

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

## **Comments of Safer Chemicals Healthy Families, Vermont Public Interest Research Group, Earthjustice, Natural Resources Defense Council, Wendy Hartley, and Lauren Atkins on Advance Notice of Proposed Rulemaking for Methylene Chloride Commercial Paint and Coating Removal Training, Certification and Limited Access Program under Section 6 of the Amended Toxic Substances Control Act**

Submitted via Regulations.gov (May 28, 2019)

Docket ID EPA-HQ-OPPT-2018-0844

Safer Chemicals Healthy Families (SCHF), Vermont Public Interest Research Group (VPIRG), Earthjustice, Natural Resources Defense Council (NRDC), Wendy Hartley, and Lauren Atkins submit these comments on the Advance Notice of Proposed Rulemaking (ANPR) published by the Environmental Protection Agency (EPA) on March 27, 2019 to solicit public input on a possible worker training, certification, and limited access program for commercial use of paint and coating removal products containing methylene chloride (MC) under section 6(a) of the Toxic Substances Control Act (TSCA).<sup>1</sup>

Wendy Hartley and Lauren Atkins are mothers whose sons died when using MC paint and coating removers. They have advocated strong and effective EPA action to remove these products from commerce so that other families do not also lose loved ones from exposure to this unsafe chemical. SCHF, VPIRG, Earthjustice and NRDC are organizations committed to assuring the safety of chemicals used in our homes, schools and workplaces and in the many products to which our families and children are exposed each day. During the legislative process to amend TSCA, they worked hard to maximize public health protection and to assure that EPA has the necessary authority to evaluate and eliminate the risks of unsafe chemicals. All four organizations have previously commented in support of EPA's 2017 proposal to ban consumer and commercial use of MC for paint and coating removal.

As EPA has recognized, MC is linked to several well-documented and serious adverse health effects and presents significant risks when used in paint and coating removal. Inhaling MC fumes causes carbon monoxide to build up rapidly in the blood, leading to heart failure, loss of consciousness, coma, and death. According to an analysis by SCHF, over 60 deaths have been attributed to asphyxiation from acute exposure to MC (and probably many more that are unreported or attributed to other causes). Acute exposure can also cause neurological effects such as incapacitation and loss of consciousness. MC is likely to be carcinogenic in humans with a mutagenic cause of action. Cancers attributed to MC include brain and liver cancer, non-Hodgkin lymphoma, multiple myeloma and liver and lung tumors. MC also causes several non-cancer chronic effects, notably liver damage. According to EPA, MC's

---

<sup>1</sup> 84 Federal Register 11466.

“neurotoxic and cardiovascular effects may be exacerbated in fetuses and in infants with higher residual levels of fetal hemoglobin when exposed to high concentrations of methylene chloride.”<sup>2</sup>

In January 2017, EPA proposed to ban the manufacture and sale of MC paint removal products for both commercial and consumer uses.<sup>3</sup> The proposal was supported by a comprehensive risk assessment demonstrating that both types of use present an unreasonable risk of injury to human health under TSCA section 6(a). After reviewing and rejecting several other regulatory options, the proposal concluded that a commercial and consumer use ban “is necessary so that methylene chloride in paint and coating removal no longer presents an unreasonable risk.”<sup>4</sup>

Following the change in Administrations, EPA initially dragged its feet in finalizing its proposal. However, after at least four more deaths from MC exposure, the nation’s major retailers voluntarily decided to stop selling MC-containing paint and removal products. In the face of retailer recognition of the dangers of these products and the pleas of the families whose loved ones died from MC exposure, EPA changed course and committed to finalize the proposed rule in its entirety. Expressing this commitment, former EPA Administrator Scott Pruitt testified to Congress last year that: “We have forwarded to OMB recently a proposed rule *prohibiting consumer and commercial paint stripping uses* for methylene chloride, following through on EPA’s January 2017 proposal that methylene chloride be banned from products” (emphasis added).<sup>5</sup>

Backtracking on this commitment, however, the final rule promulgated on March 27 only imposed a ban on consumer use. It took no action to restrict commercial use and thus left workers unprotected from the dangers of MC exposure.<sup>6</sup>

The preamble to the March 27 rule indicated that EPA “is not finalizing the proposed unreasonable risk determination and the proposed regulation for commercial uses of methylene chloride in paint and coating removal.”<sup>7</sup> However, this decision was not based on any change in the Agency’s risk determinations. Nowhere in the final rule and supporting documents did EPA retreat from its earlier conclusion that these products present serious and unreasonable risks to workers. In fact, the preamble to the final rule reaffirmed the EPA risk assessment supporting this conclusion.

