for many years. Following the § 4(f) review, OSHA adopted a standard under § 6(b)(5) of the Occupational Safety and Health Act lowering the workplace exposure limit for DCM from 500 parts per million (ppm) to 25 ppm as an 8-hour time-weighted average (TWA). In addition, it established a short-term (15-minute) exposure limit (STEL) of 125 ppm and an action level for concentrations of airborne DCM of 12.5 ppm (8-hour TWA).[4]

In sum, where DCM is used in paint stripping, exposures must be kept below 12.5 ppm to avoid triggering the action level. There is no basis for EPA to assume that DCM is being used in what would be flagrant violation of the OSHA standard.[5]

CPSC Requirements for Consumer Exposure

There is also a long history of CPSC involvement with DCM, beginning in the mid-1970s. Following the TSCA § 4(f) referral, CPSC adopted cautionary labeling for household products containing DCM, including paint strippers, that would meet or exceed the requirements of the Federal Hazardous Substances Act:

"Front Panel

"CAUTION: Vapor Harmful, Read Other Cautions
and HEALTH HAZARD INFORMATION on Back Panel

"[Or equivalent language]

"Back Panel

"Contains methylene chloride, which has been shown to cause cancer in certain laboratory animals. Risk to your health depends on level and duration of exposure.

"[Or equivalent language]

[4] 29 C.F.R. § 1910.1052; 62 Fed. Reg. 1494 (January 10, 1997).

[5] More recent guidance from OSHA and the National Institute for Occupational Safety & Health, also relevant to consumers as it relates to refinishing of bathtubs, also warns directly about the acute hazard. *Methylene Chloride Hazards for Bathtub Refinishers*, OSHA-NIOSH Hazard Alert (January 2013); https://www.osha.gov/dts/hazardalerts/methylene_chloride_hazard_alert.html.

8. Savogran Company, Mark Monique

> "[The back panel labeling given above would be placed separately from use precaution information such as the following.]
>
> > "Use this product outdoors, if possible. If you must use it indoors, open all windows and doors or use other means to ensure fresh air movement during application and drying. If properly used, a respirator may offer additional protection. Obtain professional advice before using. A dust mask does not provide protection against vapors. Do not use in basement or other unventilated area."[6]

EPA Regulation

EPA itself, in the years following the § 4(f) review, adopted a number of national emission standards that limit emissions of DCM, which is a Hazardous Air Pollutant (HAP) listed in Clean Air Act (CAA) § 112. These include, notably, National Emission Standards for Organic Hazardous Air Pollutants for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources ("the NESHAP").[7] Under CAA § 112, these standards must ensure an "ample margin of safety to protect public health." Thus, if the risk of concern were significant, EPA would have to adopt more protective standards under the Clean Air Act.

The requirements applicable to these facilities in the NESHAP are as follows:

> "(a) Each paint stripping operation that is an affected area source must implement management practices to minimize the evaporative emissions of MeCl. The management practices must address, at a minimum, the practices in paragraphs (a)(1) through (5) of this section, as applicable, for your operations.
> (1) Evaluate each application to ensure there is a need for paint stripping (e.g., evaluate whether it is possible to re-coat the piece without removing the existing coating).
> (2) Evaluate each application where a paint stripper containing MeCl is used to ensure that there is no alternative paint stripping technology that can be used.
> (3) Reduce exposure of all paint strippers containing MeCl to the air.
> (4) Optimize application conditions when using paint strippers containing MeCl to reduce MeCl evaporation (e.g., if the stripper must be heated, make sure that the temperature is kept as low as possible to reduce evaporation).
> (5) Practice proper storage and disposal of paint strippers containing MeCl (e.g., store stripper in closed, airtight containers).

[6] Labeling of Certain Household Products Containing Methylene Chloride; Statement of Interpretation and Enforcement Policy (hereafter the "Statement"), 52 Fed. Reg. 34,698 (September 14, 1987).

[7] 40 C.F.R. Part 63, Subpart HHHHHH.

(b) Each paint stripping operation that has annual usage of more than one ton of MeCl must develop and implement a written MeCl minimization plan to minimize the use and emissions of MeCl. The MeCl minimization plan must address, at a minimum, the management practices specified in paragraphs (a)(1) through (5) of this section, as applicable, for your operations. Each operation must post a placard or sign outlining the MeCl minimization plan in each area where paint stripping operations subject to this subpart occur. Paint stripping operations with annual usage of more than one ton of MeCl, must comply with the management practices in paragraphs (a)(1) through (5) of this section, as applicable, but are not required to develop and implement a written MeCl minimization plan.

(c) Each paint stripping operation must maintain copies of annual usage of paint strippers containing MeCl on site at all times.

(d) Each paint stripping operation with annual usage of more than one ton of MeCl must maintain a copy of their current MeCl minimization plan on site at all times."[8]

It is unclear how action under TSCA realistically could achieve greater public health protection for paint stripping sources of DCM than EPA already is required to achieve under current law.

Requirements of TSCA § 9

TSCA § 9, as amended, provides:

"(a) LAWS NOT ADMINISTERED BY THE ADMINISTRATOR.—(1) If the Administrator determines that the manufacture, processing, distribution in commerce, use, or disposal of a chemical substance or mixture, or that any combination of such activities, presents an unreasonable risk of injury to health or the environment, without consideration of costs or other nonrisk factors, including an unreasonable risk to a potentially exposed or susceptible subpopulation identified as relevant by the Administrator, under the conditions of use, and determines, in the Administrator's discretion, that such risk may be prevented or reduced to a sufficient extent by action taken under a Federal law not administered by the Administrator, the Administrator shall submit to the agency which administers such law a report which describes such risk and includes in such description a specification of the activity or combination of activities which the Administrator has reason to believe so presents such risk. Such report shall also request such agency—

(A)(i) to determine if the risk described in such report may be

[8] 40 C.F.R. § 63.11173.

prevented or reduced to a sufficient extent by action taken under such law, and
(ii) if the agency determines that such risk may be so prevented or reduced, to issue an order declaring whether or not the activity or combination of activities specified in the description of such risk presents such risk; and
(B) to respond to the Administrator with respect to the matters described in subparagraph (A).

Any report of the Administrator shall include a detailed statement of the information on which it is based and shall be published in the Federal Register. The agency receiving a request under such a report shall make the requested determination, issue the requested order, and make the requested response within such time as the Administrator specifies in the request, but such time specified may not be less than 90 days from the date the request was made. The response of an agency shall be accompanied by a detailed statement of the findings and conclusions of the agency and shall be published in the Federal Register.

"(2) If the Administrator makes a report under paragraph (1) with respect to a chemical substance or mixture and the agency to which such report was made either—

(A) issues an order, within the time period specified by the Administrator in the report, declaring that the activity or combination of activities specified in the description of the risk described in the report does not present the risk described in the report, or
(B) responds within the time period specified by the Administrator in the report and initiates, within 90 days of the publication in the Federal Register of the response of the agency under paragraph (1), action under the law (or laws) administered by such agency to protect against such risk associated with such activity or combination of activities, the Administrator may not take any action under section 6(a) or 7 with respect to such risk."

(b) LAWS ADMINISTERED BY THE ADMINISTRATOR.—(1) The Administrator shall coordinate actions taken under this Act with actions taken under other Federal laws administered in whole or in part by the Administrator. If the Administrator determines that a risk to health or the environment associated with a chemical substance or mixture could be eliminated or reduced to a sufficient extent by actions taken under the authorities contained in such other Federal laws, the Administrator shall use such authorities to protect against such risk unless the Administrator determines, in the Administrator's discretion, that it is in the public interest to protect against such risk by actions taken under this Act. This subsection shall

> not be construed to relieve the Administrator of any requirement imposed on the Administrator by such other Federal laws.
>
> (2) In making a determination under paragraph (1) that it is in the public interest for the Administrator to take an action under this title with respect to a chemical substance or mixture rather than under another law administered in whole or in part by the Administrator, the Administrator shall consider, based on information reasonably available to the Administrator, all relevant aspects of the risk described in paragraph (1) and a comparison of the estimated costs and efficiencies of the actions to be taken under this title and an action to be taken under such other law to protect against such risk."

If this statutory language were not sufficient to express the limitations on EPA's authority, the legislative history leaves no doubt. The House Energy and Commerce Committee Report states: "H.R. 2576 reinforces TSCA's original purpose of filling gaps in Federal law that otherwise did not protect against the unreasonable risks presented by chemicals," and further clarifies that "while section 5 makes no amendment to TSCA section 9(a), the Committee believes that the Administrator should respect the experience of, and defer to other agencies that have relevant responsibility such as the Department of Labor in cases involving occupational safety."[9]

Two colloquies on the floor of the House of Representatives make this intent clear with specific reference to the instant rulemaking on methylene chloride. First:

> "Mr. SHIMKUS. Mr. Speaker, I yield 2 minutes to the gentlewoman from Tennessee (Mrs. ***Blackburn***), the vice chair of the full committee.
>
> Mrs. BLACKBURN. Mr. Speaker, I do rise in support of the amendments to H.R. 2576, and I congratulate Chairman ***Shimkus*** on the wonderful job he has done. Mr. Speaker, I yield to the gentleman from Illinois (Mr. ***Shimkus***) for the purpose of a brief colloquy to clarify one important element of the legislation.
>
> Mr. Chairman, it is my understanding that this bill reemphasizes Congress' intent to avoid duplicative regulation through the TSCA law. It does so by carrying over two important EPA constraints in section 9 of the existing law while adding a new, important provision that would be found as new section, 9(b)(2).
>
> It is my understanding that, as a unified whole, this language, old and new, limits the EPA's ability to promulgate a rule under section 6 of TSCA to restrict or eliminate the use of a chemical when the Agency either already

[9] H. Rep. No. 114-176 (114th Cong., 1st Sess.) at 28.

regulates that chemical through a different statute under its own control and that authority sufficiently protects against a risk of injury to human health or the environment, or a different agency already regulates that chemical in a manner that also sufficiently protects against the risk identified by EPA.

Would the chairman please confirm my understanding of section 9?

Mr. SHIMKUS. Will the gentlewoman yield?

Mrs. BLACKBURN. I yield to the gentleman from Illinois.

Mr. SHIMKUS. The gentlewoman is correct in her understanding.

Mrs. BLACKBURN. I thank the chairman. The changes you have worked hard to preserve in this negotiated bill are important. As the EPA's early-stage efforts to regulate methylene chloride and TCE under TSCA statute section 6 illustrate, they are also timely.

EPA simply has to account for why a new regulation for methylene chloride and TCE under TSCA is necessary since its own existing regulatory framework already appropriately addresses risk to human health. New section 9(b)(2) will force the Agency to do just that.

