

UNIVERSITY OF TOLEDO

SUBJECT: METHYLENE CHLORIDE WORKPLACE
CHEMICAL PROTECTION PROGRAM

Procedure No: HM-08-054

PROCEDURE STATEMENT

Employees who use Methylene Chloride shall participate in the University of Toledo's Methylene Chloride Exposure Control Plan, which requires initial monitoring, exposure evaluation and control implementation, periodic monitoring, and training.

PURPOSE OF PROCEDURE

In April 2024, EPA issued a final rule regulating methylene chloride under the Toxic Substances Control Act (TSCA) to protect human health from health risks such as neurotoxicity effects and cancer from inhalation or dermal exposures.

PROCEDURE

I. Initial and Periodic Monitoring

The EPA requires exposure monitoring, for individuals working with methylene chloride, initially and periodically based on the exposure assessment. Prior to beginning research involving methylene chloride, users must contact Environmental Health and Radiation Safety to perform initial monitoring.

- A. If initial monitoring is below the Existing Chemical Exposure Limit (ECEL) action level and at or below the EPA Short Term Exposure Limit (STEL), periodic monitoring is required once every 5 years.
- B. If the initial exposure monitoring concentration is below the ECEL action level and above the EPA STEL, ECEL periodic monitoring is required at least once every 5 years AND EPA STEL periodic monitoring is required every 3 months.
- C. If initial exposure monitoring concentration is at or above the ECEL action level and at or below the ECEL; and at or below the EPA STEL, ECEL monitoring is required every 6 months.
- D. If initial exposure monitoring concentration is at or above the ECEL action level and at or below the ECEL; and above the EPA STEL, ECEL periodic monitoring every 6 months AND EPA STEL periodic monitoring every 3 months.
- E. If initial exposure monitoring concentration is above the ECEL and below, at, or above the EPA STEL. ECEL periodic monitoring every 3 months AND EPA STEL periodic monitoring every 3 months
- F. Potentially exposed persons will be notified of monitoring results within 15 business days after receiving the monitoring results. EHS and the principal investigator/laboratory manager shall maintain monitoring records for a minimum of 5 years and must be readily available upon request for inspection.

II. Exposure Control Plan

- A. The principal investigator must complete the University of Toledo Exposure Control Plan (Appendix A).
- B. All research with methylene chloride must be conducted in a chemical fume hood, with the sash at the lowest working height and with sliding sash panels (if applicable) aligned to form a barrier between the researcher and the experiment. Chemical fume hoods must be running between 80-120 linear feet/minute and tested by EHRS within the last year. If the hood is not working properly, contact Facilities to repair the hood or EHRS to retest the hood.
- C. Review the safety data sheet (SDS) for methylene chloride prior to use. Whenever possible, find safer substitutes or reduce the quantity of methylene chloride being used.
- D. Label all secondary containers of methylene chloride with the chemical name and hazard classes.
- E. Keep original containers and secondary containers tightly sealed when not in use.
- F. Purchase smaller volumes of stock containers.

- G. Keep methylene chloride away from strong oxidizers, strong acids, metals, amines, and other incompatible chemicals.
- H. Keep methylene chloride in well-ventilated areas away from ignition sources.
- I. Transport methylene chloride in secondary containment, preferably in a polyethylene or another compatible container.
- J. Keep storage areas and work areas with methylene chloride clean, orderly and in a sanitary condition.
- K. Wash hands thoroughly with soap and water before and after handling methylene chloride and prior to exiting the lab.
- L. Principal investigators and laboratory managers must ensure engineering controls, work practices, and administrative controls maintain their effectiveness to reduce employee exposure at or below the existing chemical exposure limit (ECEL).

III. Personal Protective Equipment

- A. When engineering or administrative controls are not feasible or do not provide sufficient protection from hazards, principal investigators are responsible for providing appropriate personal protective equipment (PPE) to lab personnel and ensuring its proper maintenance and use.
- B. At a minimum, chemical splash goggles that meet American National Standards Institute (ANSI) standard Z-87.1 must be worn when handling methylene chloride. PIs must determine when or if full-face shields are required.
- C. A lab coat should be worn when working with methylene chloride. Lab coats must be buttoned and fit properly to cover as much skin as possible.
- D. Long pants or other clothing that covers the legs must be worn. Shorts, skirts or other clothing that expose the skin of the legs is not allowed.
- E. Closed-toed footwear, which covers the entire foot, must be worn when working with methylene chloride.
- F. Chemical resistant gloves must be worn (PVC/Butyl or Viton/Butyl).
- G. If respiratory protection is required, supplied-air respirators must be used and will only be permitted under approval by EHRS.

IV. Waste Disposal

- A. All methylene chloride waste must be labeled with "Hazardous Waste" stickers or tags, use full chemical names to describe the waste (i.e., no chemical abbreviations or symbols), be stored in sturdy, plastic containers with tight-fitting caps or lids, and be stored alone or with other compatible chemicals.
- B. Hazardous wastes must be disposed by EHRS per [HM-08-001](#).

V. Training Program

- A. All faculty staff and students working with Methylene Chloride will complete the Methylene Chloride Workplace Chemical Protection Program training initially and annually thereafter.
- B. Training will include:
 - a. The Hazards of Methylene Chloride
 - b. Regulatory Requirements
 - c. Initial and Periodic Monitoring Requirements
 - d. Exposure Control Plan Requirements
 - e. Personal Protective Equipment (PPE)
 - f. Waste Disposal
 - g. Training Requirements