

SAFETY DATA SHEET



METHYL CHLORIDE, TECHNICAL GRADE

North America EN
SDS No.: M47038

Rev. Date: 03-Dec-2025
Rev. Num. 09

SECTION 1. CHEMICAL PRODUCT / COMPANY IDENTIFICATION

Company Identification:	Occidental Chemical Corporation 14555 Dallas Parkway, Suite 400 Dallas, Texas 75254-4300
24-Hour Emergency Telephone Number:	1-800-733-3665 (USA); CANUTEC (Canada): 1-613-996-6666; CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186
To Request an SDS:	MSDS@oxy.com or 1-972-404-3245
Customer Service:	1-800-752-5151 or 1-972-404-3700
Product Identifier:	METHYL CHLORIDE, TECHNICAL GRADE
Synonyms:	Chloromethane; Monochloromethane
Product Use:	Methyl chloride is primarily used in the production of silicone fluids, elastomers, and resins, with smaller amounts utilized in cellulose ethers, quaternary ammonium compounds, agricultural chemicals, butyl rubbers, and organo-modified clays for various industrial and consumer applications
Restrictions on Use (EU):	Prohibited substance in cosmetics - EU Cosmetic Regulation (1223/2009) Annex II. Report to EU according to Article 27; see Annex II, Part B, footnote 1 as an ozone depleting substance (ODS). European Trade Union Confederation - Trade Union Priority List for REACH Authorisation.
Other Global Restrictions on Use:	Methyl Chloride may be restricted and/or prohibited for use in consumer products. See local, regional, and/or national regulations specific to consumer regulations.
Chemical Family:	Halogenated Organic Chemicals

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

SECTION 2. HAZARDS IDENTIFICATION

OSHA REGULATORY STATUS: Health hazard classifications were performed using OSHA Hazard Communication 2024 (1910.1200) Appendix A and/or UN GHS Rev. 8 (2019). This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

HEALTH CANADA HPR REGULATORY STATUS: This material is considered hazardous by the Health Canada Hazardous Products Act's Hazardous Products Regulations (HPR) (SOR/2015-17).

EMERGENCY OVERVIEW:

Color: Colorless
Physical State: Compressed, liquefied gas
Appearance: Liquefied compressed gas
Odor: Faint sweet ethereal odor

Signal Word: **DANGER**

MAJOR HEALTH HAZARDS: HARMFUL IF SWALLOWED. HARMFUL IF INHALED. MAY CAUSE DROWSINESS OR DIZZINESS. SUSPECTED OF CAUSING CANCER. SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD. CAUSES DAMAGE TO CARDIOVASCULAR SYSTEM. MAY CAUSE DAMAGE TO LIVER AND KIDNEYS. CAUSES DAMAGE TO LIVER, KIDNEY, AND NERVOUS SYSTEM THROUGH PROLONGED OR REPEATED EXPOSURE.

PHYSICAL HAZARDS: EXTREMELY FLAMMABLE GAS. CONTAINS GAS UNDER PRESSURE, MAY EXPLODE IF HEATED.

PRECAUTIONARY STATEMENTS: Obtain, read, and follow all safety instructions before use. Keep away from heat, sparks, open flames, hot surfaces - No smoking. Do not breathe gas. Wash hands and exposed skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, eye, and face protection.

ADDITIONAL HAZARD INFORMATION: Direct contact with liquid may cause frostbite to exposed tissue (eyes, skin, etc.). Methyl Chloride is a neurotoxin. Subacute, sub-chronic and chronic exposures to methyl chloride may cause functional changes in the central nervous system. Simple Asphyxiant - May displace oxygen and cause rapid suffocation.

HAZARD CLASSIFICATION:

GHS: PHYSICAL HAZARDS:	- Flammable Gas - Cat. 1A Extremely Flammable - Gas Under Pressure - Liquefied [Contains gas under pressure, may explode if heated]
GHS: ACUTE TOXICITY - INHALATION:	Category 4 - Harmful if inhaled

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

GHS: ACUTE TOXICITY - ORAL:	Category 4 - Harmful if swallowed
SPECIFIC TARGET ORGAN TOXICITY (STOT) - SINGLE EXPOSURE (SE):	- Category 1 - Causes damage to Cardiovascular System - Category 2 - May cause damage to liver and kidneys - Category 3 - May cause drowsiness or dizziness
SPECIFIC TARGET ORGAN TOXICITY (STOT) - REPEAT EXPOSURE (RE):	- Category 1 - Causes damage to liver, kidney, and central nervous system through prolonged or repeated exposure
GHS: CARCINOGENICITY:	Category 2 - Suspected of causing cancer
GHS: REPRODUCTIVE TOXICITY:	Category 2 - Suspected of damaging fertility or the unborn child

UNKNOWN ACUTE TOXICITY:**Unknown Acute Oral Toxicity:**

100% of this product consists of ingredient(s) of known acute oral toxicity.