I thank the chairman for his good work."[10]

Second:

"Mr. PITTENGER. Mr. Speaker, I thank the chairman for this very sensible legislation. I appreciate his efforts in leading a bipartisan effort to reform U.S. chemical safety law that is decades in the making.

I particularly thank him for securing amendments to section 9 of the TSCA law that remain in the negotiated text. These amendments reemphasize and strengthen Congress' intent that TSCA serve as an authority of last resort for the regulation of a chemical when another authority under EPA's jurisdiction, or another Federal agency, already regulates the chemical and the risk identified by EPA.

As a unified whole, TSCA now makes clear that EPA may not promulgate a rule under section 6 of TSCA to restrict or eliminate the use of a chemical when:

[10] 162 Cong. Rec. H3028 (May 24, 2016).

> Number one, the agency either already regulates that chemical through a different statute under its own control, like the Clean Air Act, and that authority sufficiently protects against a risk of injury to human health or the environment; or
>
> Number two, a different agency already regulates that chemical in a manner that also sufficiently protects against the risk already identified by EPA.
>
> Mr. Speaker, in light of yet another regulatory overreach in the rulemaking at EPA, the new amendments to section 9 of TSCA are a welcome reform with the intent that it will help restrain the agency's unnecessary activities. These are commonsense, but important, protections given what EPA is likely to pursue."[11]

Indeed, TSCA § 9 was strengthened by the Frank R. Lautenberg Chemical Safety for the 21st Century Act, and it was clear from the outset that TSCA is to be used only when other statutes fail to provide a remedy for unreasonable risks. Representative James Broyhill of North Carolina indicated that "it was the intent of the conferees that the Toxic Substance Act not be used, when another act is sufficient to regulate a particular risk."[12] EPA applied this statutory directive in determining that the risk from 4,4' methylenedianiline (MDA) could be prevented or reduced to a significant extent under the Occupational Safety and Health Act, and referring the matter for action by OSHA.[13] And in an analysis of TSCA § 9, EPA's Acting General Counsel concluded that "Congress expected EPA – particularly where the Occupational Safety and Health Act was concerned – to err on the side of making referrals rather than withholding them."[14]

As noted above, OSHA has regulated occupational exposure to DCM for many years. OSHA should be given an opportunity to consider whether a lower workplace standard would be appropriate. Otherwise, if EPA were to go forward with regulation under TSCA, there would be a potential for conflicting and overlapping regulation. OSHA's existing limits would remain in place, regardless of EPA's action, and OSHA's enforcement of its own standards is mandatory (subject to prosecutorial discretion). OSHA may not, however, enforce an EPA regulation under the general duty clause of the Occupational Safety and Health Act, even if the EPA regulation afforded greater protection, as long as an OSHA standard on the same substance is in effect.

---

[11] *Id.*

[12] 122 Cong. Rec. H11344 (Sept. 28, 1976).

[13] 50 Fed. Reg. 27674 (July 5, 1985).

[14] Memorandum to Lee M. Thomas from Gerald H. Yamada, June 7, 1985, p. 2.

It is also significant that EPA is not authorized to establish ambient concentration limits under TSCA § 6.[15] EPA thus cannot limit employee exposure directly, but could only do so indirectly, ***e.g.,*** by controlling the amount of substance used in a product or prohibiting a particular use of the substance under § 6. This is potentially much more burdensome economically than ambient standards, which permit each employer subject to the standards to achieve the necessary reduction in exposure in the most cost-effective manner. Yet TSCA § 6(c)(2) requires EPA carefully to consider the cost effectiveness of a proposed regulatory action against at least one alternative, and Executive Order 13563 requires agencies to achieve their objectives by using the least costly regulatory alternative.[16]

In light of the foregoing, considerations of avoiding unnecessary duplication and utilizing established expertise weigh in favor of invoking the Administrator's referral authority under TSCA § 9(a) even if EPA were to proceed under TSCA. If EPA were to identify a category of exposure deemed to present a risk that is unreasonable, these considerations indicate that referral under § 9(a) would be the appropriate course.[17]

There is no evidence that EPA has submitted to OSHA or CPSC "a report which describes such risk and includes in such description a specification of the activity or combination of activities which the Administrator has reason to believe so presents such risk and includes in such description a specification of the activity or combination of activities

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[15] H. Rep. No. 1341, 94th Cong., 2d Sess. 34 (1976), *reprinted in* House Committee on Interstate and Foreign Commerce, *Legislative History of the Toxic Substances Control Act*, at 441 (1976)..

[16] Improving Regulation and Regulatory Review, 76 Fed. Reg. 3821-3823 (January 21, 2011). In pertinent part, E.O. 13563 states:

"This order is supplemental to and reaffirms the principles, structures, and definitions governing contemporary regulatory review that were established in Executive Order 12866 of September 30, 1993. As stated in that Executive Order and to the extent permitted by law, each agency must, among other things: (1) propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs (recognizing that some benefits and costs are difficult to quantify); (2) tailor its regulations to impose the least burden on society, consistent with obtaining regulatory objectives, taking into account, among other things, and to the extent practicable, the costs of cumulative regulations; (3) select, in choosing among alternative regulatory approaches, those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity); (4) to the extent feasible, specify performance objectives, rather than specifying the behavior or manner of compliance that regulated entities must adopt; and (5) identify and assess available alternatives to direct regulation, including providing economic incentives to encourage the desired behavior, such as user fees or marketable permits, or providing information upon which choices can be made by the public."

[17] As noted above, § 9(a) provides that if the Administrator has reasonable basis to conclude that an unreasonable risk of injury is presented, and he determines, in his discretion, that the risk may be prevented or sufficiently reduced by action under another federal statute not administered by EPA, then the Administrator shall submit a report to that agency describing the risk. In the report, the Administrator shall request that the agency determine if the risk can be prevented or sufficiently reduced by action under the law administered by that agency; if so, the other agency is to issue an order declaring whether the risk described in the Administrator's report is presented, and is to respond to the Administrator regarding its prevention or reduction. The Administrator may set a time (of not less than 90 days) within which the response is to be made. The other agency must publish its response in the Federal Register. If the other agency decides that the risk described is not presented, or within 90 days of publication in the Federal Register initiates action to protect against the risk, EPA may not take any action under § 6 of TSCA.

which the Administrator has reason to believe so presents such risk." The non-existent report obviously did not "include a detailed statement of the information on which it is based" and was not "published in the Federal Register," as required.

Had the required report been issued, in the case of OSHA it presumably would have identified how OSHA's authority over the workplace was insufficient to address the risks posed by DCM-based paint strippers. A letter from the Assistant Secretary of Labor for Occupational Safety and Health (undated but apparently issued on April 4, 2016) identifying limits on OSHA's authority to regulate hazardous substances such as DCM was provided to the SERs. This letter does not come close to meeting the requirements of TSCA for EPA action in this case. The April 2016 letter identifies no such gap specific to use of paint strippers in any particular workplace, rather it simply recites how OSHA's authority does not extend to self-employed workers, military personnel, and consumer uses. But those are limitations that were imposed by Congress and have existed since the Occupational Safety and Health Act was enacted. Those limitations apply to every use of every toxic substance. Congress cannot have meant, in enacting "gap-filling" legislation, to open the door to EPA assuming all authority over the use of hazardous substances in the workplace.

Similarly, regarding DCM-based paint strippers sold as household products, EPA action is constrained by the Federal Hazardous Substances Act, which grants jurisdiction over household products containing hazardous substances to the CPSC. This jurisdiction is exclusive, excepting only that:

> "The Federal Government and the government of any State or political subdivision of a State may establish and continue in effect a requirement applicable to a hazardous substance for its own use (or to the packaging of such a substance) which requirement is designed to protect against a risk of illness or injury associated with such substance and which is not identical to a requirement described in paragraph (1) applicable to such substance (or packaging) and designed to protect against the same risk of illness or injury if the Federal, State, or political subdivision requirement provides a higher degree of protection from such risk of illness or injury than the requirement described in paragraph (1)."[18]

Under the Federal Hazardous Substances Act, further regulation of these household products is precluded absent a finding that the cautionary language contained in the Commission's Statement is ineffective.[19] The Commission is considering strengthening the label to address

[18] Federal Hazardous Substances Act § 18(b)(2); 15 U.S.C. § 1261n(b)(2).

[19] Federal Hazardous Substances Act § 2(q)(1) defines a "banned hazardous substance" as "any hazardous substance intended, or packaged in a form suitable, for use in the household, which the Commission by regulation classifies as a 'banned hazardous substance' on the basis of a finding that, notwithstanding such cautionary labeling as is or may be required under this Act for that substance, the degree or nature of the hazard involved in the presence or use of such substance in households is such that the objective of the protection of the public health and safety can be adequately served only by keeping such substance, when so intended or packaged, out of the channels of interstate

the acute over-exposure risk that resulted in several recent asphyxiations of individuals stripping bathtubs, and Commission staff recently gave its approval to cautionary language submitted by an industry group (attached).

Finally, EPA has not taken into account its own extensive regulation of DCM-based paint stripping under the Clean Air Act. The NESHAP referenced above applies to all area sources engaged in paint stripping using DCM-containing paint strippers, surface coating of motor vehicles and mobile equipment, and miscellaneous surface coating operations, except those excluded in 40 C.F.R. § 63.11169(d). This includes virtually the entire universe of small paint stripping operations, as an "area source is defined in the Clean Air Act (CAA) section 112(a) as any stationary source of HAP that is not a major source, and a major source is defined as any stationary source or group of stationary sources located within a contiguous area and under common control that emits, or has the potential to emit, considering controls, in the aggregate, 10 tons per year (tpy) or more of any single HAP or 25 tpy or more of any combination of HAP."[20]

The existence of a comprehensive regulatory framework for paint strippers under the Clean Air Act has two important implications for any consideration of TSCA § 6 rulemaking for the same sector. First, it means that regulation under TSCA § 6 is precluded under TSCA § 9(b) unless EPA can make a determination "that it is in the public interest to protect against such risk by actions taken under this Act," where sponsors of the Frank R. Lautenberg Chemical Safety for the 21st Century Act have stated the view that EPA's "own existing regulatory framework already appropriately addresses risk to human health."[21] Second, as described more fully below, the Work Plan assessment completed by EPA in 2014 is deficient in that it fails to draw on the information available to EPA to evaluate use and exposure information.

II. Risk Evaluation for DCM in Paint Stripping

TSCA § 6(b)(4)(F), as revised by the Frank R. Lautenberg Chemical Safety for the 21st Century Act, requires that the risk evaluation, while it may not consider costs or other nonrisk factors, must among other things:

- "integrate and assess available information on hazards and exposures for the conditions of use of the chemical substance, including information that is relevant to specific risks of injury to health or the environment and information on potentially exposed or susceptible subpopulations identified as relevant by the Administrator;"

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commerce." 15 U.S.C. § 1261(q)(1). No such finding has been made for household products containing methylene chloride.

