

Frequently Asked Questions (FAQs) the EPAs new Chemical Bans

In 2024, the EPA published new rules prohibiting most uses methylene chloride, tetrachloroethylene, and trichloroethylene. Below are some frequently asked questions about new EPA rules.

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About these chemicals

| Chemical Name | Characteristics | Common Synonyms | Common Uses |
|-------------------------|---|---|---|
| Methylene Chloride (MC) | a colorless, volatile liquid with a chloroform-like odor. | dichloromethane (DCM), methylene chloride, methane dichloride, methylenum chloratum, and NCI-C50102 | Paint stripping, metal cleaning, degreasing, pharmaceuticals, and chemical synthesis. |
| Tetrachloroethylene | A colorless-nonflammable liquid | Perchloroethylene, 1,1,2,2-tetrachloroethylene, | Solvent for dry cleaning, degreasing, and cleaning |

| Chemical Name | Characteristics | Common Synonyms | Common Uses |
|-------------------------|---|--|---|
| | | Perchlor, Perclene, and Perklone | |
| Trichloroethylene (TCE) | A colorless, volatile, nonflammable liquid with a sweet odor. | Ethylene trichloride, ethinyl trichloride, trichloroethene, tri, acetylene trichloride, and trilene. | Degreasing metal parts, extracting greases, scouring cotton, refrigerants, adhesives, and pesticides. |

Why is the EPA regulating these chemicals?

After an extensive review and research of the health effects of MC, Tetrachloroethylene, and TCE, the EPA has recognized that the risks associated with most of their uses outweigh the benefits.

- **Potential health effects of exposure to methylene chloride:** The acute (short-term) effects of methylene chloride in humans consist mainly of nervous system effects including decreased visual, auditory, and motor functions, but these effects are reversible once exposure ceases. The effects of chronic (long-term) exposure to methylene chloride suggest that the central nervous system (CNS) is a potential target in humans and animals. Human data are inconclusive regarding methylene chloride and cancer. Animal studies have shown increases in liver and lung cancer and benign mammary gland tumors following exposure to methylene chloride.
- **Potential health effects of tetrachloroethylene:** can cause a range of health effects including dizziness, headaches, nausea, impaired coordination, confusion, and potential increased risk of certain cancers like bladder cancer, non-Hodgkin lymphoma, and multiple myeloma, with the EPA classifying it as "likely to be carcinogenic to humans" based on available evidence; long-term exposure can also lead to liver and kidney damage, neurological impacts like memory impairment, and reproductive issues.
- **Potential health effects of tetrachloroethylene:** TCE is carcinogenic to humans and can cause cancer in the kidney, liver, cervix, and lymphatic system. Other effects include targets to the central nervous system, neurological system, reproductive system, and can cause organ damage, skin rashes, and scleroderma.

Are there exemptions to the rules?

There is a laboratory use exemption for Methylene Chloride, if a full workplace chemical protection program (WCPP) in place. Time and costs to the business area will apply.

There are no exemptions applicable to FAU for the ban on tetrachloroethylene or trichloroethylene.

What is the new regulation and what does it say?

Click on these links for the full EPA rules:

[Methylene Chloride](#)

[Tetrachloroethylene](#)

[Trichloroethylene](#)

- The new EPA rule for Methylene Chloride prohibits most uses of the chemical as used at FAU. The only exempted activity at FAU that would permit the use of MC under special conditions is academic and research laboratory use.
 - 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 of MC, the rule **requires** a new Workplace Chemical Protection Program for each laboratory space, including:
 - Adhering to new exposure limits
 - Performing initial and periodic exposure monitoring
 - Creating a Workplace Chemical Protection Program (WCPP)
 - Creating an Exposure Control Plan (ECP)
 - Chemical-specific training
 - And more

*Note: EH&S will be working with academic and research laboratories to determine criticality of need and feasibility of a required Workplace Chemical Protection Plan (WCPP) for each space. It is **strongly recommended** that researchers utilize an EH&S-approved alternative chemical for the health of the FAU community and to save extensive costs and time of a WCPP.*

Who is affected by the new EPA rule?

- All U.S. producers, suppliers, distributors, and commercial and private consumers (users) manipulating solutions of DCM of 0.1% or greater are required to follow the new rule.
- Specifically at FAU, this affects all colleges divisions and departments, including Facilities, Utilities and Engineering, and Academic and Research Laboratories.
- All “potentially exposed persons” which includes, students, faculty, staff, volunteers, and contractors fall within the scope of the rule.

How will the regulation affect my research?

- All Colleges, Departments, and Divisions using Tetrachloroethylene and Trichloroethylene must discontinue all uses in 2025 and find EH&S-approved alternatives for continuity of teaching, research, and other operations.
- All Colleges, Departments, and Divisions (Except Academic and Research Labs) using Methylene Chloride must discontinue all uses by May 5, 2025 and find EH&S-approved alternatives for continuity of teaching, research, and other operations.
- All Academic and Research Labs using Methylene Chloride must:
 - Determine critical need for using Methylene Chloride
 - Evaluate potential alternative chemicals
 - Determine feasibility of costs/time impacts to continued use of Methylene Chloride
 - Fully participate and fund the creation of the WPCC for each laboratory using Methylene Chloride past May 5, 2025.
- It is **strongly recommended** that Academic and Research labs at FAU consider eliminating or substituting methylene chloride because of the added cost and difficulty of compliance with the new rule.

