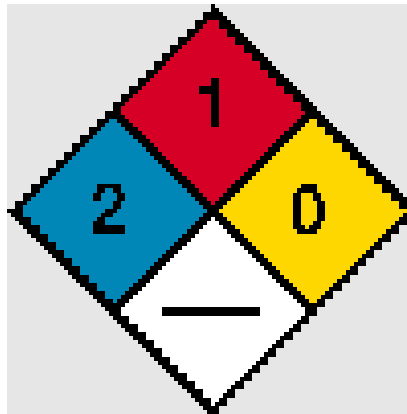


# METHYLENE CHLORIDE

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*Information for personnel*

**Methylene Chloride**  
**WARNING!**  
**HARMFUL IF SWALLOWED, INHALED OR ABSORBED**  
**THROUGH SKIN!**



## OSHA Standard Highlights

### PERMISSIBLE EXPOSURE LIMIT

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**For an 8-hour workday**, your exposure to MC must be below 25 parts per million (25 ppm). **For any 15 minute period**, your exposure must not exceed 125 ppm.

### EXPOSURE MONITORING

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The Occupational and Environmental Safety Office will monitor initially and periodically to determine employee exposure levels.

## MEDICAL SURVEILLANCE

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**OSHA requires a medical evaluation for employees who have been overexposed to MC 10 or more times per year.**

## INFORMATION AND TRAINING

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Employees who use MC must be trained prior to the job assignment on MC's potential health hazards, safe work practices, and appropriate PPE. Employees must be retrained if their exposure is expected to exceed the 8-hour TWA.

## WORKER PROTECTION

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Duke advocates substituting less hazardous chemicals with a higher exposure limit as the primary exposure control method. However, respiratory protection may be necessary and you should always wear splash goggles, gloves, and a protective apron.

## HAZARD COMMUNICATION

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Labels complying with OSHA's Hazard Communication Standard must be affixed to MC containers. Material Safety Data Sheets must also be available in your work area.

## SHORT TERM (ACUTE) HEALTH EFFECTS

Exposure to high levels of MC over short periods of time can cause irritation to the skin, eyes, mucous membranes, and respiratory tract.

**Inhalation** of MC causes central nervous system effects, such as mental confusion, light-headedness, fatigue, nausea, vomiting and headache.

**Skin** contact with MC removes natural lubricants causing intense burning, dryness, cracking, and dermatitis.

**Eye** contact to MC can lead to temporary discomfort or more serious injuries such as burning the cornea.

**Ingestion** of MC can lead to severe irritation of the mouth, throat, and stomach. Unconsciousness or death can also result.

## LONG TERM (CHRONIC) HEALTH EFFECTS

***MC is a potential carcinogen. Repeated exposure increases this risk.*** Long-term exposure to MC has been shown to cause cancer in some laboratory animals. Other chronic exposure symptoms include depression, liver effects, kidney effects, bronchitis, lack of balance, and mental confusion.

## FIRST AID PROCEDURES

***SEEK MEDICAL ATTENTION if MC is swallowed, gets in the eyes, causes chemical burns on the skin, or is inhaled in high concentrations.***

### INGESTION

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If swallowed, **DO NOT INDUCE VOMITING**. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

## INHALATION

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Remove the victim to fresh air. Give artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical attention.

## SKIN

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Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

## EYES

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Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately. Never wear contacts while working with MC.

# SPILLS

## SMALL SPILLS

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Wear disposable Silver Shield or Viton gloves and an absorbent material to clean up spilled MC. Place the waste in a metal container and call the Occupational and Environmental Safety Office (684-2794) to pick it up.

## LARGE SPILLS

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**Call 911** to activate Duke's Spill Response Team.

# EXPOSURE-REDUCING STRATEGIES

## CHEMICAL SUBSTITUTION

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The best way to reduce employee exposure to MC is by using a similar chemical that has a lower toxicity. For instance, there are many water-soluble solvents that perform the same functions as MC.

## ENGINEERING CONTROLS

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Local exhaust ventilation can be used to control exposures. Local exhaust systems capture the contaminated air from the source before it spreads into the worker's breathing zone.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

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You should always wear appropriate PPE when working with MC, including Silver Shield or Viton gloves, face shield or splash goggles, and a protective apron.

### Questions?

Call the Occupational and Environmental Safety Office (OESO) for information on the following topics:

- Chemical Substitution
- Local exhaust ventilation
- Recommendations for appropriate Personal Protective Equipment (PPE) for your job
- Air monitoring
- Health effects of MC
- The OSHA MC standard



**Occupational Hygiene Programs**  
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