[20] 73 Fed. Reg. 1738 (Jan. 9, 2008).

[21] 162 Cong. Rec. H3028 (May 24, 2016).

- "take into account, where relevant, the likely duration, intensity, frequency, and number of exposures under the conditions of use of the chemical substance;" and
- "describe the weight of the scientific evidence for the identified hazard and exposure."

New TSCA § 26(h) requires for each risk evaluation (as "a decision based on science") that "the Administrator shall use scientific information, technical procedures, measures, methods, protocols, methodologies, or models, employed in a manner consistent with the best available science, and shall consider as applicable—

(1) the extent to which the scientific information, technical procedures, measures, methods, protocols, methodologies, or models employed to generate the information are reasonable for and consistent with the intended use of the information;

(2) the extent to which the information is relevant for the Administrator's use in making a decision about a chemical substance or mixture;

(3) the degree of clarity and completeness with which the data, assumptions, methods, quality assurance, and analyses employed to generate the information are documented;

(4) the extent to which the variability and uncertainty in the information, or in the procedures, measures, methods, protocols, methodologies, or models, are evaluated and characterized; and

(5) the extent of independent verification or peer review of the information or of the procedures, measures, methods, protocols, methodologies, or models."

Together, these new provisions indicate that a risk evaluation that supports a TSCA § 6 rule must be more robust than the screening level Work Plan assessment that EPA carried out for DCM. Such an assessment does not meet the requirements of new TSCA § 26(h) nor does it not comply with Office of Management and Budget ("OMB") guidelines implementing the Information Quality Act.[22]

[22] First, EPA must conduct a "highly influential scientific assessment" to support TSCA § 6 rulemaking. OMB defines a scientific assessment as "highly influential" if dissemination of the assessment could have a potential impact of more than $500 million in any one year on either the public or private sector, or if the dissemination is novel, controversial, precedent-setting, or has significant interagency interest. The DCM assessment employed worst-case or default assumptions that led to overestimation of potential risks. Such assessments may be appropriate to support a decision that no further action or evaluation is necessary, because there is confidence that the potential risks are not a concern. However, they are inappropriate to support regulations intended to reduce risk because screening level assessments do not accurately estimate risk or quantify exposures. Second, OMB's guidelines also require agencies to subject highly influential scientific assessments to more rigorous peer review. For DCM, EPA selected a contractor to manage the peer review process, even though experts consider contractor-managed peer review to be the least rigorous level of peer review.

As noted in public comments and by the SERs, the August 2014 assessment uses the incorrect baseline for exposure to DCM from paint stripping, particularly the occupational exposure scenarios. The draft Work Plan Assessment itself described the inadequacies of the occupational exposure assessment:

> "The principal limitation of the worker exposure data is the *uncertainty in the representativeness of the data*. EPA reviewed a number of published exposure studies with inherent data limitations including: number of facilities, job sites, or residences; most often, limited number of sites investigated. This reduced information sampling pool introduces uncertainty and precludes EPA from ascertaining whether the observed data are fairly representative of the broad array of possible sites at all geographic locations across the US and for all workers within the particular end-use application. The level of exposure to DCM during stripping processes depends highly on the use of adequate engineering controls (i.e., general and local exhaust ventilation systems) and work practices as seen by the range of exposure data (TNO, 1999). Therefore, these differences can limit the representativeness of any one site with regards to all sites within the specific end-use application. *As a result of these uncertainties, the actual exposure distributions are unknown; the assumed central tendency and high-end exposures may, or may not, fall within the range of exposures estimated for this assessment.*
>
> "An additional data limitation for occupation exposure estimation is the age of the identified exposure studies. *Most of the exposure studies were conducted in the 1990s, with some pre-dating the 1990s; some studies were more recent. Some references have discussed a trend to reduce the use of DCM in paint stripping products (i.e., OSHA promulgated new exposure limits for DCM in 1997). These factors can limit the representativeness of 1990 and older data with regards to present day workplace conditions and exposures*. As a result of these uncertainties, it is not known, but it is possible, that actual exposure distributions could be declining during the monitoring period considered in this assessment.
>
> "The OSHA IMIS data have the same data limitations as discussed above for the published occupational exposure studies. IMIS data also have additional data limitations to consider. . . ."[23]

While it did not repeat these limitations, the final Work Plan assessment continued to rely on these data. It is remarkable that EPA would even consider using pre-1997 exposure data in an assessment of occupational exposures to DCM. As noted above, in that year OSHA adopted a standard under § 6(b)(5) of the Occupational Safety and Health Act lowering the workplace exposure limit for DCM from *500* parts per million (ppm) to *25* ppm

[23] Draft Work Plan assessment, pp. 65-66 (emphasis added).

as an 8-hour time-weighted average (TWA), a 95% reduction. The statement "it is not known, but it is possible, that actual exposure distributions could be declining during the monitoring period considered in this assessment" is puzzling. Entire applications of DCM were lost as a result of the lower workplace limit, in some cases due to substitution by unregulated compounds that, unlike DCM, did pose health risks to the exposed workers. EPA has adopted standards for most of these applications, for which it relied on exposure assessments showing concentrations below 25 ppm.

In sum, where DCM continues to be used, including in paint stripping, exposures must be kept below 12.5 ppm to avoid triggering the action level. There is no basis for EPA to assume that DCM is being used throughout the United States in what would be flagrant violation of the OSHA standard.

Turning to EPA regulation, the response to comments on the draft Work Plan assessment indicates that the NESHAP was taken into account, but the exposure data in the assessment predate the compliance dates of the NESHAP (ranging from January 2008 to January 2011). Most significantly, the assessment seems to have been conducted without reference to the reporting and recordkeeping requirements of the NESHAP. These are extensive. The initial notification must include:

> "(1) The company name, if applicable.
>
> (2) The name, title, street address, telephone number, e-mail address (if available), and signature of the owner and operator, or other certifying company official;
>
> (3) The street address (physical location) of the affected source and the street address where compliance records are maintained, if different. If the source is a motor vehicle or mobile equipment surface coating operation that repairs vehicles at the customer's location, rather than at a fixed location, such as a collision repair shop, the notification should state this and indicate the physical location where records are kept to demonstrate compliance;
>
> (4) An identification of the relevant standard (i.e., this subpart, 40 CFR part 63, subpart HHHHHH);
>
> (5) A brief description of the type of operation as specified in paragraph (a)(5)(i) or (ii) of this section.
>
> * * * * *
> (ii) For paint stripping operations, identify the method(s) of paint stripping employed (e.g., chemical, mechanical) and the substrates stripped (e.g., wood, plastic, metal).
>
> (6) Each paint stripping operation must indicate whether they plan to annually use more than one ton of MeCl after the compliance date.

> (7) A statement of whether the source is already in compliance with each of the relevant requirements of this subpart, or whether the source will be brought into compliance by the compliance date. For paint stripping operations, the relevant requirements that you must evaluate in making this determination are specified in § 63.11173(a) through (d) of this subpart. . . .
>
> (8) If your source is a new source, you must certify in the initial notification whether the source is in compliance with each of the requirements of this subpart. If your source is an existing source, you may certify in the initial notification that the source is already in compliance. If you are certifying in the initial notification that the source is in compliance with the relevant requirements of this subpart, then include also a statement by a responsible official with that official's name, title, phone number, e-mail address (if available) and signature, certifying the truth, accuracy, and completeness of the notification, a statement that the source has complied with all the relevant standards of this subpart, and that this initial notification also serves as the notification of compliance status."[24]

Following the initial notification (or subsequent notification of compliance status, if required), annual reports to the permitting authority are required:

> "(a) Annual Notification of Changes Report. If you are the owner or operator of a paint stripping, motor vehicle or mobile equipment, or miscellaneous surface coating affected source, you are required to submit a report in each calendar year in which information previously submitted in either the initial notification required by § 63.11175(a), Notification of Compliance, or a previous annual notification of changes report submitted under this paragraph, has changed. Deviations from the relevant requirements in § 63.11173(a) through (d) or § 63.11173(e) through (g) on the date of the report will be deemed to be a change. This includes notification when paint stripping affected sources that have not developed and implemented a written MeCl minimization plan in accordance with § 63.11173(b) used more than one ton of MeCl in the previous calendar year. The annual notification of changes report must be submitted prior to March 1 of each calendar year when reportable changes have occurred and must include the information specified in paragraphs (a)(1) through (2) of this section.
> (1) Your company's name and the street address (physical location) of the affected source and the street address where compliance records are maintained, if different.
> (2) The name, title, address, telephone, e-mail address (if available) and signature of the owner and operator, or other certifying company official, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance

[24] 40 C.F.R. § 63.11175.

and a description of corrective actions being taken to achieve compliance.

(b) If you are the owner or operator of a paint stripping affected source that has not developed and implemented a written MeCl minimization plan in accordance with § 63.11173(b) of this subpart, you must submit a report for any calendar year in which you use more than one ton of MeCl. This report must be submitted no later than March 1 of the following calendar year. You must also develop and implement a written MeCl minimization plan in accordance with § 63.11173(b) no later than December 31. You must then submit a Notification of Compliance Status report containing the information specified in § 63.11175(b) by March 1 of the following year and comply with the requirements for paint stripping operations that annually use more than one ton of MeCl in §§ 63.11173(d) and 63.11177(f)."[25]

It is remarkable that the Work Plan assessment was apparently compiled without utilizing the data already in the hands of EPA and other permitting authorities. Moreover, even more extensive information on DCM content and annual usage are required to be maintained by the operators and readily accessible to EPA:

"If you are the owner or operator of a paint stripping operation, you must keep the records specified in paragraphs (e) through (g) of this section, as applicable.

* * * *

(e) Records of paint strippers containing MeCl used for paint stripping operations, including the MeCl content of the paint stripper used. Documentation needs to be sufficient to verify annual usage of paint strippers containing MeCl (e.g., material safety data sheets or other documentation provided by the manufacturer or supplier of the paint stripper, purchase receipts, records of paint stripper usage, engineering calculations).

(f) If you are a paint stripping source that annually uses more than one ton of MeCl you are required to maintain a record of your current MeCl minimization plan on site for the duration of your paint stripping operations. You must also keep records of your annual review of, and updates to, your MeCl minimization plan.

(g) Records of any deviation from the requirements in §§ 63.11173, 63.11174, 63.11175, or 63.11176. These records must include the date and time period of the deviation, and a description of the nature of the deviation and the actions taken to correct the deviation.

[25] 40 C.F.R. § 63.11176.

> (h) Records of any assessments of source compliance performed in support of the initial notification, notification of compliance status, or annual notification of changes report."[26]

To maintain the credibility of its regulatory efforts under TSCA, it is imperative that EPA build upon available information to construct a realistic risk assessment before proceeding with rulemaking.