While effectively recognizing that MC presents a serious health threat to workers, EPA decided against restricting commercial use of MC paint and coating removers so it could consider whether to establish a training, certification, and limited access program to protect MC-exposed workers.<sup>8</sup> Yet this was an option that the Agency identified and rejected in the preamble to the proposed rule. And because a rulemaking to put such a program in place would take several years, thousands of workers will remain unprotected from the risks of asphyxiation, death, cancer and other serious health effects for the foreseeable future.

---

<sup>2</sup> 84 Federal Register 11420, 11422 (March 27, 2019).

<sup>3</sup> 82 Federal Register 7464 (January 19, 2017).

<sup>4</sup> 82 Fed. Reg. 7488.

<sup>5</sup> <https://www.c-span.org/video/?445475-1/epa-administrator-pruitt-questioned-ethics-expenses> (video at 33:02); see also id. (video at 29:05).

<sup>6</sup> 84 Fed. Reg. 11420.

<sup>7</sup> 84 Fed. Reg. 11421.

<sup>8</sup> Id.

As demonstrated in these comments, EPA's interest in considering a possible worker training, certification, and limited access program does not relieve it from its responsibility under TSCA to protect workers **now**. EPA should thus finalize its proposed ban on MC commercial use without delay. Equally important, EPA's proposed rule and supporting materials demonstrate that a training and certification program would not effectively protect workers and thus would not discharge EPA's obligation under TSCA to eliminate the unreasonable risk to which workers are exposed. For EPA to spend years evaluating a regulatory option that is demonstrably inadequate is both counterproductive and unnecessary. TSCA demands a ban on commercial use of MC, as EPA properly concluded in its proposed rule.

### **I. EPA Must Finalize its Proposed Ban on Commercial Use of MC Paint Removers Without Delay**

According to EPA, roughly 32,000 workers breathe MC vapors each year in largely uncontrolled settings during paint and coating removal.<sup>9</sup> In its proposed rule, EPA identified 49 fatalities since 1976 resulting from consumer or commercial worker exposure to MC during paint and coating removal. As EPA underscored, this tally likely underestimates the number of fatalities since many deaths have likely not been reported or mistakenly attributed to a cause other than MC exposure.<sup>10</sup> In its own analysis, SCHF documented at least 64 deaths from methylene chloride exposure since 1980, most involving paint and coating removal.<sup>11</sup> Of these 64 deaths, SCHF concluded that at least 56 involved worker exposure. Three of the four reported deaths that occurred after publication of EPA's proposed rule also involved commercial use. According to the final rule preamble, "Two of the victims were independent contractors working for small or family-owned businesses, [and] the third was a small business owner. . . ."<sup>12</sup>

To examine the range of occupational exposure levels under current use conditions, EPA's risk assessment modeled four different acute occupational scenarios and sixteen scenarios for chronic exposure.<sup>13</sup> EPA based its workplace exposure assessment on air monitoring data from peer-reviewed literature sources that directly measured air concentrations of MC resulting from paint stripping activities. These data provided a robust basis for analysis and showed significant MC concentrations, often well above the MC OSHA standard:

"Many air concentrations reported and used in the risk assessment exceeded the current OSHA PEL of 25 ppm; in some industries where paint and coating removal was conducted by immersion in tanks or vats of methylene chloride, air concentrations were measured at above 7,000 milligrams per cubic meter, or 2,016 ppm. Even in industries with lower expected exposures, air concentrations frequently were reported in excess of 250 milligrams per cubic meter, or 72 ppm, such as during graffiti removal and automotive refinishing (Ref. 2)."<sup>14</sup>

Even these "dramatically high air concentrations" (in EPA's words) may not fully reflect the extent of exposure because measured or modeled workplace exposure levels may fail to capture many of the routine events that magnify both exposures and risks.