Unknown Acute Dermal Toxicity:

There is no acute dermal toxicity data available for this material.

Unknown Acute Inhalation Toxicity:

100% of this product consists of ingredient(s) of known acute inhalation toxicity.

GHS SYMBOL: Flame, Gas cylinder, Exclamation mark, Health hazard



GHS SIGNAL WORD: DANGER

GHS HAZARD STATEMENTS:**GHS - Physical Hazard Statement(s)**

- Extremely flammable gas
- Contains gas under pressure; may explode if heated

GHS - Health Hazard Statement(s)

- Harmful if swallowed
- Harmful if inhaled
- May cause drowsiness or dizziness
- Suspected of causing cancer
- Suspected of damaging fertility or the unborn child
- Causes damage to cardiovascular system
- May cause damage to liver and kidneys
- Causes damage to the liver, kidney, and nervous system through prolonged or repeated exposure

GHS - Precautionary Statement(s) - Prevention

- Obtain, read, and follow all safety instructions before use
- Keep away from heat, sparks, open flames, hot surfaces. No smoking
- Do not breathe gas
- Wash hands and exposed skin thoroughly after handling
- Do not eat, drink, or smoke when using this product

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

- Use only outdoors or in a well-ventilated area
- Wear protective gloves/protective clothing/eye protection/face protection

GHS - Precautionary Statement(s) - Response

- IF SWALLOWED: Get medical help
- Rinse mouth
- IF INHALED: Remove person to fresh air and keep comfortable for breathing
- IF INHALED: Get medical help
- IF exposed or concerned: Get emergency medical help immediately
- Specific treatment (see First Aid information on product label and/or Section 4 of the SDS)
- Leaking gas fire: Do not extinguish, unless leak can be stopped safely
- Eliminate all ignition sources if safe to do so

GHS - Precautionary Statement(s) - Storage

- Store in a well-ventilated place. Keep container tightly closed
- Store locked up
- Protect from sunlight

GHS - Precautionary Statement(s) - Disposal

- Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations

Health Hazards Not Mentioned in GHS Classification

- Thermal Hazard: Contact with liquid or rapidly expanding gas may cause frostbite to contacted tissue (eyes, skin, etc.)
- Methyl Chloride is a neurotoxin. Subacute, sub-chronic and chronic exposures to methyl chloride may cause functional changes in the central nervous system
- May displace oxygen and cause rapid suffocation

Persistent, Bioaccumulative, and Toxic (PBT) and Very Persistent and Very Bioaccumulative (vPvB)**Assessment:**

This product does not fulfill the criteria for persistence, bioaccumulation, and toxicity. Therefore, this substance is not considered a PBT or a vPvB substance.

Endocrine Disruptor Assessment:

This substance has not been identified as having endocrine disrupting properties.

Component	Endocrine Screening List	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation
Methyl Chloride	Japan EXTEND List: Not Currently Tested	Not Listed as SVHC

See Section 11: TOXICOLOGICAL INFORMATION

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

Component	Systematic Chemical Name	Common name	CAS Number	Percent [%]
Methyl Chloride 74-87-3	Monochloromethane	Chloromethane	74-87-3	99.9 - 100

SECTION 4. FIRST AID MEASURES

General Advice: IF exposed or concerned: Get emergency medical help immediately.

EYE CONTACT: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical help.

SKIN CONTACT: If frostbite or freezing occur, immediately flush with plenty of lukewarm water (100-105 °F, 38-41 °C). If irritation or adverse symptoms develop, seek medical attention.

INHALATION: IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF INHALED: Get medical help. See Notes to Physician below and Section 11 for more information.

INGESTION: IF SWALLOWED: Get medical help. Rinse mouth.

MOST IMPORTANT SYMPTOMS/EFFECTS (ACUTE AND CHRONIC [DELAYED]):

Acute Symptoms/Effects: Listed below.

Eye: Direct eye contact may cause frostbite (opaque cornea, edema). Eye exposure may cause slight eye irritation, pain, conjunctivitis, tearing, clouding of cornea.

Skin: Direct skin contact may cause frostbite: frozen skin, redness, edema, blisters. Exposure to skin may cause mild skin irritation: redness, dry skin.

Inhalation (Breathing): Respiratory System Effects: Central Nervous System (CNS) effects are characteristic following inhalation of chlorinated hydrocarbons and can range from lightheadedness at low level exposures to loss of consciousness at high levels. CNS effects are an early warning that exposure to high levels has occurred and there is risk of cardiac effects (palpitations, low blood pressure, arrhythmia, arrest). CNS effects include the following symptoms: abdominal pain, nausea, vomiting, headache, lightheadedness, blurry or double vision, personality changes, weakness, slurred speech, stupor, incoordination (disequilibrium, ataxia), coma, and respiratory arrest. Onset of symptoms may be delayed from exposure for many hours.

Ingestion (Swallowing): Ingestion is not a likely route of exposure because this material is a gas at normal conditions.