III. Consideration of Alternatives

The SERs were quite vocal in expressing concern about EPA's slides suggesting that there were viable alternatives to DCM in most paint stripping applications. They provided compelling arguments as to why these are not technically feasible alternatives. The SERs that formulate *both* DCM-based and non-DCM-based alternatives made clear that, in spite of years of effort to promote the latter, customer acceptance was poor because the alternatives do not effectively strip many substrates. Their statements are more credible than SERs trying to market only alternatives.

In this regard, it is important to note that TSCA § 6(c)(2)(C), as added by the Frank R. Lautenberg Chemical Safety for the 21st Century Act, provides:

> "(C) CONSIDERATION OF ALTERNATIVES.—
>
> "Based on the information published under subparagraph (A), in deciding whether to prohibit or restrict in a manner that substantially prevents a specific condition of use of a chemical substance or mixture, and in setting an appropriate transition period for such action, the Administrator shall consider, to the extent practicable, whether technically and economically feasible alternatives that benefit health or the environment, compared to the use so proposed to be prohibited or restricted, will be reasonably available as a substitute when the proposed prohibition or other restriction takes effect."

In sum, the alternatives on the market do not constitute "technically feasible alternatives" to methylene chloride-based paint strippers. Therefore, given the information EPA has received from the small businesses that rely on and use this chemical, it is clear that a true substitute is not available at this time (and presumably will not be "reasonably available as a substitute when the proposed prohibition or other restriction takes effect").

[26] 40 C.F.R. § 63.11177.

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May 26, 2016

Via Certified Mail/caffey.norman@squirepb.com

Caffey Norman
Squire Patton Boggs (US) LLP
2550 M Street, NW
Washington, DC 20037

Re: Cautionary Labeling of Methylene Chloride-Containing Paint Stripper Products

Dear Mr. Norman:

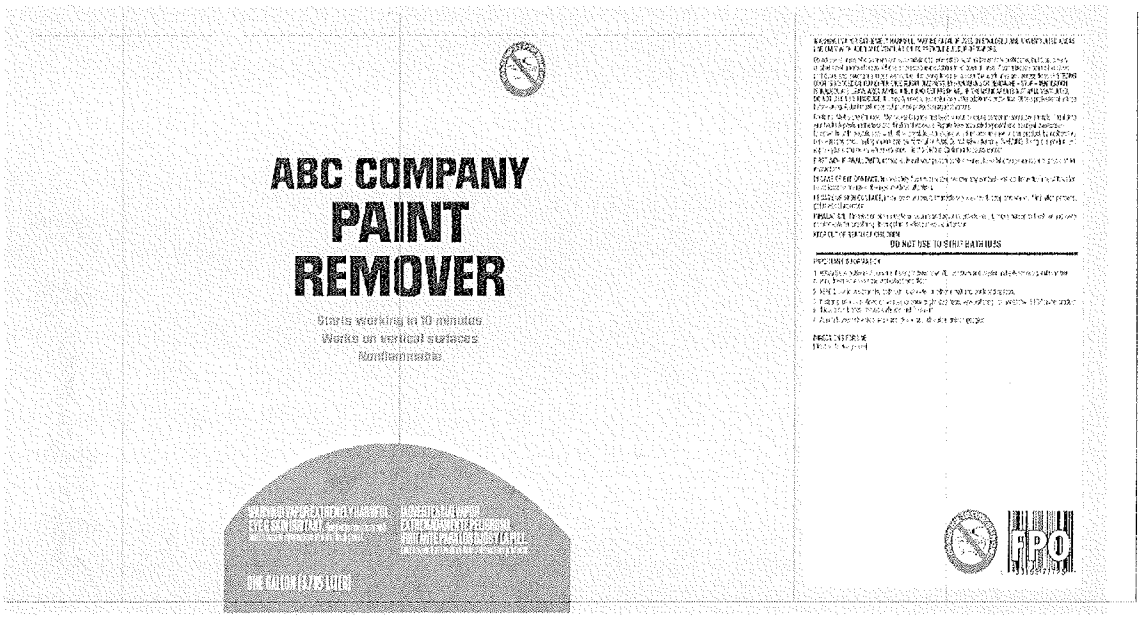
This letter responds to a request by the Halogenated Solvents Industry Alliance (HSIA) that U.S. Consumer Product Safety Commission (CPSC) staff comment on its proposed modified label for methylene chloride-containing paint stripper products under 16 C.F.R. § 1500.128. The proposed label includes enhanced cautionary statements, warning of acute hazards posed with reasonably foreseeable use of methylene chloride-containing paint stripper products in an enclosed space.

On September 14, 1987, the CPSC published a Notice of Interpretation and Enforcement Policy for Labeling of Certain Household Products Containing Methylene Chloride, including paint strippers, which can expose consumers to significant amounts of methylene chloride vapor. *Vol. 52 Federal Register No. 177 Pg. 34698.* The document provided CPSC's recommendations for cautionary labeling to warn consumers of the chronic hazard of carcinogenicity.

The minimum cautionary labeling required under the Federal Hazardous Substances Act (FHSA) is determined by the quantitative formulation of a product and addresses the risk of substantial personal injury or substantial illness during, or as a proximate result of, any customary and reasonably foreseeable use of the product. 15 U.S.C. § 1261(p). The FHSA requires cautionary statements to warn consumers of acute and chronic hazards, to enable consumers to safely use and store the products in and around the household. The recommended cautionary labeling statements for the acute hazards presented in this letter provide CPSC staff's guidance on the specific statements to be used to meet the minimum cautionary labeling requirements of the FHSA.

HSIA submitted the draft label and requested that CPSC staff review CPSC's current labeling guidance for methylene chloride-containing stripper products to address the acute risk of overexposure and to include specific statements indicating that the products are not intended to be used as bathtub strippers. HSIA requested that CPSC staff review HSIA's draft label in response to incidents of accidental death after the products were used to strip bathtubs in bathrooms without adequate ventilation. The deaths occurred from using products that are available to consumers.

Below is the draft cautionary label submitted by HSIA for staff review and comments under 16 C.F.R. § 1500.128:



The cautionary statements on the principal display panel read:

WARNING: VAPOR EXTREMELY HARMFUL
EYE AND SKIN IRRITANT
Read other cautions and health hazard information on back/side panel.

CPSC staff reviewed HSIA's draft label with the minimum cautionary labeling requirements of the FHSA in mind. Based on a product's formulation, a product may require additional principal display panel (PDP) cautionary statements. Due to the reported incidents of death that have occurred over the last 10 years, CPSC staff recommends strengthening the statement of principal hazard to warn consumers that use of the product without adequate ventilation can be fatal. We recommend the following statements:

WARNING: INHALATION OF VAPOR MAY CAUSE DEATH
EYE AND SKIN IRRITANT
Read all cautions on back/side panel.

Below are the remaining back panel precautionary statements and instructions for use:

WARNING! VAPOR EXTREMELY HARMFUL. MAY BE FATAL IF USED IN ENCLOSED AND UNVENTILATED AREAS. USE WITH ADEQUATE VENTILATION TO PREVENT BUILDUP OF VAPORS.

Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms, bathtubs, closets, or other small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors, open all windows and doors, and cross ventilate by moving fresh air across the work area and across the floor. **IF STRONG ODOR IS NOTICED, OR YOU EXPERIENCE SLIGHT DIZZINESS, EYE-WATERING, OR HEADACHE – STOP! VENTILATION IS INADEQUATE. LEAVE AREA IMMEDIATELEY, AND GET FRESH AIR. IF THE WORK AREA IS NOT WELL-VENTILATED, DO NOT USE THIS PRODUCT.** If used properly, a respirator may offer additional protection. Obtain professional advice before using. A dust mask does not provide protection against vapors.

Contains: Methylene Chloride. Methylene Chloride has been shown to cause cancer in laboratory animals. The risk to your health depends on the level and duration of exposure. Reports have associated neurological and other physiological damage to repeated and prolonged overexposure to solvents. Intentional misuse of this product, by deliberately concentrating and inhaling vapors, can be harmful or fatal. Do not take internally. WARNING: Using this product will expose you to chemicals that are known to the State of California to cause cancer.

FIRST AID – IF SWALLOWED, immediately call your poison control center, hospital emergency room or physician for instructions.
IN CASE OF EYE CONTACT, immediately flush with water, remove any contact lenses, continue flushing with water for at least 15 minutes, then get medical attention.
IN CASE OF SKIN CONTACT, irritation may result. Immediately wash with soap and water. If irritation persists, get medical attention.
INHALATION: If inhalation of this material occurs, and adverse effects result, move person to fresh air and keep comfortable for breathing, then get medical attention.
KEEP OUT OF THE REACH OF CHILDREN

DO NOT USE TO STRIP BATHTUBS

IMPORTANT INFORMATION

1. ALWAYS use outdoors, if possible. If using indoors, open ALL windows and interior and exterior doors, and maintain moving fresh air across the workplace and floor.
2. NEVER use in basements, bathrooms, closets, or other small and enclosed spaces.
3. If strong odor is noticed, or you experience slight dizziness, eye watering, or headache, STOP using product and leave work area immediately, and get fresh air.
4. ALWAYS wear chemical-resistant gloves and chemical-splash goggles.

CPSC staff made very few revisions to the HSIA-proposed back panel labeling for methylene chloride-containing paint strippers, and we noted the revisions in the text above. CPSC staff does not have any additional statements to recommend. In addition, the HSIA label proposed the use of a pictogram depicting a bathtub with the prohibition mark through the bathtub. Although the FHSA does not require using pictograms, other than the skull and crossbones, and the special pictogram for charcoal briquette labeling, the FHSA does not prohibit using pictograms. CPSC staff believes that graphics may draw the user's attention to the danger of using the product to strip bathtubs.

Currently, staff does not have plans to recommend that the Commission make changes to the September 14, 1987 Notice of Interpretation and Enforcement Policy or establish mandatory requirements through rulemaking. Under the FHSA, manufacturers must review their product's formulation over time, and adjust the cautionary labeling to best address risks of injury or illness that become known to the manufacturer from using their product. CPSC staff encourages manufacturers to review the cautionary labeling of their methylene chloride-containing paint stripper products, and ensure that adequate labeling is present to address the acute hazards associated with the use of methylene chloride-containing paint strippers and the risk to consumers. Providing a copy of this letter to your members would be helpful to ensure that all manufacturers of methylene chloride paint strippers warn of the hazard of using the paint strippers in enclosed areas.

This letter contains an interpretation by CPSC staff, and has not been reviewed by the Commission. Additional or new information could change our position, and the views could be changed by the Commission.

Please contact me if you have questions about this letter.

Sincerely,

Mary T. Toro for

Carol A. Afflerbach

July 01, 2016

Submitted via email.