When will the new rules go into effect?

Effective Dates for Bans:

Methylene Chloride – **May 5, 2025 (also see additional dates below)**

Tetrachloroethylene – **January 17, 2026**

Trichloroethylene – **January 16, 2026**

Additional Requirements for Methylene Chloride (MC)

- These additional requirements only apply to those academic or research laboratories that require continued use past the effective date of the ban, May 5, 2025.
- The new Methylene Chloride rule has several requirements that will go into effect over the course of the next year. Final implementation is required by October 30th, 2025.
- Initial exposure monitoring of approved users of MC must be completed before May 5, 2025.
 - A regulated/demarcated area must be established within 3 months of initial monitoring.
 - Periodic monitoring must be conducted at least every 5 years or as frequently as 3 months depending on the initial monitoring results.

- A Workplace Chemical Protection Program (WCPP) must be developed and implemented by USF EH&S before Oct 30, 2025.
 - All potentially exposed individuals must be notified within 30 days of October 30th, 2025, or their initial exposure to MC.

| Requirement | Deadline |
|---|--|
| Initial Exposure Monitoring | May 5, 2025 |
| Creation of ECP | Within 3 months of results |
| Control below ECEL and STEL | August 1, 2025 |
| Provide respiratory protection and dermal protection as necessary | August 1, 2025 (or within 3 months of results) |
| Workplace Chemical Protection Program (WCPP) | October 30, 2025 |

What is included in the Exposure Control Plan (ECP) for Methylene Chloride (MC)? Where can I get one?

- The ECP must be developed by PIs, Lab Managers/supervisors who are unable to eliminate MC use in their labs, and it must be specific to their lab and research. FAU's EH&S team will create and post a ECP template on our website ahead of the deadline for implementation.
- The ECP will include:
 - Monitoring schedule: Places where MC is used must have initial monitoring performed. Monitoring may involve all employees or a single individual who represents the procedures being performed. Regulated areas as determined by the ECP may be required to perform periodic monitoring to ensure exposure levels are below EPA regulations. Monitoring will be paid for by the PI, Department or both.
 - Regulated areas: Areas where MC is used need to be clearly marked and posted.
 - PPE selection and criteria: If MC levels cannot be lowered to acceptable levels, supplied-air respirators must be purchased for affected employees.
 - These employees must also abide by the FAU Respiratory Protection Program.
 - Protection against dermal exposures requires the use of PVA or Silver Shield gloves. Double nitrile gloves do not provide sufficient protection.
 - Record keeping for at least 30 years

What does initial and ongoing exposure sampling cost?

- EH&S will work with qualified Industrial Hygiene vendors to perform MC exposure sampling. Labs, shops, and studios that require this service can expect a minimum baseline fee of approximately \$1,100 followed by variable fees dependent on the amount of samples required. EH&S expects each MC survey to cost approximately \$1,500 – \$2,500 total, assuming 2-10 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 ongoing monitoring. Labs and facility areas will need to fund it internally.
- Note: These are estimates only and may not reflect future costs.

What are the new training requirements for MC?

- Training is required for anybody who uses or could be exposed to MC, as well as anybody who enters a regulated/demarcated area.
- Training will be provided by USF EH&S.
- Training will include but is not limited to an overview of regulations pertaining to MC, the hazards of working with MC, work practice controls, and PPE use including the use of appropriate respirators.

How could I be exposed to MC? What are the routes of exposure?

- The routes of exposure are dermal contact and inhalation.
- Injection injuries are uncommon, yet extremely severe.

What work practice controls and PPE are required when working with MC?

- Once the new rule is in effect, MC must only be used in established regulated/demarcated areas; access to these areas must be controlled to prevent any unauthorized entry by untrained individuals.
- Engineering controls such as fume hoods must be used; if used, they must have been certified within the past year.
- Appropriate gloves or other dermal protection. Note: Nitrile or double nitrile gloves do not protect against dermal exposure as the breakthrough time is less than 1 min.
 - Gloves made of polyethylene (PE), ethylene vinyl alcohol (EVOH), PE, or laminate are required to be purchased by the lab.
- Standard PPE such as a lab coat, closed toe shoes and goggles are also required.

What are the occupational exposure limits?

- The EPA has created a new 8-hour time-weighted average (TWA) exposure limit called the Existing Chemical Exposure Limit (ECEL). The new rule also establishes an Action Level (or level which, when exceeded, certain actions or controls must be implemented), and a 15minute short-term exposure limit, or STEL.

- The OSHA exposure limits, called permissible exposure limits, or PELs, are also noted in the table below for reference. Note: The new EPA exposure limits take precedence.

| Exposure Limit Type | New EPA Limit | OSHA Limit |
|----------------------------|----------------------|-------------------|
| 8-hr TWA Action Level | 1 ppm | 12.5 ppm |
| 8-hr TWA Exposure Limit | 2 ppm | 25 ppm |
| 15 min STEL | 16 ppm | 125 ppm |

I have questions, who do I contact?

You are welcome to contact EH&S at any time with questions.