



# Material Safety Data Sheet

## 1. Product and Company Identification

Product name : **Methyl Chloride**

Chemical formula : CH<sub>3</sub>Cl

Synonyms : Chloromethane; Monochloromethane; UN 1063

Company : Med Tech Gases, Inc.  
20 Hall Street  
Medford, MA 02155

Telephone : 800-FINE-GAS

Emergency : 800-424-9300

## 2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Methyl Chloride	74-87-3	> 99.5%

## 3. Hazards Identification

### Emergency Overview

May cause central nervous system depression.  
Flammable gas. May cause flash fire.

### Potential Health Effects

Inhalation : Nausea, vomiting, diarrhea, headache, drowsiness, symptoms of drunkenness, visual disturbances, bluish skin color, lung congestion, nerve damage, paralysis, convulsions, coma. May cause fainting, blurred vision in long term exposure.

Eye contact : Frostbite.

Skin contact : Irritation, blisters, symptoms of drunkenness, nerve damage.

Ingestion : Frostbite.

Chronic Health Hazard : None known.

## 4. First Aid Measures

General advice : None.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Skin contact : If frostbite occurs, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

Ingestion : Never make an unconscious person vomit or drink fluids. Give large amounts of water. DO NOT INDUCE VOMITING. If vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get immediate medical attention.

Inhalation : If adverse effects occur, remove to uncontaminated area. Give artificial

respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.  
Note to physicians : For inhalation, consider oxygen.

## 5. Fire-Fighting Measures

Suitable extinguishing media : Carbon dioxide, regular dry chemical.  
Large fires: Use regular foam or flood with fine water spray.  
Specific hazards : Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Gas/air mixtures are explosive. Let burn unless leak can be stopped immediately. Large fires: Use regular foam or flood with fine water spray.  
Fire fighting : Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after the fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile). Stop flow of gas.

## 6. Accidental Release Measures

Water release : Subject to California Safe Drinking Water and Toxin Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.  
Occupational spill/release : Avoid heat, sparks, flames and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away. Isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).  
Additional advice : None.

## 7. Handling and Storage

### Handling

Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

### Storage

Store in accordance with all current regulations and standards. Protect from physical damage. Store in a cool, dry place. Store in a well-ventilated area. Avoid heat, sparks, flames and other sources of ignition. Store outside or in a detached building. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. Keep separated from incompatible substances.

## 8. Exposure Controls / Personal Protection

### Exposure limits

ACGIH : 50 ppm TWA  
100 ppm STEL  
Skin – potential significant contribution to overall exposure by the cutaneous route.  
OSHA (final) : 100 ppm TWA  
200 ppm Ceiling

OSHA (vacated) : 100 ppm STEL; 210 mg/m<sup>3</sup> STEL  
50 ppm TWA; 105 mg/m<sup>3</sup> TWA

IDLH

2000 ppm

Engineering measures/Ventilation

Provide local exhaust or process enclosure ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of materials are present. Ensure compliance with applicable exposure limits.

Personal protective equipment

Respiratory protection : The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.  
At any detectable concentration – Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.  
Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.  
Escape – Any appropriate escape-type, self-contained breathing apparatus.  
For unknown concentrations or Immediately Dangerous to Life or Health – Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.  
Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Hand protection : Wear insulated gloves.

Eye protection : Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and body protection : Wear appropriate chemical resistant clothing.

**9. Physical and Chemical Properties**

Form : Gas.  
Color : Colorless.  
Odor : Sweet odor.  
Molecular weight : 50.49  
Vapor pressure : 3600 mmHg @ 20°C  
Vapor density : 1.8 (air = 1)  
Boiling point : -24°C  
Melting point : -98°C  
Water solubility : Slightly soluble.  
Specific gravity : 0.915 @ 20°C (water = 1)  
Solvent solubility : Soluble: alcohol, ether, benzene, acetone, chloroform, acetic acid.

**10. Stability and Reactivity**

Stability : Stable under normal conditions.  
Conditions to avoid : Avoid heat, flames, sparks or other sources of ignition. Minimize contact with material. Avoid inhalation of material or combustion by-products. Keep out of water supplies and sewers.

Materials to avoid : Metals, halogens.  
Hazardous decomposition products : Thermal decomposition products: oxides of carbon, acid halides, phosgene.

## 11. Toxicological Information

The components of this material have been reviewed in various sources and the following endpoints are published:

METHYL CHLORIDE : Inhalation LC50 Rat: 5.3 mg/L/4H; Oral LD50 Rat: 1800 mg/kg  
(74-87-3)

### Acute Toxicity Level

METHYL CHLORIDE : Toxic: Inhalation  
(74-87-3) Moderately toxic: Ingestion

### Component Carcinogenicity

ACHIG : A4 – Not Classifiable As A Human Carcinogen.  
IARC : Monograph 71 [1999]; Supplement 7 [1987]; Monograph 41 [1986] (Group 3  
(not classifiable))  
DFG : Category 3B (could be carcinogenic for man)

### Target Organs

METHYL CHLORIDE : Nervous system  
(74-87-3)

### Medical Conditions Aggravated by Exposure

History of alcoholism, liver and/or kidney disorders, central nervous system disorders, blood system disorders.

### Additional Data

Alcohol may enhance the toxic effects. Stimulants such as epinephrine may induce ventricular fibrillation.

## 12. Ecological Information

### Aquatic Toxicity

METHYL CHLORIDE : Fish: 96 Hr LC50 *Lepomis macrochirus*: 550 mg/L [static]  
(74-87-3)

## 13. Disposal Considerations

Waste from residues / unused products : Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U045.  
Contaminated packaging : Return cylinder to supplier.  
Component Waste Numbers : RCRA: waste\_number U045 (Ignitable waste, Toxic waste)

## 14. Transport Information

### DOT (US only)

Proper shipping name : Methyl Chloride  
Class : 2.1  
UN/ID No. : UN1063

Labeling : Flammable Gas

## 15. Regulatory Information

### U.S. Federal Regulations

This material contains one or more of the following chemicals required under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

METHYL CHLORIDE : 100 lb final RQ; 45.4 kg final RQ  
(74-87-3) SARA 313: 1.0% de minimis concentration  
CERCLA: 100 lb final RQ; 45.4 kg final RQ  
OSHA (safety): 15000 lb TQ

### SARA 311/312

Acute: Yes  
Chronic: Yes  
Fire: Yes  
Reactive: No  
Pressure: Yes

### U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
METHYL CHLORIDE	74-87-3	Yes	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.