Nathan Jutras
USEPA Headquarters
Mail Code: 1803A
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: Response to EPA Outreach to Small Entities
EPA Work Plan Chemicals Regulatory Activity
Methylene Chloride (MeCl2) and n-Methylpyrrolidone (NMP) in Paint Removers

Dear Mr. Jutras:

I am writing on behalf of W. M. Barr & Company, Inc. (Barr) to follow-up on materials that were distributed by Environmental Protection Agency (EPA) personnel as well as discussions that occurred in the context of EPA's June 15, 2016 Outreach Meeting with Small Business Entities, including formulators and users of paint removing products which contain Methylene Chloride (MeCl2) and n-Methylpyrrolidone (NMP). Barr has a lengthy history and well-established reputation as a provider of top-quality professional and consumer-use paint removal products that have a 70-year history of safe use in the United States. Barr appreciates the opportunity to provide these comments and the enclosed materials as a supplement to written comments provided to EPA in April of this year, and at the invitation of EPA staff following the June 15, 2016 meeting. These comments also address specific questions posed by EPA in the context of its outreach.

Executive Summary of Comments

We are concerned that the Agency has embarked on a regulatory initiative under Section 6 of the Toxic Substances Control Act (TSCA) concerning paint removal products, the outcome of which has been predetermined. Importantly, the materials prepared by EPA staff and shared in the context of the Agency's outreach efforts with small entities suggest the EPA has decided that proposing a regulation under Section 6(a) of TSCA is warranted. Unfortunately, the information EPA has made available suggests that the Agency has not gathered and taken into account important information concerning the comparative efficacy, health and environmental effects, economic benefits, and ease of use of products that contain MeCl2 and NMP. Consequently, the Agency has not been able to objectively identify and consider the potential adverse and

unintended health and environmental consequences that are reasonably likely to occur in the event continued use of the most effective paint removal products is unduly restricted or completely prohibited for professional and consumer/do-it-yourself (DIY) users under a Section 6(a) regulation. Moreover, EPA's exposure estimates and risk analysis are based on workplace exposure data and similar information that are not pertinent to consumer-use scenarios which are more likely those experienced by Barr's customers. Thus, EPA has over estimated risk to consumers who buy small quantities of paint removers only on an as-needed basis for limited scale, short-duration uses.

In addition, the Agency has not performed the analysis and consultation required under Section 9 of the amended TSCA, and therefore EPA has not met its obligation to take into account the successful efforts of other federal agencies (e.g., OSHA and the CPSC) and the Agency's own Clean Air Act program efforts to address and mitigate exposures to MeCl2 and NMP, only two of the numerous chemical substances that are commonly used in paint removers.

Barr is providing these comments, and the attached supporting materials, to make clear that proper education and outreach to users of paint removal products that contain MeCl2 and NMP, coupled with enhancements to product labeling and directions for use, will be sufficient to ensure that potential risks to consumers who purchase such products in small quantity containers are reduced, as required under the amended TSCA, only to the extent necessary to be deemed reasonable. In addition, Barr would support a prohibition on the consumer use and DIY uses of MeCl2 containing coating removers for bath tub stripping. Such a targeted restriction can be implemented in a timely and effective way and can address the most acute risks with the least amount of market disruption while retaining the critical consumer/home and DIY uses for which no effective substitutes exist.

Barr stands ready to support these comments by meeting with you and your colleagues in Washington, DC for the purpose of demonstrating the unmistakable evidence that the risks of use of MeCl2 and NMP-containing paint removers can be easily managed and are reasonable. We believe you will readily conclude, after a full review of the information and evidence available to EPA, that enhanced labeling and use limitations will: (1) appropriately mitigate the risks the Agency has identified; (2) avoid unnecessarily increasing consumer exposures to less effective alternative paint removal products and methods that present their own health and safety concerns; and (3) promote consumer choice. Finally, in light of the shortcomings of alternative products, EPA must inevitably conclude the alternatives are neither technically nor economically feasible substitutes for consumer-use paint removal products that contain MeCl2 and NMP.

Background on Barr & Company Products

Barr is an employee-owned enterprise which has been a market leader for 70 years providing specialty cleaning products for both consumer and professional-use customers in the home improvement, household and automotive industries. Barr brands include products for use on wood; masonry; metal; certain plastics; fiber glass; epoxy; urethane and polyurethane; oil, alkyd, and latex paints; automotive finishes; UV coatings; antique finishes, and others. Approximately 30% of our products include paint removers. Greater than 80% of Barr's leading paint remover products contain MeCl2; at least 10% contain NMP. We also provide alternative products which are formulated without MeCl2 and NMP, and which are labeled for uses which are either unsuitable for use of MeCl2 and NMP-containing materials, or which do not require the level of performance that our MeCl2 and NMP-containing products are expected to deliver.

Barr's direct customers are primarily retail distributors. Thus, the largest share of our paint remover products are marketed through home improvement channels for consumer uses, although it is well-established that professionals in the home improvement, industrial, automotive and marine industries purchase products through these channels as well.[1] Barr's paint removal products are sold in small, consumer-use sized containers. The markets into which Barr sells its products will not accept for redistribution paint removers sold in 55-gallon drums. End-user customers purchase Barr paint remover products typically for home use and similar small jobs that generally involve only intermittent and shorter-duration exposures.[2] Thus, it is reasonable to expect that home hobbyist and do-it-yourself (DIY) small-quantity purchasers (such as Barr's customers) do not experience more concentrated and longer-term exposures such as have been associated with specific industrial and commercial uses.

[1] Barr brand products are carried in Home Depot, Lowe's, Ace, Walmart, Menards, Orchard and other home and hardware retail distribution centers. Individual paint stores and specialty coating stores, as well as other small "mom and pop" stores also might carry Barr brand paint and coating removers.

[2] Commercial, small-business contractors who buy our products generally purchase at Home Depot or Lowe's which sell to many such contractors for one-time only projects and for small jobs and periodic, short duration uses. While we estimate that perhaps 25 - 30% of end users might be commercial contractors who purchase through these channels, the clear majority of the remaining purchasers are consumers/homeowners and DIY users.

Barr & Company Comments

Barr paint remover products fill a specific need for consumer and DIY use products for which comparably-effective substitutes simply do not exist. Thus, requiring large sized (55-gallon) containers will destroy the Barr brand paint remover products while eliminating an important product upon which consumers and DIY users rely. Doing so will not effectively mitigate the longer-duration workplace exposures that are far more likely than consumer uses to present a risk to human health and the environment. More appropriate risk-mitigation strategies should be considered for MeCl2 and NMP consumer use paint remover products, such as enhanced labeling and risk-communication.

1. <u>EPA's own materials demonstrate that technically and economically feasible alternatives to MeCl2-containing paint removers do not exist</u>.

Barr's data and customer feedback indicates that paint removal products containing MeCl2 clearly outperform all of the alternatives EPA has identified, particularly for consumer, do-it-yourself (DIY) and limited duration use applications. Products containing NMP also perform well, but not as well as MeCl2, although generally better than other alternatives identified by EPA. Simply put, consumers demand products that work. And there are no alternatively formulated products that quickly, safely, and efficiently remove coatings and substrates in a manner that meets consumer demands. As a result, it is neither technically nor economically feasible for Barr to shift production to an alternative formulation that does not rely on MeCl2 or NMP.

a. *Technical feasibility of substitutes.* The Agency has compiled in Appendix D to the materials presented in the June 2016 outreach session, selective documents concerning the performance attributes of various paint removing products. The documents support the conclusion that paint removal products containing MeCl2 are the most effective products on the market when the time required to remove the coating and the level of removal doing so are taken into account. The PowerPoint presentation offered by EPA in its June 2016 outreach session with small business entities is consistent with that conclusion. The presentation suggests that paint removing products containing MeCl2 clearly outperform the alternatives, and that no feasible alternatives have been identified for use in furniture refinishing (one of the predominant consumer use/ DIY applications involving MeCl2 containing removers). EPA's presentation solicits additional information concerning this finding.

   Barr's own testing corroborates the Agency's conclusions. To assist EPA, Barr has provided an enclosure (Exhibit A) which summarizes testing performed by Barr

using its formulations and competitors' products as well as certain components and individual ingredients comprising alternative paint removing formulations. The testing was performed on a variety of coatings on specific substrates. As the enclosure demonstrates, chemical solvent alternatives such as toluene, acetone, methanol and benzyl alcohol do not completely remove alkyd or epoxy paints in fewer than four hours and in some cases not at all. In contrast, the enclosure reflects that methylene chloride-based paint removal products removed both kinds of coatings from substrates within five minutes on all painted surfaces tested, and within 15 minutes on cured coatings.

The findings of our product and performance comparison studies are echoed in the Company's experience in the marketplace with alternative formulations that do not contain MeCl2. Barr has, on multiple occasions, launched new products with alternative formulations only to find that consumer acceptance has been dismal. The Company has received feedback in those instances from its ultimate customers that the products do not remove all varieties of coatings and do not work as quickly. In sum, our experience suggests that users are routinely disappointed by the performance of alternatively formulated products.

b. *EPA's Proposal is not Economically Feasible.* Marketing ineffective alternatives that are disappointing to our customers undermines Barr's credibility and ultimately the Barr brand. This adversely affects the economic viability of alternate formulations. EPA's materials overstate the economic feasibility of the alternatives. The cost of alternatives can greatly fluctuate with supply conditions. For example, Methanol, Acetone, and Toluene-based paint removers costs approximately the same as MeCl2-based removers, are less effective, and will not remove chemically-resistant coatings. In contrast, benzyl alcohol-based products can be as much as 450% more expensive than MeCl2-containing products. Prices to consumer for such removers could be as much as be $90/gal. versus $22/gal. for MeCl2-containing removers. Furthermore, such products are less effective, and in some cases completely ineffective, against chemically-resistant paints when compared to MeCl2-containing removers.

EPA has not performed the kind of economic analysis required under the amended TSCA in which the costs of a potential regulatory intervention should be vetted. The amended statute requires more than a mere attempt to calculate the comparative costs of raw materials, formulating activities, packaging, and distribution of current products versus potential alternatives. EPA also must assess and critically consider the costs of purchasing *and using* paint and coating removal products. While it may be possible in certain instances to make and sell a product that does not contain

MeCl2, that is not where the analysis needs to end. EPA must consider and objectively explore the cost implications to consumers of purchasing and using less effective alternatives. If consumers must use *more* of a *less effective product* to derive the same benefit of using MeCl2-containing paint strippers, they may experience greater cost in the long run. This may permit the makers of less effective alternatives to sell more product (a proposition to which they are unlikely to object) but it does not mean there has been a net economic, environmental, nor societal benefit -- much less a savings to consumers.

In the absence of technically and economically feasible alternatives to MeCl2-containing paint removers, EPA lacks a sufficient basis to proceed with a Section 6(a) rule that would explicitly prohibit uses of MeCl2-containing paint removal products.