Chronic (Delayed) Symptoms/Effects: While inhalation is the primary exposure route, the respiratory tract is not generally injured. However, in severe cases inhalation may cause pulmonary congestion. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Causes damage to Liver, Kidney, and Central Nervous System through prolonged or repeated exposure.

Target Organ Effects: Mild exposures can result in delayed onset of Central Nervous System (CNS) effects

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

(inebriation or drunkenness) that may continue several hours after the exposure ends; Significant and repeat exposures may produce reduced renal output (oliguria), elevation of liver enzymes, renal (kidney) failure, and liver failure; May cause acute renal (kidney) failure and liver failure

Protection of First-Aid Responders: This is a highly flammable material, handle with extreme care. Avoid contact with the skin and the eyes. Direct contact with liquid or rapidly expanding gas may cause frostbite to contacted tissue (eyes, skin, etc.). Do not breathe gas, fumes, vapor, mist, or spray. Use personal protective equipment (PPE). Refer to Section 8 for specific PPE recommendations. Consider the possibility of high levels of gas in confined/unventilated spaces or low-lying areas.

Notes to Physician: Most cases of intoxication involved concentrations above 500 ppm. Typically, individuals are not uncomfortable during the exposure, and present with nausea, abdominal pain, vomiting, and diarrhea several hours after the exposure. The effects may be delayed and last longer than a similar intoxication with ethanol (alcohol). More common CNS symptoms include drowsiness and fatigue, confusion, headache, ataxia, vertigo, blurred or double vision, tremor, muscular cramping, muscular rigidity, and sleep disturbances. The most severely impacted may enter coma, with or without seizures. Some exposures have been fatal. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material.

Interaction with Other Chemicals Which Enhance Toxicity: May amplify the effects of other agents that cause Central Nervous System (CNS) and respiratory system depression. Liver toxicity may be enhanced by other agents that cause liver damage, such as alcohol, acetaminophen.

Medical Conditions Aggravated by Exposure: Central Nervous System (CNS) disorders. Liver disorders. Kidney disorders.

SECTION 5. FIRE FIGHTING MEASURES

Fire Hazard: Severe fire hazard. Vapor/air mixtures are explosive. The vapor is heavier than air. Vapors or gases may ignite at distant sources and flash back. Containers may rupture or explode if exposed to heat. Under fire conditions, may produce irritating and/or toxic gases.

Explosive properties: During a spill, escaping unburned methyl chloride is potentially explosive. Methyl chloride reacts with aluminum to form trimethyl aluminum, a pyrophoric material. Methyl chloride creates an explosive mixture on contact with magnesium, sodium and other alkali metals; in contact with sodium-potassium alloys, it is impact sensitive and may result in an explosion.

Extinguishing Media: Use dry chemical, carbon dioxide, steam or water fog. Water spray can be used to cool adjacent equipment, disperse vapors and absorb hazardous decomposition products. **SMALL FIRE:** Dry chemical or CO₂. **LARGE FIRE:** Water spray or fog. Move containers from fire area if you can do it without risk. **FIRE INVOLVING TANKS:** Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. **ALWAYS** stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Unsuitable Extinguishing Media: Water should never be used directly on highly flammable gas fires because they

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

are not suitable for this class of fire and can worsen the situation. Water is ineffective against many flammable substances and can spread fires involving liquids and gases.

Specific Hazards: When burned in air, methyl chloride forms hydrogen chloride and phosgene, both of which are extremely hazardous. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.

Unusual Hazards: Methyl chloride is generally stable when dry. In the presence of moisture, methyl chloride hydrolyzes to form corrosive hydrochloric acid. Hydrochloric acid attacks most metals and forms hydrogen gas, which is explosive.

Fire Fighting: Eliminate all sources of ignition. Water may be ineffective as an extinguishing media. Move container from the fire area if it can be done without risk. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this can't be done, 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: Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately. Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode.

Component	Immediately Dangerous to Life/ Health (IDLH)
Methyl Chloride 74-87-3	2000 ppm IDLH

Hazardous Combustion Products: Oxides of carbon; Chlorine; Hydrogen chloride; Phosgene; Methanol

Sensitivity to Mechanical Impact: Methyl chloride is impact sensitive when in contact with sodium-potassium alloys and may result in an explosion.

Sensitivity to Static Discharge: Electrostatic charges may build up during handling and may form ignitable vapor-air mixtures in storage containers. Ground equipment in accordance with industry standards and best practices such as NFPA 77 [Recommended Practices on Static Electricity (2019)] and American Petroleum Institute (API) RP Recommended Practice 2003 [Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents (2015)].