---

<sup>9</sup> 82 Fed. Reg. 7475-6.

<sup>10</sup> 82 Fed. Reg. at 7482.

<sup>11</sup> <https://saferchemicals.org/us-deaths-from-methylene-chloride/>

<sup>12</sup> 84 Fed. Reg. 11422.

<sup>13</sup> 82 Fed. Reg. 7477.

<sup>14</sup> Id.

Although some comments on EPA's proposal rule questioned the Agency's analysis of exposure and risk, EPA rejected these comments in the preamble to the final rule:<sup>15</sup>

"EPA appreciates the comments supporting the conclusions of the risk assessment and those providing additional information. Some commenters expressed concern about analytical shortcomings in the risk assessment. However, the risk assessment relied on previous assessments that used current hazard and risk assessment methodology documented in EPA guidance. In particular, the hazard and dose response information in the risk assessment were developed by reputable organizations and subject to peer review processes and the cancer descriptor "likely carcinogenic in humans" is based on EPA's Toxicological Review using a weight of evidence approach (Ref. 5). The methylene chloride risk assessment was also peer reviewed."

Thus, EPA affirmed the scientific validity of its risk assessment and used it without qualification as the basis for its ban on consumer use. For example, the final rule preamble states that:

"Of particular concern is the potential neurological impairment (central nervous system depressant effects) for consumers using methylene chloride for paint and coating removal. In the risk assessment, the upper-end scenarios for consumer users had 4-hour exposures of 233 parts per million (ppm). As described in the risk assessment, the Acute Exposure Guideline (AEGl-2), which is the threshold for disability for an 8-hour exposure, is 60 ppm. In humans, acute exposure to methylene chloride above 200 ppm results in acute neurobehavioral deficits measured in psychomotor tasks including: Tests of hand-eye coordination, visual evoked response changes, and auditory vigilance. In a few cases, cardiotoxic effects (*i.e.*, evidenced by electrocardiogram changes) were reported in humans (Ref. 2)."<sup>16</sup>

These conclusions are even more applicable to worker exposure, where airborne MC concentrations are likely to be higher and exposure may continue for several hours and often several days and weeks.

Not surprisingly, the risk assessment concluded that nearly all occupational exposure scenarios resulted in significant acute and chronic risks to workers. For example, risks of asphyxiation and other neurological effects were described as follows:

"EPA found acute risks for incapacitating central nervous system effects for workers who had no respiratory protection in most industries, or with respirators with APFs of 10 or 25 in the industries with highest likely exposures, such as professional contractors, aircraft refinishers, and workers using immersion methods for paint and coating removal in several industries. MOEs for acute risks ranged from an average of 0.11 (automotive refinishing) to 0.037 (graffiti removal), with a lowest end of 0.0063 (workplaces engaged in paint and coating removal using immersion methods). **In general, these workplaces are estimated to present exposure levels between 100 times to greater than 1,000 times more than those that are of concern. Not only workers, but also occupational bystanders, or workers engaged in tasks other than paint and coating removal, would be at acute risk for central nervous system effects (Ref. 2).**"<sup>17</sup>

---

<sup>15</sup> 84 Fed. Reg. 11424.

<sup>16</sup> 84 Fed. Reg. at 11422

<sup>17</sup> 82 Fed. Reg. at 7478 (emphasis added).

EPA also concluded that most workers using MC-based paint strippers were at unacceptable risk for adverse liver effects. Risk concerns for liver effects were reported for most workers handling these products, with or without respiratory protection. For professional contractors, all chronic exposure scenarios were deemed unsafe, with some exceeding the benchmark level for liver effects by 400 times.<sup>18</sup>

EPA's risk assessment further determined that workers are exposed to excess cancer risks for all of the industries evaluated when working with MC--based paint strippers for 250 days/year for 40 years with no respiratory protection (Scenario 1). For many occupations, even with respirators (Scenario 2), the high-end ranges for exposure frequency and working years resulted in excess cancer risks.<sup>19</sup> More specifically:

### **WORKER CANCER RISKS FOR MC-CONTAINING PAINT AND COATING REMOVAL**

#### *Occupational Cancer Risks for Professional Contractors (Table 3-18)*

- Scenario 1, (no respirator, high ends of ranges for exposure frequency [EF] and working years [WY] resulted in a high end calculated excess cancer risk of **3,900 per 1 million** (3.9E---03)
- Scenario 3, respirator APF 25, high ends of ranges for EF and WY resulted in a high end calculated excess cancer risk of **160 per 1 million** (1.6E---04)

#### *Occupational Cancer Risks for Furniture Refinishing (Table 3-20)*

- Scenario 1 resulted in a calculated high end excess cancer risk of **2,900 per 1 million** (2.9E---03)

#### *Occupational Cancer Risks for Aircraft Stripping (Table 3---21)*

- Scenario 1 resulted in a calculated high end excess cancer risk of **5,000 per 1 million** (5.0E---03)
- Scenario 3 resulted in a calculated high end excess cancer risk of **200 per 1 million** (2.0E---04)

#### *Occupational Cancer Risks for Graffiti Removal (Table 3---22)*

- Scenario 1 resulted in a calculated high end excess cancer risk of **1,600 per 1 million** (1.6E---03) and an average excess cancer risk of **340 per 1 million** (3.4E---04)

#### *Occupational Cancer Risks for Non-Specific Workplace Settings Immersion Stripping of Wood*

- Scenario 1 resulted in a calculated high end excess cancer risk of **9,000 per 1 million**

<sup>18</sup> EPA. TSCA Work Plan Chemical Risk Assessment Methylene Chloride: Paint Stripping Use. CASRN 75-09-2. EPA Document# 740-R1-4003. August 2014. Office of Chemical Safety and Pollution Prevention. Washington, DC [https://www.epa.gov/sites/production/files/2015-09/documents/dcm\\_opptworkplanra\\_final.pdf](https://www.epa.gov/sites/production/files/2015-09/documents/dcm_opptworkplanra_final.pdf).

<sup>19</sup> Id.

(9.1E-03) and an average excess cancer risk of **4,600 per 1 million** (4.6E-03)

- Scenario 3 resulted in a calculated high end excess cancer risk of **370 per 1 million** (3.7E-04) and an average excess cancer risk of **180 per 1 million** (1.8E-04)

*Occupational Cancer Risks for Non-Specific Workplace Settings; Immersion Stripping of Wood and Metal (Table 3-24)*

- Scenario 1 resulted in a calculated high end excess cancer risk of **1,300 per 1 million** (1.3E-03) and an average excess cancer risk of **1,100 per 1 million** (1.1E-03)

These risks fall within the range that EPA has historically deemed unacceptable and, therefore, demonstrate that worker exposure to MC poses an unreasonable risk of cancer.<sup>20</sup>

The absence of any protection of workers in the face of this overwhelming and unrebutted evidence of serious risks to their health is an ongoing violation of TSCA. Under section 6(a), when EPA determines that a chemical presents an unreasonable risk of injury, it must restrict the chemical “to the extent necessary so that [it] no longer presents such risk.” EPA’s failure to finalize its proposed ban on commercial use represents a violation of this obligation and leaves thousands of workers unprotected from acute and chronic health effects demonstrated by the Agency’s own risk assessment.

## **II. A Worker Training and Certification Program Would Not Eliminate the Unreasonable Risk to Which Workers Are Exposed and Would Be More Costly and Less Protective Than a Ban On Commercial Use**

The possibility of establishing a worker training, certification and restricted use program for workers using MC paint and coating removers was explicitly identified in EPA’s proposed rule. While seeking comment on this approach, the proposal preamble questioned whether such a program would be feasible and adequately protective:

“Unlike the process for training and certification of commercial workers required under the Lead-Based Paint Renovation, Repair, and Painting Rule, effective risk reduction from commercial use of methylene chloride for paint and coating removal would require additional regulation of distributors of these products. . . . EPA viewed the costs and challenges involved in regulating distributors and ensuring that only trained and certified commercial users are able to access these paint and coating removal products as a significant limitation for this approach.”<sup>21</sup>

---

<sup>20</sup> Following the 1980 Supreme Court benzene decision, OSHA has defined “insignificant risk” as falling between 10<sup>-3</sup> and 10<sup>-9</sup> (that is, 1 in 1000 to 1 in 1 billion excess risk over a working lifetime), but has predominantly used the least protective end of this range (10<sup>-3</sup> to 10<sup>-5</sup>), whereas EPA tends to set exposure limits in the more health-protective range of about 10<sup>-4</sup> to 10<sup>-6</sup> (1 in 10,000 to 1 in 1 million), by custom and by explicit statutory instruction.