2. <u>EPA has not adequately considered the environmental consequences as well as the risks to human health of the various regulatory alternatives</u>.

Paint removers that contain MeCl2 provide important environmental and public health advantages that alternative products do not. While EPA does not acknowledge these advantages in its materials supporting the June SER presentation, the Toxic Substances Control Act, as amended, requires EPA to take these advantages into consideration before the Agency may move forward with a Section 6 rulemaking.

Specifically, recent amendments to TSCA require EPA, when contemplating regulatory action under Section 6, to take into consideration the likely effect of the rule on the national economy, small business, technological innovation, *the environment, and public health*. As discussed above, Barr's principal customers are consumers and DIY users who purchase paint removers in small quantity containers in home improvement and hardware stores. The quantities and small sizes of the containers purchased, even by small business contractors who buy from retail home improvement stores, are indicative that such purchasers buy paint removers on an as-needed basis for small jobs in and around homes. Thus, it follows that their exposures to such products are episodic and short-lived.

By contrast, as EPA acknowledges in its own materials submitted to SERs, alternatively formulated paint removal products require substantial additional time to remove paint. This additional time for product application creates longer periods of time for use and consequently greater opportunities for user exposure and environmental releases of these alternatively formulated products than are currently experienced using MeCl2-containing removers. Nevertheless, the risks that can result from such extended exposure periods and environmental releases of alternative chemical-based removers were

not taken into account in the Agency's June 2016 PowerPoint presentation and the additional information shared by EPA in the context of its outreach sessions. Further, the flammable nature of several alternative products raises additional concerns for physical hazards, and significant near-term risks, in contrast to health effects that arise only from chronic exposures (rather than DIY, sort term uses).

Although Barr would support a rule prohibiting consumer and DIY use of MeCl2-containing products for stripping bath tubs, a rule significantly limiting consumer uses of MeCl2-containing paint removal products more generally could produce unintended consequences that would reasonably result in the *increased* use of less effective products, including those which are more flammable than MeCl2-containing formulations. As the use of less effective products increases, so will the time required for consumer and DIY users in particular to remove paint, thereby increasing, rather than decreasing, the overall amount of time such users experience exposures -- as well as the amount of time during which environmental releases of volatile paint remover products will occur. As noted, the risks of fires and explosions must be expected to increase as well.

EPA has a duty under Section 6 of the amended TSCA statute to attempt to quantify and compare the environmental benefits *and* the public health consequences of the regulatory approaches it is considering. Merely alleging, categorically (as the Agency does in its PowerPoint presentation), that the hazards presented by the substitutes (both process changes and chemical substitutes) "generally" present "less concern" than MeCl2 is not the level of analysis Congress expected EPA to bring to bear when making such important regulatory determinations.

Finally, Barr also notes that MeCl2 generally has more favorable profile with respect to ozone depletion potential when compared to the chemical components in alternative formulations.[3] It is not clear how or whether EPA has taken this into account, although the Agency must certainly agree that a product's effect on air quality also can have an effect on human health -- in addition to the environment. The materials produced by EPA to date do not reflect that the Agency has considered this important analysis. Nevertheless, when making such a comparative assessment alternative products as well as regulatory alternatives under the amended Section 6 of TSCA, EPA must consider and address the comparative *environmental* impacts of both its regulatory options and of the products on the market (as well as their potential substitutes). Overlooking this feature will ultimately do a disservice to Agency's primary mission and to its credibility.

[3] *See* 40 CFR 51.100, noting MeCl2 among substances which have negligible photochemical reactivity.

3. The exposure data upon which EPA has relied for its MeCl2 risk assessment overstates the risks to consumers and DIY-users of paint removers, are out of date, and do not meet the amended standards of TSCA.

EPA is well aware that that its risk assessment exposure level for MeCl2-containing paint removing products relies on data generated prior to significant changes to the Occupational Safety and Health Administration (OSHA)' permissible exposure limit and EPA's National Emissions Standard for Hazardous Air Pollutant (NESHAP) for methylene chloride.[4] Relying on exposure data pertinent to periods that precede the effective dates of the revised OSHA and EPA NESHAP standards is misleading at best and in no case can it be characterized as sound science.

More contemporary exposure and use data may be publically available and can be called-in by EPA using its authority under the amended TSCA.[5] Doing so would enable EPA to meet its statutory obligation under Sections 6 and 26 of TSCA to take into consideration all information that is "reasonably available" to the Agency and to ensure that EPA is relying on the "best available science" for its regulatory decision making. The failure to gather and review all available data on exposures to MeCl2-containing paint removers, and to better distinguish between consumer home user exposures and commercial/industrial use exposures will undercut the reputation of EPA regulatory activity under the amended TSCA, and its ability to say it has relied on a "weight of the scientific evidence" approach for any ensuing proposed rule that would limit uses of MeCl2-based paint removers.

As a consequence, Barr recommends that EPA reconsider the scientific bases underlying the risk assessment for MeCl2, re-assess the risk of exposure to consumer and DIY users under realistic exposure scenarios that are likely to be occurring since the implementation of EPA's and OSHA's current regulatory programs for MeCl2. Following such an exercise, the Agency will have a better basis to reasonably determine whether a proposal to further limit uses of McCl2-containing paint removal products is warranted under TSCA.

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[4] *See* also March 15, 2013 comments of HSIA which Barr incorporates by reference.

[5] For example, annualized data compiled by the American Association of Poison Control Centers in its annual reports shows a significant reduction in the years since 2000 in which stripping agents containing MeCl2 were implicated in reports and calls to poison control centers in the US. Thus, in more recent years, such incidents are now approximately only 1/3 of what they were in 2000.

4. EPA should consider regulatory alternatives, including enhanced labeling, consumer education and training requirements for product users that will permit product manufacturers and formulators to manage potential risks to reasonable levels.

Notwithstanding the numerous shortcomings in the Agency's current analysis for MeCL2, Barr *would support* a Section 6(a) rule that imposes a minimum labeling standard that does not involve a complete prohibition of MeCl2-containing products, *as an alternative* to a Section 6 rule that would either prohibit consumer and small business professional use of MeCl2-containing pant removal products, or a rule that would effectively do so indirectly by requiring that MeCl2-containing products be distributed only in 55-gallon drums.

Specifically, Barr supports voluntary and mandatory labeling standards that would: (1) require the use of MeCl2-containing products only in well-ventilated spaces; (2) prohibit the use of products containing MeCl2 in confined spaces such as bathrooms; and (3) prohibit consumer and DIY uses of products containing MeCl2 for stripping bathtubs. Such a rulemaking would be consistent with the Consumer Product Safety Commission (CPSC or Commission) efforts with respect to labelling required under the Federal Hazardous Substances Act and would provide a practical and rational approach to enhancing user awareness and risk avoidance techniques while meeting the amended Section 6(a) standard that EPA select and implement by regulation risk mitigation measures *only* to the extent necessary so that the targeted chemical substance or mixture no longer presents such risk.

In coordination with our industry trade association, the Halogenated Solvents Industry Alliance (HSIA), and consistent with the trade association's consultations with the CPSC, Barr has already initiated enhancements to our Company's MeCl2-containing product labels to comport with a template for label language. CPSC staff recently determined that the enhanced labels meet the standards of the Federal Hazardous Substances Act. A copy of the CPSC correspondence and an example of Barr's product labels that conform with the HSIA exchanges with CPSC are enclosed. *See* Exhibit B. Please note that a specific warning against using the product for bathtub stripping is prominently displayed. Barr expects to have products reflecting the enhanced and updated labeling on store shelves before the end of 2016.

Conclusion

On the basis of the written information shared by EPA personnel in the context of its outreach to small business entities, it is apparent that the Agency lacks the necessary scientific and policy basis to propose a Section 6(a) rule that would completely prohibit the consumer/DIY uses of MeCl2-containing paint removers. First and foremost, the Agency's documents do not suggest that an effective, safe alternative exists that is economically or technically feasible for stakeholders that manufacture, formulate, or use McCl2 derived paint removal products. Moreover, the Agency has not carefully compared and realistically contrasted alternative products and a meaningful variety of regulatory alternatives, including considering the costs and benefits of less proscriptive approaches to mitigating risks. To that end, there is no record that EPA has engaged in the kinds of analysis and consultations required under Section 9 of the amended TSCA.

More concerning is the fact that EPA has not updated the basic exposure data upon which it appears ready to rely for a major rulemaking. This Agency's failure to do so could lead to deficiencies in the scientific analysis and policy bases needed to undertake a regulatory action under the amended Section 6 and Section 26 of TSCA, as amended.

As an alternative to the Agency's apparently-preferred regulatory alternative, Barr recommends and supports the use of enhanced labeling and user education techniques that would better communicate risks associated with the use of MeCl2-containing products in poorly-ventilated areas and prohibit the use by consumers and professionals in confined spaces and in residential bathrooms, including to strip bathtubs. This regulatory approach aligns with existing, voluntary industry efforts to improve consumer education and will mitigate the risks identified by the Agency to the extent necessary under the law and without unnecessary adverse economic impacts, including to small enterprises such as Barr's employees-owned business.

Barr would be pleased to meet with you and members of your staff to provide a more robust explanation of the differences users experience when working with MeCl2-containing products versus the alternatives. We believe following such a meeting you will inevitably conclude that the alternative products are neither technically nor economically feasible substitutes for paint removing products that contain MeCl2. We also believe that further discussions with the formulator and end-user community will demonstrate that increased use and exposure to alternative products will unnecessarily create greater risks to human health and the environment.

We will contact your staff to arrange such a meeting soon.

Sincerely,

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Enclosures: Exhibits A and B

Identification and Comparison of Solvents and Paint Removers as Alternatives to Methylene Chloride in Paint Removal Applications

R&D, W.M. Barr & Co
08 Aug 2015

Identification and Comparison of Solvents and Paint Removers as Alternatives to Methylene Chloride in Paint Removal Applications

Abstract

California's Safer Consumer Products program has selected methylene chloride paint remover as a "Priority Product". As a manufacturer of methylene chloride paint removers, WM Barr will be required to evaluate alternative products that could be used in place of methylene chloride. This study compares the performance of methylene chloride paint removers to 22 alternative solvents currently used in non-methylene chloride paint removers or solvents proposed as a replacement by chemical manufacturers. The performance of 26 non-methylene chloride paint remover formulations currently available was compared to three methylene chloride based paint removers as well as 5 formulations using solvents with removal potential found in the neat solvent study. The solvents and paint removers were tested on wood panels treated with multiple layers of an oil-based alkyd paint, a solvent-borne epoxy paint and an OEM automotive finish. For chemically resistant oil-based alkyd, solvent--borne epoxy paints and OEM Automotive Coatings, only methylene chloride based paint removers were determined to be effective.