Lower Flammability Level (air): ~ 7.1% (v/v)

Upper Flammability Level (air): ~ 18.5% (v/v)

Flash point: -49.9 °F (-45.5 °C) - CC

Method: CC - Closed Cup

Auto-ignition Temperature: 1170 °F (632.2 °C)

GHS: PHYSICAL HAZARDS:

- Flammable Gas - Cat. 1A Extremely Flammable
- Gas Under Pressure - Liquefied [Contains gas under pressure, may explode if heated]

SECTION 6. ACCIDENTAL RELEASE MEASURES

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

Personal Precautions: This material is highly flammable, handle with extreme care. Evacuate unnecessary personnel and eliminate all sources of ignition. Do not breathe dust, fumes, gas, mist, vapors, or spray. Avoid contact with skin and eyes. May be absorbed through the skin. Contact with liquid may cause frostbite. Wear appropriate personal protective equipment recommended in Section 8 of the SDS. Stay upwind and keep out of low areas. Methyl chloride vapors are heavier than air and will spread along ground and collect in low or confined areas (drains, basements, tanks). Methyl chloride is difficult to detect in air and odor cannot be relied upon as warning of concentrations that are dangerous to health.

Personal Protective Equipment: When working around this material, consider the use of flame resistant and anti-static safety clothing and footwear. For Unknown Concentrations or exposures above IDLH (Immediately Dangerous to Life or Health) - Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece. See Section 8 for information on personal protective equipment.

Emergency Procedures: After evacuating the area, stop the gas flow if safe to do so. If a fire occurs, it should not be extinguished until the leak is isolated and stopped. Escaping unburned methyl chloride is potentially explosive. Once the gas flow has been stopped, dry chemical, CO₂ and water fog can be used to extinguish the fire. Water spray can be used to cool adjacent equipment, disperse vapors and absorb hazardous decomposition products.

Environmental Precautions: Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

Methods and Materials for Containment, Confinement, and/or Abatement: Take action to protect personnel. Evacuate unnecessary and unprotected personnel. Isolate hazard areas and deny entry. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustible gas engine vehicles away from the release area. Vapors or gases may ignite at distant ignition sources and flash back. Ventilate closed spaces before entering. Stop leak, if possible, without personal risk. Shut off ventilation system if needed. Reduce vapors with water spray. Evacuation of surrounding area may be necessary for large spills. Prevent spreading of vapors through sewers, ventilation systems, and confined areas. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.

Methods and Materials for Clean-up

Recovery: In case of spill or leak, stop the leak as soon as possible.

Neutralization: No additional information available.

Final Disposal: For waste disposal, see section 13.

Additional Disaster Prevention Measures: The primary hazard from a large release of methyl chloride is fire. Eliminate all sources of ignition immediately if a release of methyl chloride should occur. The public should be warned of any downwind vapor explosion hazards. Vapors may travel long distances and ignite or cause a vapor flash back to occur.

SECTION 7. HANDLING AND STORAGE

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

Handling:

Precautions for Safe Handling:

This material is highly flammable, handle with extreme care. Keep away from heat, sparks, flame and other sources of ignition. Ground any equipment used in handling. Use non-sparking tools and equipment. All energized electrical equipment must be designed in accordance with the electrical classification of the area. Do not breathe gas, vapors, or spray mist. Avoid contact with skin, eyes, and clothing. Can be absorbed through skin. Direct contact may cause frostbite to exposed tissue (skin, eyes, etc.). Most vapors are heavier than air and will spread along ground and collect in low or confined areas (drains, basements, tanks). Methyl Chloride odors are reported not to be noticeable at potentially dangerous concentrations.

Technical measures/precautions: Threaded piping and cast or ductile iron equipment should NOT be used in Methyl Chloride service. Electrical equipment and wiring used in areas where Methyl Chloride is processed must meet local and national electrical code requirements. In general, this equipment should meet NFPA Class I, Division 2 hazardous location requirements for lighting, electric motors, instrumentation and other electric powered equipment.

Other precautions: Under no circumstances should compressed air be used to purge Methyl Chloride. The use of air for removal of the residual Methyl Chloride could create a flammable situation of Methyl Chloride vapors in air mixture.

Prevention of contact: All piping and equipment for Methyl Chloride should be designed as a closed and contained system, so the chemical (both liquid and vapor) is controlled at all times. Tanks and pipelines containing methyl chloride should be completely emptied and checked for vapors before entering. Do not enter a confined space (which includes tanks or pits) without following proper entry procedures such as 29 CFR 1910.146.

Storage:

Safe Storage Conditions: Methyl Chloride storage tanks should be located above ground in limited access areas away from occupied structures. Tanks and unloading areas should be equipped with a sprinkler, deluge monitor, or other fire suppression system per NFPA 30.6.76. Spill containment for both the storage and unloading area should be designed per API RP2218 to prevent flammable material from collecting under tanks, tank cars, trailers, or process piping per NFPA 30 22.11.13. Methyl Chloride tanks and unloading facilities should be located away from areas containing fired heaters and other potential ignition sources. All tanks and piping must be electrically bonded and provided with static electricity and lightning protection.

