Quick Facts Sheet
Preparing for New EPA Methylene Chloride Rules

Environmental Health and Safety
Michigan Technological University

Background Info

Methylene Chloride (dichloromethane or DCM) is a volatile chemical solvent that is used in a variety of consumer and commercial applications. Many Michigan Tech departments use **Methylene Chloride** or products that contain it.

The Environmental Protection Agency (EPA) has determined that the use of **Methylene Chloride** poses an unreasonable risk to human health and the environment.

In April 2024, the EPA finalized use prohibitions and workplace protections under the Toxic Substances Control Act (TSCA) for **Methylene Chloride**. This new regulation includes a phase out of its use in consumer and commercial products, and outlines strict regulation of its use in very limited, approved situations.

The rule prohibits most commercial uses of **Methylene Chloride**. For example, products that contain **Methylene Chloride** (some paint strippers, degreasers, and adhesive removers) will be banned.

The use of **Methylene Chloride-based** products in shops, art studios, teaching laboratories and other non-research laboratory locations will not be allowed.

Quick Facts Sheet
Preparing for New EPA Methylene Chloride Rules

One of the exceptions to using methylene chloride is in research laboratory activities, but with stringent protections for anyone exposed.

These safeguards include location exposure control plans and medical monitoring to protect workers and other affected people from health risks associated from **Methylene Chloride** exposure.

Preliminary work at other Universities has shown that **ALL** activities using **Methylene Chloride** (dispensing, using, collecting) need to occur in enclosures with ventilation in order to stay under the EPA's new exposure limits.

Detrimental health effects from **Methylene Chloride** exposure include neurotoxicity (permanent damage to the brain or nervous system), cancers of the brain, lungs and liver, along with kidney, liver, and reproductive toxicity.Detailed information about the EPA's risk evaluation of **Methylene Chloride** can be found on the EPA's website.

Quick Facts Sheet
Preparing for New EPA Methylene Chloride Rules

Rule Requirement Timeline

In order to comply with the new EPA rule, Michigan Tech Environmental Health & Safety (EHS) is requiring laboratories and departments that use or possess **Methylene Chloride** or products containing **Methylene Chloride** to prepare for the new rule by following these steps:

1. **March - April 2025**: Departments inventory their workspaces for **Methylene Chloride** or products containing **Methylene Chloride**, ensuring all items are inventoried in SDS Online, and determine whether their use is allowed under the new rules; replacement chemicals are identified as applicable.
2. **May- June 2025**: EHS conducts exposure monitoring for locations where **Methylene Chloride** is allowed and where it cannot be replaced or eliminated.
3. **Before October 30, 2025**: Laboratories allowed to use **Methylene Chloride** under the new rules are required to implement an exposure control plan.
4. **After April 28, 2026**: The University will be prohibited from industrial or commercial use of **Methylene Chloride**, including any **Methylene Chloride** containing products (except for allowed uses).

What You Need To Do:

Departments that use or possess **Methylene Chloride** are required to do the following:

1. **Check your workspace for Methylene Chloride; ensure all items are inventoried in SDS ONLINE**. If your inventory contains **Methylene Chloride** or **Methylene Chloride**-containing solutions (≥0.1% by weight), continue to **Step #2**.

Quick Facts Sheet
Preparing for New EPA Methylene Chloride Rules

2. Review the EPA's Fact Sheet to determine if your use of **Methylene Chloride** is allowed or prohibited under the new rules.

3. Eliminate Methylene Chloride or substitute it for a less hazardous chemical where possible.

- Elimination or substitution is **required for prohibited uses** and strongly recommended for allowed uses.
- **Find a replacement** for prohibited uses by **June 1, 2025**.

4. Promptly **remove chemicals that are no longer in use**.

- Label Containers as hazardous waste.
- Request hazardous waste collection.

Replacing Methylene Chloride

Laboratories

Laboratories can use the following resources to find replacements for products containing **Methylene Chloride**.