1. Background

Methylene chloride has been the preferred solvent for use in paint removers for seventy years. Before methylene chloride was introduced most paint removers were benzene based and thus were extremely flammable. The flammability resulted in many fires causing injury and death. Methylene chloride paint removers rapidly replaced benzene removers because they were non-flammable and very effective in removing coatings quickly. Physical characteristics give the methylene chloride molecule the ability to soften or dissolve chemically resistant coatings and quickly penetrate multiple layers of coatings. Methylene Chloride does not deplete the ozone layer and is considered to make negligible contributions to smog formation, the green-house effect and acid rain. Like other organic solvents, methylene chloride can be harmful to human health if used improperly. This study compares the performance of methylene chloride to 22 alternative solvents currently used in non-methylene chloride paint removers or solvents that have been proposed as replacement by chemical manufacturers. The performance of 26 non-methylene chloride paint remover commercial products and 5 lab-prepared formulations were compared to methylene chloride based paint removers.

When assessing viability of a paint remover, it must be considered that older paint is the usual substrate to be removed which is more chemically resistant than many paints available today. While latex paints are widely available now and more easily removed, they were not common 30 or more years ago. However, chemically resistant coatings are still used today. This study focused on the more difficult, chemically resistant finishes.

A chemical paint remover is composed of a mixture of solvents. The solvents in the paint remover diffuse into the paint causing the paint to swell and loosen from the substrate. Diffusion and solvency properties are key factors in the ability of a solvent to remove paint. Diffusion is the spontaneous movement of the solvents from an area of high concentration to an area of low concentration. The spontaneous movement of the solvent occurs as a result of the random kinetic movement of the solvent and does not require the input of energy. In general, smaller and less polar molecules will have a higher diffusion rate when compared to larger, more polar molecules. The second key factor in determining

the performance of a paint remover is the solubility of the paint resin in the solvent. The solvent must have the ability to swell or dissolve the paint film in order to be an effective paint remover.
To establish the performance criteria of methylene chloride based paint removers, the label copies from several manufacturers were evaluated for consumer benefits. The three most important criteria include:

(a) Removal of many types of coatings including oil based and epoxy paints for architectural coatings and factory applied OEM automotive paints
(b) Removal of multiple layers of coatings
(c) Fast removal of the coating, starts working within 15 minutes

Other criteria considered in the evaluation of paint remover is the cost and the VOC content of the paint remover. CARB regulations limit the VOC content of paint removers to 50 percent by weight.

2. Materials and Methods

Solvent Selection – The solvents used in this study were selected among solvents currently used in non-methylene chloride paint removers, solvents recommended as methylene chloride replacements by chemical manufacturers, and the list of EPA exempt solvents. Technical grade samples of the solvents were obtained and used in this study without further purification.

Paint Remover Selection – The paint removers used in this study were purchased from hardware stores or from suppliers on the internet. All paint removers were used as is.

Experimental Paint Removers – Through previous work screening neat solvents, several solvents were selected as having some paint remover potential. These solvents were formulated into paint removers that meet the 50% VOC requirement. These Experimental Paint Removers are:

A - a solvent based remover based on toluene, methanol, and acetone (50% VOC)
B - a solvent based remover based on 1,2-trans-dichloroethylene and acetone (50% VOC)
C - a solvent based remover based on 1,3-dioxalane and acetone (50% VOC)
D – an emulsion remover based on benzyl alcohol in water
E – an emulsion remover based on dibasic acids in water.

Paint Selection - The paints used in this study were purchased from local hardware or paint stores and were selected to represent chemically resistant paints commonly encountered in paint removal applications in household and in industrial applications. The paints purchased for this study are listed in Table 1 along with numbers of layers of paint used on the test panel. Only one type of paint was used for each test panel.

Table 1. List of paint, paint type and number of coatings used in study

Paint	Paint Type	Number of Coatings
Rust-Oleum Professional High Performance Protective Enamel Exterior Gloss	Oil-based alkyd paint	5
Sherwin Williams Macropoxy 646	Two component oil-based epoxy paint	3

Panel Preparation Procedure - Sanded birch plywood (1/2 in x 4-ft x 4-ft) was cut to approximately 12 x 8 inch panels. A 4-inch multi-purpose paint roller was used to apply coats designated paint to the birch panels as determined in Table 1. Each layer of paint was allowed to dry for four hours at ambient conditions then placed overnight in a laboratory oven at 50°C. Each layer of paint was tinted a different color to increase visibility of layers as they are stripped away. The panels were then aged for 30 days at ambient conditions before testing. These panels represent relatively fresh paint, actual paint that has cured for decades would be considerably more chemical resistant. After preparation the panels were stored at ambient conditions until needed for the stripping test.

Automotive Panel Preparation - The front hood from a 2006 Chevrolet Impala SS was purchased in good condition with factory paint intact. The hood was cleaned with a damp cloth and used in testing without further modifications.

Neat Solvent Testing

Apparatus
A grid was marked on each panel with masking tape creating test cells approximately 1 ½ in x 1 ½ in for the stripping trials. Each cell was labeled with the name of the solvent tested and duration time of the test. A C31 Large Commercial Sponge from 3M was cut to approximately sized ¼ in x 1 ½ in x 1 ½ in pieces. The sponge pieces were placed on each test cell to control evaporation and retain solvent in the test area.

Sample Preparation
For each sample, 2mL of solvent was applied to the sponge. Additional solvent was placed on the sponges at intervals to ensure that the solvent remained on the surface. At the timed intervals the test area was scraped using a plastic scraper and evaluated for effects on the coating and the number of layers of paint removed was recorded.

Paint Remover Testing

Apparatus
A grid was marked on each panel with masking tape creating test cells approximately of 1 ½ in x 1 ½ in for the stripping trials. Each cell was labeled with the name of the paint remover tested and duration time of the test.

Sample preparation
For each sample, 2mL of paint remover was applied to the cell. At the timed intervals the test area was scraped using a plastic scraper and judged for effects on the coating and the number of layers of paint removed was recorded.

3. Results

Test results of 22 alternative solvents and methylene chloride to remove multiple layers of oil-based alkyd and solvent-borne epoxy paint are listed in Appendix 1. Only methylene chloride was able to remove all five layers of oil based alkyd paint in 15 minutes. Methylene chloride removed two layers of the solvent-borne epoxy paint after 15 minutes and was the best performing solvent in all paint categories. Of the alternative solvents tested, trans-1,2 dichloroethylene and 1,3 dioxolane performed the best, but were shown to be far less effective than methylene chloride.

For automotive coatings the performance of methylene chloride was compared to five alternative solvents and the results are presented in Appendix 2. The two alternative solvents which performed the best on the wood panel test, trans-1,2 dichloroethylene, and 1,3 dioxolane were selected along with n-methyl-2-pyrrolidone, benzyl alcohol and a dibasic ester mixture, which are used in commercially available non-methylene chloride paint removers. Methylene Chloride was the only solvent that stripped the clear and top coat of the automotive finish in 15 minutes. Trans-1, 2 dichloroethylene and 1,3 dioxolane stripped the clear and top coat of the automotive finish in 30 minutes. None of the neat solvents, including methylene chloride, were able to strip all layers of the automotive coating including the primer. Only a formulated product would remove all layers. The remaining alternative solvents, n-methyl-2-pyrrolidone, benzyl alcohol and the dibasic ester mixture, had no stripping effect on the automotive coating after four hours.

Test results for the 26 non-methylene chloride paint removers and three methylene chloride paint removers in the removal of multiple layers of oil-based alkyd and oil-based epoxy paint are presented in Appendix 3. On the oil-based alkyd paint, methylene chloride paint removers were very effective when considering stripping depth and time to strip. The methylene chloride paint removers removed all layers in five minutes. In contrast, in the span of one hour, only one of the non-methylene chloride paint removers removed all layers of the oil-based alkyd paint. Over 4 hours later, 12 of the alternative paint removers removed all layers. On the solvent-borne epoxy paint, two methylene chloride paint removers removed two of the layers of paint in 15 minutes. The non-methylene paint removers had no stripping effect on the epoxy paint after four hours.

Test results for the five industrial strength non-methylene chloride paint removers and three methylene chloride paint removers in the removal of an automotive coating are presented in Appendix 4. The methylene chloride paint remover specifically designed to strip automotive finishes removed the clear, base and primer coats in 15 minutes. None of the alternate paint removers stripped paint down to bare metal.

4. Conclusion

Results from this study show that none of the alternative solvents are adequate as a replacement for methylene chloride on chemically resistant coatings.

In considering the neat solvents Methylene Chloride was faster at attacking the alkyd coating and much faster at attacking the epoxy coating. On the Automotive panel, methylene chloride was also faster than all others but no neat chemical, including methylene chloride, was able to remove all layers. Of the chemicals showing some attack on the coating, all have significant health or safety issues including flammability, reproductive hazards, and skin absorption hazards. Additionally, all of these except acetone are significantly (3-5 times) more expensive than methylene chloride.

The results from the formulated removers were even more revealing. No removers performed nearly as well as methylene chloride in “Time to Remove” on the Alkyd Paint. On Epoxy and Automotive Paints, the results were even more differential; no non-methylene chloride removers were able to completely remove coatings.

Most of the alternate solvents/removers that show any effectiveness in stripping chemically resistant coatings have their own negative characteristics. Most are very flammable, which can be a significant hazard on applications such as paint removal where the removers are spread over an area and left to

work. These conditions greatly increase the likelihood of fire. Others (NMP) are reproductive hazards. DMSO is not only actively absorbed through the skin but promotes the absorption of other toxic ingredients included with the coating as well. Most contain VOC's which limit allowable active content to meet air quality standards contributing to poor product performance. In additions to poor product performance, the alternatives increase ozone emissions creating a significant threat to health and the environment. Methylene chloride is a VOC (volatile organic compound) exempt solvent since it has a low potential for the formation of ground level ozone.

The traditional acetone/toluene/methanol strippers used before methylene chloride's introduction were not tested at this time but historical experience has shown similar performance to tested alternatives.

Appendix 1: Results of solvent paint remover testing of the layers of alkyd and epoxy removed at the given time.