<sup>21</sup> 82 Fed. Reg. at 7474.

The ANPR does not address these earlier EPA conclusions or offer any basis for concluding that a training and certification program would either eliminate unreasonable risks to workers or would be feasible and cost-effective to implement.

As EPA correctly found in the preamble to the proposed rule, the “costs and challenges” of a training and certification program for MC-exposed workers would be immense. Any such program would potentially apply to thousands of building contractors and other commercial and industrial users and, as the proposed rule notes, would require distributors to sell MC paint removers only to businesses who have trained and educated their employees and certified to compliance with EPA requirements. Each business would itself need to be trained in the safe handling of MC paint removers and minimum workplace practices so that it could properly instruct its employees in the required protective measures. The need for multiple layers of training and certification and supporting documentation would impose significant costs on distributors and their customers. These businesses would also incur additional costs for worker protective equipment and monitoring. EPA would itself need to commit significant resources to compliance assurance and enforcement – a burden on the Agency’s hard-pressed staff and constrained budget – or else widespread non-compliance would result.

The ANPR does not point to benefits that would justify these costs. EPA seems to be assuming that continued access to MC-paint removers would be beneficial to industry. In fact, however, the proposed rule found that adequate substitutes exist for MC<sup>22</sup> and, in the last 18 months, major retailers have ceased selling MC paint removers to their commercial customers and started to supply substitute products. The final rule banning consumer use of MC-based products reaffirms EPA’s earlier finding that:

“Substitute products currently are available for consumer users of methylene chloride for paint and coating removal, for a variety of coatings on numerous substrates (Refs. 26 and 27). None of the substitute chemicals already available has the level of toxicity associated with methylene chloride (Ref. 24). As EPA stated in the proposed rule, EPA is aware of technically and economically feasible chemical substitutes or alternative methods that are reasonably available to a consumer for almost every situation in which methylene chloride is used to remove paints or coatings.”<sup>23</sup>

Neither the final rule nor the ANPR provides any evidence that substitutes that are acceptable for consumer use would be ineffective for commercial use – indeed, the jobs that many contractors perform in homes and businesses are often the same as consumer home repair and improvement projects. Just as EPA found that a ban on consumer uses would have modest costs and encourage technological innovation, a commercial use ban is not likely to have significant economic impacts. In fact, it is likely that a commercial use ban would be far less costly than a training and certification program because of the availability of safer MC substitutes that do not require resource-intensive workplace protections necessary if MC-based products were to remain in use.

Apart from these considerations, TSCA provides that EPA may only select regulatory options under section 6(a) that reliably and consistently protect against the unreasonable risk identified by the Agency. As EPA explained this approach in the preamble to the MC proposal:

---

<sup>22</sup> 82 Fed. Reg. at 7513.

<sup>23</sup> 84 Fed. Reg. 11427

“After the technical analysis, which represents EPA's assessment of the potential for the regulatory options to achieve risk benchmarks based on analysis of exposure scenarios, **EPA then considered how reliably the regulatory options would actually reach these benchmarks.** For the purposes of this proposal, EPA found that an option addressed the risk so that it was no longer unreasonable if the option could achieve the benchmark MOE or cancer benchmark for the most sensitive endpoint. **In evaluating whether a regulatory option would ensure that the chemical substance no longer presents the identified unreasonable risk . . . the Agency considered whether the option could be realistically implemented or whether there were practical limitations on how well the option would mitigate the risks in relation to the benchmarks,** as well as whether the option's protectiveness was impacted by environmental justice, children's health, and potentially exposed or susceptible subpopulations relevant to the Agency's risk evaluation.”<sup>24</sup>