Technical measures: All Methyl Chloride storage tanks should be equipped with a high-level alarm to prevent overfilling the vessel. Filling density should be limited to no more than 90 percent of the capacity of the storage tank. Methyl Chloride should be stored in steel pressure tanks built and tested to applicable ASME code. In cold climates, storage tanks should be rated for vacuum service. Additional local code requirements must be incorporated in the construction of the storage tanks. All openings in storage tanks must be welded or have standard bolted flanges rated for the appropriate pressure requirements. Threaded piping and cast or ductile iron equipment should not be used in Methyl Chloride service. Pressure relief devices should be sized and tested according to ASME code. Dual relief valves should be provided to allow testing with the tank in service. Storage vessels must have both liquid and vapor piping with block valves located as close to the tank nozzles as possible.

Incompatible Materials: Oxidizing Agents (such as Perchlorates, Peroxides, Permanganates, Chlorates, Nitrates, Chlorine, Bromine), Amines, Amides, Magnesium, Sodium, Zinc, Potassium, Aluminum, Alkali metals.

Packaging or Materials of Construction: Cast or ductile iron and brass or copper-bearing alloys should not be used in methyl chloride service. Aluminum and aluminum alloys must not be used in methyl chloride storage or handling systems since trimethyl aluminum is formed when methyl chloride contacts aluminum. Zinc and magnesium alloys also must be avoided in equipment or piping for methyl chloride service. Gasket materials in methyl chloride

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

service should be Gylon 3504 or Durlon 9000. Other gasket materials may be acceptable, but chemical compatibility must be verified prior to use.

Additional Information:**GHS: PHYSICAL HAZARDS:**

- Flammable Gas - Cat. 1A Extremely Flammable
- Gas Under Pressure - Liquefied [Contains gas under pressure, may explode if heated]

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**REGULATORY EXPOSURE LIMIT(S):**

Listed below for the product components that have regulatory occupational exposure limits (OEL's).

Component	OSHA Final PEL TWA	OSHA Final PEL STEL	OSHA Final PEL Ceiling
Methyl Chloride 74-87-3 (99.9 - 100 %)	100 ppm (TWA)	-----	200 ppm (Ceiling)

OEL: Occupational Exposure Limit; OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; TWA: Time Weighted Average; STEL: Short Term Exposure Limit
 OSHA Ceiling values indicate the exposure limit, which at no time shall be exceeded. Instantaneous monitoring is the preferred method to determine compliance with OSHA Ceiling values. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15-minute time weighted average exposure which shall not be exceeded at any time during the working day [29 CFR § 1910.1000(a)(1)]

Component	Canada - TWAs	Canada - STELs	Canada - Ceilings
Methyl Chloride 74-87-3 (99.9 - 100 %)	Ontario - 50 ppm (TWA) Alberta - 50 ppm (TWA) Alberta - 103 mg/m ³ (TWA) British Columbia - 50 ppm (TWA)	Ontario - 100 ppm (STEL)	-----

NON-REGULATORY EXPOSURE LIMIT(S):

Listed below for the product components that have non-regulatory occupational exposure limits (OELs).

Component	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	Skin Absorption - ACGIH	NIOSH RELs	AIHA WEELs	OSHA TWA (Vacated)	OSHA STEL (Vacated)	OSHA Ceiling (Vacated)
Methyl Chloride 74-87-3 (99.9 - 100 %)	50 ppm (TWA)	100 ppm (STEL)	-----	Listed	-----	-----	50 ppm 105 mg/m ³	100 ppm 210 mg/m ³	-----

- The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).

- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

ENGINEERING CONTROLS: Use closed systems. A process vent system should be provided to collect all methyl chloride emissions at the source. Sources might include relief-valve or rupture-disc discharges, vessel and piping purges, and venting related to unloading operations. The exhaust from area vent fans and laboratory vent hoods should be ducted to a point well away from occupied workstations. Use explosion proof equipment and lighting in classified/controlled areas. In all cases, explosion-proof ventilation should be provided to keep concentrations below explosive limits. All process sampling must be performed using a closed loop sampling system. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear chemical safety goggles with a face shield to protect against eye and skin contact when appropriate. Provide an emergency eyewash fountain and quick drench shower in the immediate work area.

Skin and Body Protection: Wear protective clothing to minimize skin contact. Thoroughly clean and dry contaminated clothing before reuse. An apron, headgear and/or face-shield should be worn where liquid contact is possible.

Hand Protection: Wear chemical resistant, insulated gloves that protect against both chemical exposure and freeze burns. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

Protective Material Types: Fire resistant clothing, Saranex®, Barricade®, Viton®, Responder®, Trelchem®, and Tychem®, Protective Gloves: Do not use PVC or polyethylene, Methyl Chloride attacks natural rubber, CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to leak without warning.