Chemical (Neat)	Alkyd (5)			Epoxy (3)		
	15 min	30 min	1 hrs	15 min	30 min	1 hrs
methylene chloride	5	5	5	2	2	2
trans-1,2 dichloroethylene	5	5	5			
1,3 dioxalane	5	5	5			2
n-methyl-2-pyrrolidone		5	5			
acetone	5	5	5			
dimethoxymethane (methylal)		5	5			
n-butyl propionate			5			
dimethyl sulfoxide (DMSO)			4			
dimethyl carbonate						
benzyl methyl ether						
TOC (2,5,7,10 tetraoxaundecane)						
3-methoxy-3-methyl-1-butyl acetate (MMB-AC)						
Steposol MET-10U						
PCBTF/Oxsol 100						
3-methoxy-3-methyl-1-butanol (MMB)						
Eastman Omnia (butyl-3-hydroxybutyrate)						
benzyl alcohol						
dibasic esters (LVP)						
dibutoxymethane (butylal)						
propylene carbonate						
Elevance Clean 1200						
soya methyl ester						
glyercol formal						

No effect on Coating	
Slight softening but no removal with plastic scraper	
Difficult removal with much effort (number of layers listed)	2
Complete removal	5

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Appendix 2: Results of solvent paint remover testing on OEM automotive paint

Chemical (Neat)	Automotive Coating			
	15 min	30 min	1 hrs.	4 hrs.
methylene chloride	1	1	1	1
trans-1,2 dichloroethylene	0	1	1	1
1,3 dioxolane	0	1	1	1
n-methyl-2-pyrrolidone	0	0	0	0
benzyl alcohol	0	0	0	0
dibasic esters (LVP)	0	0	0	0
No effect	0			
Stripped clear coat and top coat	1			
Stripped clear coat, top coat and base coat	2			

Appendix 3: Results of paint remover testing of the layers of alkyd and epoxy removed at the given times.

Company	Paint Remover	Ingredients (MSDS)	Flammable	Alkyd (5 Layers)				Epoxy (3 Layers)		
				5 min	15 min	30 min	1 hrs	15 min	30 min	1 hrs
W. M. Barr	Klean-Strip Premium Stripper	methylene chloride/methanol/Stoddard solvent	N	5	5	5	5	2	2	2
	Experimental Paint Remover A	toluene/acetone/methanol	Extremely	0	5	5	5	0	0	0
	Experimental Paint Remover B	1,2 trans dichloroethylene/acetone/methanol	Extremely	0	5	5	5	0	0	0
	Experimental Paint Remover C	1,3 dioxolane/acetone/methanol	Extremely	0	5	5	5	0	0	0
	Citristrip Safer Paint & Varnish Stripping Gel	NMP/DBE	N	0	0	0	5	0	0	0
	Experimental Paint Remover D	benzyl alcohol emulsion	N	0	0	0	0	0	0	0
	Experimental Paint Remover E	DBE emulsion	N	0	0	0	0	0	0	0
Dumond	Peel Away 1	calcium hydroxide/magnesium hydroxide/sodium hydroxide	N	0	0	1	3	0	0	0
	Peel Away 5 Soy Based	benzyl alcohol/NMP/soya methyl ester/DBE	N	0	0	0	0	0	0	0
	Peel Away 7	benzyl alcohol/NMP/DBE?	N	0	0	0	0	0	0	0
	Smart Strip	water/benzyl alcohol	N	0	0	0	0	0	0	0
	Smart Strip Pro	water/benzyl alcohol/formic acid	N	0	0	0	0	0	0	0
Ecoprocote	EcoFast HD Heavy Duty Paint Stripper	water/benzyl alcohol	N	0	0	0	0	0	0	0
EZ Strip	EZ Strip Paint and Varnish Stripper	DBE/triethyl phosphate	N	0	0	0	0	0	0	0
Franmar	Soy-Gel Paint and Urethane Remover	NMP/DBE/soy ester	N	0	0	0	0	0	0	0
Motsenbocker	Lift Off Paint and Varnish Remover	acetone/trade secret ingredients	N	0	0	0	0	0	0	0
Packaging Service Co.	Crown Paint Strip Next	DBE/DMSO	N	0	0	0	0	0	0	0
PPG	DuraPrep 200 Coating Remover (Gel)	benzyl alcohol\solvent naphtha/2-aminoethanol/nonylphenol, branched ethoxylated	N	0	0	0	0	0	0	0
	DuraPrep 240 Industrial Coating Remover (Gel)	benzyl alcohol/hydrogen peroxide/solvent naphtha/glycollic acid/malic acid/barium bis(dinonylnaphthalenesuphonate)/amines, coco alkyl, ethoxylated	N	0	0	0	0	0	0	0
	DuraPrep Prep 400 Overspray Remover	benzyl alcohol/petroleum distillates/glycolic acid/quaternary ammonium compounds/hydrogen proxide	N	0	0	0	0	0	0	0
Solvent Kleene	D-Zolve 1012 Powder Coating Remover (immersion tank)	alkyl methyl ester/potassium hydroxide/cyclic amide	N	0	1	2	2	0	0	0
	D-Zolve 15-33R (aircraft)	alkyl methyl ester/petroleum naphtha/benzyl alcohol/methyl phenyl ether	N	0	0	0	0	0	0	0
Sunnyside	Multi-Strip Professional Paint Remover	DBE/NMP/formic acid	N	0	0	0	0	0	0	0
	Ready Strip Pro	DBE/NMP/formic acid	N	0	0	0	0	0	0	0
	Ready Strip Safer Paint & Varnish Remover	DBE/NMP/formic acid	N	0	0	0	0	0	0	0
	Ready-Strip Spray	NMP/DBE/monoethanolamine	N	0	0	0	0	0	0	0
	Ultri-Strip	DBE/NMP/formic acid	N	0	0	0	0	0	0	0
This Stuff Works, Inc.	TSW2 Multi-Master	NMP/DBE	N	0	0	0	0	0	0	0
	TSW2G Multi-Master (Gel)	NMP/DBE	N	0	0	0	0	0	0	0
	TSW3G (GEL) Mason-Master	potassium hydroxide/butyl cellosolve	N	0	0	1	1	0	0	0
	TSW9 Plasti-Master	DBE/proprietary surfactant	N	0	0	0	0	0	0	0
Zinsser	Magic Strip Citrus-Action	NMP/DBE/d-limonene	N	0	0	0	0	0	0	0

No Removal	
Some Removal	
All layers Removed	

Appendix 4: Results of non-methylene chloride paint remover testing of the layers of OEM automotive finish at the given time

9. W.M. Barr & Company, Inc., Lisa M. Sloan

Company	Paint Remover	Ingredients (MSDS)	Automotive Coating		
			15 min	30 min	1 hrs
W.M. Barr	Klean-Strip Aircraft Remover	methylene chloride/methanol/Tall oil/ammonium hydroxide/xylene	2	2	2
	Experimental Toluene Based Paint Remover	toluene/acetone/methanol	0	1	1
	Experimental 1,2 Trans Dichloroethylen Based Paint Remov	1,2 trans dichloroethylene/acetone/methanol	0	1	1
	Experimental 1,3 Dioxolane Based Paint Remover	1,3 dioxolane/acetone/methanol	0	1	1
	Smart Strip	water/benzyl alcohol	0	0	0
	EZ Strip Paint and Varnish Stripper	DBE/triethyl phosphate	0	0	0
	Citristrip Safer Paint & Varnish Stripping Gel	NMP/DBE	0	0	0
PPG	DuraPrep 200 Coating Remover (Gel)	benzyl alcohol\solvent naphtha/2-aminoethanol/nonylphenol, branched ethoxylated	0	0	0
	DuraPrep 240 Industrial Coating Remover (Gel)	benzyl alcohol/hydrogen proxide/solvent naphtha/glycollic acid/malic acid/barium bis(dinonylnaphthalenesuphonate)/amines, coco alkyl, ethoxylated	0	0	0
	DuraPrep Prep 400 Overspray Remover	benzyl alcohol/petroleum distillates/glycolic acid/quaternary ammonium compounds/hydrogen proxide	0	0	0
Solvent Kleene	D-Zolve 1012 Powder Coating Remover (immersion tank)	alkyl methyl ester/potassium hydroxide/cyclic amide	0	0	0
	D-Zolve 15-33R (aircraft)	alkyl methyl ester/petroleum naphtha/benzyl alcohol/methyl phenyl ether	0	0	0

No effect	0
Stripped clear coat and top coat	1
Stripped clear coat, top coat and base coat	2

ABC COMPANY PAINT REMOVER

Starts working in 10 minutes
Works on vertical surfaces
Nonflammable

DANGER! VAPOR EXTREMELY HARMFUL. INHALATION OF VAPORS MAY CAUSE DEATH. Read other cautions and health hazard information on side/back panel.

¡ADVERTENCIA! VAPOR EXTREMADAMENTE PELIGROSO. IRRITANTE PARA LOS OJOS Y LA PIEL. Leer etiqueta antes de utilizar o almacenar producto.

ONE GALLON (3.785 LITER)

DANGER! VAPOR EXTREMELY HARMFUL. MAY BE FATAL IF USED IN ENCLOSED AND UNVENTILATED AREAS. USE ONLY WITH ADEQUATE VENTILATION TO PREVENT BUILDUP OF VAPORS.

Do not use in areas where vapors can accumulate and concentrate such as basements, bathrooms, bathtubs, closets, or other small enclosed areas. Whenever possible use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area and across floor. IF STRONG ODOR IS NOTICED OR YOU EXPERIENCE SLIGHT DIZZINESS, EYE-WATERING, OR HEADACHE – STOP! VENTILATION IS INADEQUATE. LEAVE AREA IMMEDIATELY, AND GET FRESH AIR. IF THE WORK AREA IS NOT WELL-VENTILATED, DO NOT USE THIS PRODUCT. If used properly, a respirator may offer additional protection. Obtain professional advice before using. A dust mask does not provide protection against vapors.

Contains: Methylene Chloride. Methylene Chloride has been shown to cause cancer in laboratory animals. The risk to your health depends on the level and duration of exposure. Reports have associated neurological and other physiological damage to repeated and prolonged overexposure to solvents. Intentional misuse of this product, by deliberately concentrating and inhaling vapors can be harmful or fatal. Do not take internally. WARNING: Using this product will expose you to chemicals which are known to the State of California to cause cancer.

FIRST AID - IF SWALLOWED, immediately call your poison-control center, hospital emergency room or physician for instructions.

IN CASE OF EYE CONTACT, immediately flush with water, remove any contact lenses, continue flushing with water for at least 15 minutes, then get medical attention.

IN CASE OF SKIN CONTACT, irritation may result. Immediately wash with soap and water. If irritation persists, get medical attention.

INHALATION: If inhalation of this material occurs and adverse effects result, move person to fresh air and keep comfortable for breathing, then get immediate medical attention.

KEEP OUT OF REACH OF CHILDREN

DO NOT USE TO STRIP BATHTUBS

IMPORTANT INFORMATION

1. ALWAYS use outdoors, if possible. If using indoors, open ALL windows and interior and exterior doors, and maintain moving fresh air across the workplace and floor.
2. NEVER use in basements, bathrooms, closets, or other small and enclosed spaces.
3. If strong odor is noticed, or you experience slight dizziness, eye-watering, or headache, STOP using product and leave work area immediately, and get fresh air.
4. ALWAYS wear chemical resistant gloves and chemical splash goggles.

DIRECTIONS FOR USE
[direction for use go here]