This analysis led the Agency to the conclusion that only a ban on commercial use would eliminate the unreasonable risk that MC use in paint removal presents to workers. For the same reasons EPA identified in the proposed rule, it is doubtful whether a training and certification program would provide full and effective protection to workers. The ANPR cites the OSHA worker training requirements in the MC workplace standard as a precedent for TSCA requirements. 29 C.F.R. §1910.1052(I). Notably, however, this worker information and training mandate has not prevented the worker deaths that formed the basis for EPA's proposed ban. In a 2016 hazard alert following the death of a worker from methylene chloride exposure, OSHA specifically acknowledged that the employer did not adhere to OSHA's methylene chloride training requirements, and that this failure “contributed to [the] worker's death.” <https://www.osha.gov/Publications/OSHA3883.pdf>. It is not obvious why imposing the same requirements under TSCA would be any more effective in preventing worker deaths.

The goal of any worker training and certification program would presumably be to use enhanced labeling, warnings, training and education to maximize the use of respirators and other personal protective equipment by workers. However, EPA's proposal underscored the difficulty of reliably and effectively communicating the hazards of MC exposure and required precautionary measures to workers:

“Another option EPA evaluated would require warning labels and instructions on paint and coating removal products containing methylene chloride, pursuant to TSCA section 6(a)(3) (Ref. 28). However, EPA reasoned that warning labels and instructions alone could not significantly mitigate the unreasonable risks presented by methylene chloride in paint and coating removal. EPA based its reasoning on an analysis of 48 relevant studies or meta---analyses, which found that consumers and professionals do not consistently pay attention to labels for hazardous substances; consumers, particularly those with lower literacy levels, often do not understand label information; consumers and professional users often base a decision to follow label information on previous experience and perceptions of risk; even if consumers and professional users have noticed, read, understood, and believed the information on a hazardous chemical product label, they may not be motivated to follow the label information, instructions, or

---

<sup>24</sup> 82 Fed. Reg. 7472-3 (emphasis added).



warnings; and consumers and professional users have varying behavioral responses to warning labels, as shown by mixed results in studies (Ref. 28).”<sup>25</sup>

The proposal also concluded that respirator use would not protect workers, noting that “there are many limitations to successful implementation of respirators” and that “risks of incapacitation or death are present even when respiratory protection is used.”<sup>26</sup> Indeed, a recent death related to MC exposure involved a worker who was trained in respirator use and was wearing a face mask.

Thus, even with enhanced training and education, it is unlikely that commercial users of MC paint removers would consistently implement effective respiratory protections. Many paint removal operations are small shops that now lack effective worker training and hazard communication programs. Their employees may be part-time and/or short duration workers who are unlikely to study product warnings and labeling (and may not even understand English) and thus would have difficulty with proper respirator use. And occupational bystanders – a group at serious risk from these MC uses – may not even come within the scope of training and education programs because they are not using MC products directly.

For these reasons, a worker training and certification program is unlikely to meet EPA’s obligation under TSCA to assure that unreasonable risks identified by the Agency will be eliminated. It is simply irresponsible for EPA to delay the protection of a commercial use ban in order to develop a worker training and certification program that will not be in place for years and will not adequately protect workers even then.

### **Conclusion**

Rather than leaving workers unprotected and at risk of death and serious disease indefinitely, EPA should finalize its proposed ban immediately. Failure to do so would be a patent abdication of EPA’s public health protection responsibilities under the law.

Respectfully submitted,

Liz Hitchcock  
Acting Director  
Safer Chemicals Healthy Families

Jonathan Kalmuss-Katz  
Staff Attorney  
Earthjustice

Daniel Rosenberg  
Senior Attorney  
Natural Resources Defense Council

---

<sup>25</sup> 82 Fed. Reg. 7473-7475

<sup>26</sup> 82 Fed. Reg. at 7471, 7481. EPA also concluded that the costs of compliant respirator programs for commercial paint and coating removal operations would be substantial, totaling between \$13.775 million and \$26.706 million annualized.

Paul Burns  
Executive Director  
Vermont Public Interest Research Group

Wendy Hartley

Lauren Atkins