Respiratory Protection: At this time, there is no known cartridge/canister for use in methyl chloride contaminated air at or above exposure limits for air purifying respirators. Where vapor concentration exceeds or is likely to exceed applicable exposure limits, a NIOSH approved supplied air respirator is required. When the level may be above the IDLH, use an SCBA or pressure-demand supplied air with an auxiliary self-contained escape pack. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Component	Immediately Dangerous to Life/ Health (IDLH)
Methyl Chloride 74-87-3 (99.9 - 100 %)	2000 ppm IDLH

Other Protective Equipment: An emergency eyewash fountain and quick drench shower should be provided in the immediate work area. Explosion-proof ventilation should be provided to keep concentrations below explosive limits.

HYGIENE MEASURES: Measurement by continuous sampling devices are recommended or as a minimum, frequent sampling using accepted industrial hygiene methods and procedures. Surveys should be conducted routinely for the purpose of detecting leak sources. Portable direct reading instruments calibrated for methyl chloride should be used for leak detection. Leaks should be identified and repaired without delay. Only trained and properly protected personnel should be allowed to enter areas where methyl chloride is present.

METHYL CHLORIDE, TECHNICAL GRADE**SDS No.:** M47038
Supersedes Date: 2021-07-June**Rev. Date:** 03-Dec-2025
Rev. Num. 09**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance:	Liquified compressed gas
Physical State:	Compressed, liquefied gas
Color:	Colorless
Odor:	Faint sweet ethereal odor
Odor Threshold [ppm]:	10 ppm (Methyl chloride odors are reported to be not noticeable at potentially dangerous concentrations.)
Melting Point/Range:	-97.6°C
Boiling Point °C	-23.7 °C
Evaporation Rate (ether=1):	Not applicable
Flammability (solid, gas):	Highly flammable
Lower Flammability Level (air):	~ 7.1% (v/v)
Upper Flammability Level (air):	~ 18.5% (v/v)
Explosion limits:	Not determined
Flash point:	-49.9 °F (-45.5 °C) - CC
Method:	CC - Closed Cup
Auto-ignition Temperature:	1170 °F (632.2 °C)
Decomposition Temperature:	> 400°C (752°F) to 875°C (1607°F)
pH:	Not applicable
Viscosity (Liquid):	0.332 centipoise @ -34°C, 0.320 centipoise @ -29°C
Dynamic Viscosity:	0.00027 Pa s @ 20°C (liquid, 0.5 MPa)
Kinematic Viscosity:	Liquid viscosity: 0.332 centipoise @ -34 C, 0.320 centipoise @ -29 C
Water Solubility:	5040 mg/L @ 25 °C
Partition Coefficient (n-octanol/water):	Log Kow = 0.91
Vapor Pressure:	4300 mmHg @ 25 °C
Density:	No data available
Relative Density/Specific Gravity (water=1):	0.911 g/cm ³ @ 25 °C (77 °F)
Vapor Density (air=1):	1.8
Particle Size Distribution:	Not applicable

Other Information

Molecular Formula:	CH ₃ Cl
Chemical Family:	Halogenated Organic Chemicals
Molecular Weight:	50.49
Explosive properties:	Not applicable
Oxidizing properties:	Not applicable
Bulk Density:	Not applicable
Crystallization Temperature:	-97.4 °C (-143.3 °F; 175.8 K)
Volatility:	100%
Surface Tension:	16.2 dynes/cm = 0.0162 N/m at 20°C
Hygroscopic:	Not applicable

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Methyl Chloride is generally stable when dry. In the presence of moisture, methyl chloride hydrolyzes to form corrosive hydrochloric acid. Hydrochloric acid attacks most metals and forms hydrogen gas, which is explosive.

Reactivity: Methyl Chloride reacts with aluminum to form trimethyl aluminum, a pyrophoric material. Methyl Chloride creates an explosive mixture on contact with magnesium, sodium, and other alkali metals. In contact with sodium-potassium alloys, methyl chloride is impact sensitive and may result in an explosion. Methyl Chloride attacks natural rubber. Methyl Chloride can react vigorously with oxidizing agents.

Possibility of Hazardous Reactions: Avoid heat, flames, sparks, and other sources of ignition. Containers may rupture or explode if exposed to heat. Will attack some forms of plastics, rubber, and coatings. Avoid contact with incompatible substances and conditions due to generation of phosgene and other toxic and irritating substances. May react explosively with aluminum in any form. In the presence of moisture, methyl chloride hydrolyzes to form corrosive hydrochloric acid. Methyl Chloride creates an explosive mixture on contact with magnesium, sodium, and other alkali metals.

Conditions to Avoid (e.g., static discharge, shock, or vibration): In contact with sodium-potassium alloys, methyl chloride is impact sensitive and may result in an explosion.

Incompatible Materials: Oxidizing Agents (such as Perchlorates, Peroxides, Permanganates, Chlorates, Nitrates, Chlorine, Bromine), Amines, Amides, Magnesium, Sodium, Zinc, Potassium, Aluminum, Alkali metals.

Hazardous Decomposition Products: Oxides of Carbon, Chlorine, Hydrogen Chloride, Phosgene, Methanol.