1. The American Chemical Society (ACS) Green Chemistry Institute has developed a Solvent Tool.

2.The Organic Photonics & Electronics Group at Umeå University has similarly developed a Green Solvent Selection Tool, which can be used to help select solvents based on a variety of physical and chemical properties.

3. The Green Chemistry Teaching and Learning Community has published a resource library page with a variety of other tools for elimination/substitution.

Quick Facts Sheet
Preparing for New EPA Methylene Chloride Rules

Non-Laboratory Locations, Facilities, and Shops

Facilities and shops can use the following resources to find replacements for products containing **Methylene Chloride**.

1. The EPA has evaluated a list of alternative products (Appendix A and B), which can be used to help find replacement products based on condition of use.

After April 28, 2026: All persons are prohibited from industrial or commercial use of **Methylene Chloride**, including any **Methylene Chlorid**e-containing products (except for allowed uses).

Continued Use Requirements

If it is **not** possible to eliminate or substitute **Methylene Chloride and** your use is allowed, the following usage requirements will apply:

1. By June 2025: EHS will complete workplace exposure monitoring where required.

2. Before October 30, 2025: Locations will be required to implement a written **Methylene Chloride** standard operating procedure (SOP) to meet the EPA's exposure control plan requirement.

A. EHS has created a **Methylene Chloride** SOP Template for your convenience that meets the critical components of the EPA's exposure control plan.

Quick Facts Sheet
Preparing for New EPA Methylene Chloride Rules

B. Implement safety measures (such as the use of chemical fume hoods) to contain vapors and personal protective equipment (such as lab coats and gloves) to help prevent workplace exposure.

Additional Information

Please contact

Michigan Tech EHS

Phone: 906.487.2118

Email: EHS-help@mtu.edu

for additional information.

Frequently Asked Questions

1. **What is the new regulation and what does it say?**

   This rule supersedes OSHA Standard 1910.1052 Methylene Chloride and prohibits most uses of the chemical. Certain activities, like use in academic research labs, are exempted if specific safeguards are put in place.

   For laboratory use, the rule requires a Workplace Chemical Protection Program for each laboratory space, including:

   1. Adhering to new exposure limits

   2. Performing initial and periodic exposure monitoring

   3. Creating a Workplace Chemical Protection Program (WCPP)

   4. Developing an Exposure Control Plan (ECP)

   5. Chemical-specific training

   EHS is working with research laboratories to determine the feasibility of a required Workplace Chemical Protection Plan (WCPP) for each unique space.

   It is strongly recommended that researchers utilize an alternative chemical for the health and safety of the Husky community and to save significant costs and the time commitment required to follow the rule requirements.

Quick Facts Sheet
Preparing for New EPA Methylene Chloride Rules

2. Who is affected by the new EPA rule?

All U.S. producers, suppliers, distributors, and commercial and private consumers (users) utilizing solutions of **Methylene Chloride** of 0.1% or greater are required to follow the new rule.

This affects all Michigan Tech departments, including Facilities and Research Laboratories.

All "potentially exposed persons" which includes, students, faculty, staff, volunteers, and contractors fall within the scope of the rule.

3. **How will the regulation affect my research?**

All Michigan Tech Departments (except select Research Labs and other departments utilizing EPA Approved uses) using **Methylene Chloride** must discontinue all uses by April 28, 2026.

Departments must Eliminate or Substitute **Methylene Chloride** with approved alternatives for the continuity of teaching, research, and other operations.

All Research Labs using **Methylene Chloride must:**

A. Determine critical need for using **Methylene Chloride.**
B. Evaluate potential alternative chemicals
C. Determine feasibility of costs/time impacts to continued use of **Methylene Chloride** in their research program.
D. Fully participate in the development and implementation of the WPCC for each laboratory using Methylene Chloride past October 2025.

It is strongly recommended that Research labs consider eliminating or substituting Methylene Chloride because of the added cost and difficulty of compliance with the new rule.

4. **When will the new rules go into effect?**

Effective Dates for **Methylene Chloride** Ban is March 2025 for rule implementation roll-out and full rule implementation by April 2026.