Hazardous Polymerization: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS:

TOXICITY:

Methyl chloride is a potent narcotic and has been used as an anesthetic agent. Exposure to less than the current occupational exposure limit (100 ppm, 8 hour TWA) was not associated with any significant impairment. Most cases of intoxication involve concentrations above 500 ppm. In most cases, exposure concentration and duration are not available. The most common consequences of excessive single or repeated exposures have been functional changes in the central nervous system. They have been described as drunkenness as from ingested ethanol (alcohol), but are much longer in persistence. The symptoms of overexposure may include a staggering gait, weakness, drowsiness, double vision, headache, apathy, anorexia, nausea, vomiting, abdominal pain, diarrhea, personality changes, spasms, tremors, loss of memory, paralysis, confusion, unconsciousness, and death. Other organ systems can be affected in persons showing marked central nervous system changes: these include the kidneys, liver, and particularly the lungs.

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

Documentation from historical exposures indicates that pulmonary complications may arise after very significant exposures, likely due to fluid retention from renal failure. Although recovery usually appears complete, at least one case report indicates adverse effects may be permanent. The onset of elevated liver enzymes and indicators of renal impairment may be delayed.

ACUTE TOXICITY:

In humans, there are reports of (a) dizziness, frailty, blurred vision, ataxia, lethargy, insomnia, confusion, paresthesia, neurosis and depressive symptom following inhalation exposure, (b) nausea, severe headache, drunkenness, confusion, somnolence, ataxia and dysphasia following ingestion and (c) abnormal ECG, tachycardia and increased heart rate, decreased blood pressure and increase of relative risk of death by cardiovascular diseases. Several 6-hour inhalation tests were conducted with mice and rats. Hematuria, degeneration and necrosis of the proximal convoluted tubules and hepatic necrosis was reported for mice at a dose level of 1000 ppm (4-hour equivalence: 1225 ppm) (ACGIH (2001)), and hepatic toxicity and renal toxicity was reported in mice at dose level of 2000 ppm (4-hour equivalence: 2690 ppm) or higher concentrations (CICAD 28 (2000)). Similar findings were also reported in rats at a dose level of 3500 ppm (4-hour equivalence: 4287 ppm) or higher (ACGIH (2001)).

Eye contact: Eye contact may cause frostbite, tearing, redness, pain, conjunctival irritation, corneal edema, whitening, and decreased vision.

Skin contact: Direct skin contact with liquid or rapidly expanding gas may cause frostbite. Skin contact may cause slight irritation, redness.

Inhalation: Inhalation of this material may cause lightheadedness, loss of consciousness, palpitations, low blood pressure, arrhythmia, arrest, nausea, vomiting, abdominal pain, headache, blurry vision, double vision, personality changes, weakness, stupor, incoordination (disequilibrium, ataxia), coma, respiratory arrest.

Ingestion: Not a likely route of exposure.

CHRONIC TOXICITY:

Cerebellar damage and neurofunctional impairment and adverse effects on the kidney have been observed in experimental animals. Changes in liver weights and, in some cases, liver damage, have been observed in experimental animals. Studies in experimental animals have shown adverse effects on the spleen in several species. Effects on the spleen have usually been at neurotoxic levels of exposure; therefore, the relevance to humans is not clear.

Chronic Effects: Causes damage to the central nervous system, liver, and kidneys through prolonged or repeated exposure. May cause genetic defects. May damage fertility or the unborn child.

SIGNS AND SYMPTOMS OF EXPOSURE:

Inhalation (Breathing): Respiratory System Effects: Central Nervous System (CNS) effects are characteristic following inhalation of chlorinated hydrocarbons and can range from lightheadedness at low level exposures to loss of consciousness at high levels. CNS effects are an early warning that exposure to high levels has occurred and there is risk of cardiac effects (palpitations, low blood pressure, arrhythmia, arrest). CNS effects include the following symptoms: abdominal pain, nausea, vomiting, headache, lightheadedness, blurry or double vision, personality changes, weakness, slurred speech, stupor, incoordination (disequilibrium, ataxia), coma, and respiratory arrest. Onset of symptoms may be delayed from exposure for many hours.

Skin: Direct skin contact may cause frostbite: frozen skin, redness, edema, blisters. Exposure to skin may cause mild skin irritation: redness, dry skin.

Eye: Direct eye contact may cause frostbite (opaque cornea, edema). Eye exposure may cause slight eye irritation, pain, conjunctivitis, tearing, clouding of cornea.

Ingestion (Swallowing): Ingestion is not a likely route of exposure because this material is a gas at normal conditions.

Interaction with Other Chemicals Which Enhance Toxicity: May amplify the effects of other agents that cause

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

Central Nervous System (CNS) and respiratory system depression. Liver toxicity may be enhanced by other agents that cause liver damage, such as alcohol, acetaminophen.