The new **Methylene Chloride** rule has several requirements that will go into effect over the course of 2025/2026.

A. Final implementation is required by October 2025.
B. Initial exposure monitoring of approved users must be completed no later than June, 2025.

Quick Facts Sheet
Preparing for New EPA Methylene Chloride Rules

C. A regulated/demarcated area must be established within 3 months of initial monitoring.
D. Periodic monitoring must be conducted at least every 5 years or as frequently as 3 months depending on the initial monitoring results.
E. An Exposure Control Plan must be developed and implemented before Oct 30, 2025.
F. All potentially exposed individuals must be notified and trained in the Exposure Control Plan within 30 days of October 30th, 2025, or their initial exposure to **Methylene Chloride**.

5. **What does initial and ongoing exposure sampling cost?**

EHS will contract qualified Industrial Hygiene consultants to perform exposure sampling. Labs, shops, and studios that require this service can expect a minimum baseline fee of approximately $4,200 followed by variable fees dependent on the amount of samples required.

The base fee may be split between multiple labs if scheduling can be coordinated. Laboratories that cannot accommodate selected dates will be required to cover the entire cost of the consultants mobilization and analysis fees.

EHS anticipates each exposure analysis to cost approximately $1,500 – $2,500 total, depending on coordinated scheduling and 2-5 samples per survey.

Periodic monitoring must be conducted at least every 5 years or as frequently as 3 months depending on the initial monitoring results.

EH&S will not cover the cost of monitoring. Labs and facility areas will need to fund it internally.

These are estimates only for 2025 and do not reflect future costs.

6**. What are the new training requirements for Methylene Chloride?**

Training is required for anybody who uses or could be exposed to **Methylene Chloride**, and anyone who enters a regulated/demarcated area.

Training must include, but is not limited to, an overview of **Methylene Chloride** regulations, the hazards of working with **Methylene Chloride**, work practice controls, the laboratory specific Exposure Control Plan, and the appropriate PPE use and maintenance, including respirator use.

7. **How could I be exposed to Methylene Chloride?**

The main routes of exposure are dermal contact and inhalation.

Injection injuries are uncommon, with severe consequences.

Quick Facts Sheet
Preparing for New EPA Methylene Chloride Rules

8. **What work practice controls and PPE are required when working with Methylene Chloride?**

Methylene Chloride must only be used in established regulated/demarcated areas.

Access to these areas must be strictly controlled to prevent unauthorized entry.

Engineering controls such as annually certified fume hoods must be used.

Appropriate gloves or other dermal protection must be used.

a. **Methylene Chloride** readily penetrates through standard nitrile, natural rubber, and polyvinyl chloride laboratory gloves.

Note: Nitrile or double nitrile gloves do not protect against dermal exposure as the breakthrough time is less than 1 min

b. Wear two pairs of gloves when using **Methylene Chloride**. Disposable gloves provide minimum protection for general laboratory use and should be changed frequently or whenever contamination is suspected.

c. The inner glove should be made of a laminate of polyethylene (PE)/ethylene vinyl alcohol(EVOH) or a laminate of Viton®/Butyl rubber, a laminate of polyethylene vinyl alcohol/ethylene vinyl alcohol (PVA/EVA), Polyvinyl Alcohol (PVA), or other laminate materials that are resistant to **Methylene Chloride** to prevent penetration through to skin.

d. Based on work activities, outer gloves made of nitrile or neoprene may be used to prevent cuts, tears, punctures, or rips to the inner **Methylene Chloride**-resistant gloves. Please consult EHS in this application.

Standard PPE such as a lab coat, closed toe shoes and goggles or face shield are also required.

Do not wear contact lenses while working with **Methylene Chloride**.

Respiratory protection is to be used only when **ALL** other control measures are exhausted. When elimination, substitution, engineering, and administrative controls cannot reliably reduce exposures below the EPA OELs, **Respiratory Protection is Mandatory.**

9. For all additional questions, please contact EHS at ehs-help@mtu.edu.