GHS HEALTH HAZARDS:

GHS: ACUTE TOXICITY - ORAL: Category 4 - Harmful if swallowed

GHS: ACUTE TOXICITY - INHALATION: Category 4 - Harmful if inhaled

SPECIFIC TARGET ORGAN TOXICITY (STOT) - SINGLE EXPOSURE (SE):

Category 1 - Causes damage to Cardiovascular System

Category 2 - May cause damage to liver and kidneys

Category 3 - May cause drowsiness or dizziness

SPECIFIC TARGET ORGAN TOXICITY (STOT) - REPEAT EXPOSURE (RE):

Category 1 - Causes damage to liver, kidney, and central nervous system through prolonged or repeated exposure

GHS: CARCINOGENICITY: Category 2 - Suspected of causing cancer

GHS: REPRODUCTIVE TOXICITY: Category 2 - Suspected of damaging fertility or the unborn child

TOXICITY DATA:**PRODUCT TOXICITY DATA:**

LD50 Oral: 1800 mg/kg (Rat)	LD50 Dermal: No data is available on the product itself	LC50 Inhalation: 2567 ppm (4 hr. - Rat)
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The component toxicity data is populated by the LOLI database and may differ from the product toxicity data given.

Component	Oral LD50	Dermal LD50	Inhalation LC50
Methyl Chloride 74-87-3	1800 mg/kg (Rat)	No data available	> 21800 mg/m ³ (Rat) 4-hour

SKIN/EYE CORROSION: Contact with liquid or rapidly expanding gas may cause frostbite to contacted tissue (eyes, skin, etc.).

SKIN ABSORBENT/DERMAL ROUTE: Yes.

The level of dermal absorption from the gaseous phase is expected to be low; however, ACGIH list methyl chloride with a skin notation.

RESPIRATORY OR SKIN SENSITIZATION: Not classified as a skin or respiratory sensitizer per GHS criteria.

CARCINOGENICITY: Lifetime studies in rats and mice have shown that Methyl Chloride targets the liver, urogenital tract, and, in rats, the testes and epididymis. Only male mice exposed to the highest concentrations developed a significant increase in kidney tumors, which is attributed to species- and sex-specific expression of the CYP2E1 enzyme, leading to formaldehyde accumulation and subsequent cytotoxicity. This tumor formation mechanism is unique to male mice and does not occur in humans, as human kidneys possess low CYP2E1 levels, making such effects unlikely under typical occupational exposures. In addition, human epidemiological studies have not demonstrated a link between Methyl Chloride exposure and increased cancer risk. The mode of tumor formation observed in animals is not considered relevant for human health risk assessment. Although there are grounds to suspect carcinogenic potential in animal studies, particularly at high concentrations, available human data do not show a correlation between exposure and tumor incidence. Therefore, Methyl Chloride is classified as Category 2 under GHS (suspected of causing cancer) due to limited evidence of carcinogenicity in both human and animal studies.

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

Component	NTP:	IARC (GROUP 1):	IARC (GROUP 2):	OSHA:	ACGIH (American Conference of Governmental Industrial Hygienists)	NIOSH - Pocket Guide - Carcinogens
Methyl Chloride	Not listed	Not listed	Not listed	Not Listed	A4 - Not Classifiable as a Human Carcinogen	Potential occupational carcinogen

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure): In humans, there are reports of (a) dizziness, frailty, blurred vision, ataxia, lethargy, insomnia, confusion, paresthesia, neurosis and depressive symptom following inhalation exposure, (b) nausea, severe headache, drunkenness, confusion, somnolence, ataxia and dysphasia following ingestion and (c) abnormal ECG, tachycardia and increased heart rate, decreased blood pressure and increase of relative risk of death by cardiovascular diseases. Based on the data, the substance was classified into Category 1 (nervous system, cardiovascular system) and Category 3 - Central Nervous System (CNS). Several 6-hour inhalation tests were conducted with mice and rats. Hematuria, degeneration and necrosis of the proximal convoluted tubules and hepatic necrosis was reported for mice at a dose level of 1000 ppm (4-hour equivalence: 1225 ppm) (ACGIH (2001)), and hepatic toxicity and renal toxicity was reported in mice at dose level of 2000 ppm (4-hour equivalence: 2690 ppm) or higher concentrations (CICAD 28 (2000)). Similar findings were also reported in rats at a dose level of 3500 ppm (4-hour equivalence: 4287 ppm) or higher (ACGIH (2001)). Since the effects in mice were observed at dose levels within the guidance value range for Category 1; however, were in animals, the substance was classified into Category 2 (liver, kidney).

SPECIFIC TARGET ORGAN TOXICITY (Repeated or Prolonged Exposure): Under normal conditions methyl chloride exists as a gas. Therefore, the only relevant route of exposure is via inhalation. Effects from long term human exposure to methyl chloride have been reported to include liver cirrhosis, renal damage, and nervous system dysfunction. Data on subacute, sub-chronic and chronic methyl chloride exposure are available from experiments with mice, rats and dogs (CIIT, 1979 and 1981, Morgan et al., 1982; McKenna et al., 1981; Burek et al., 1981). The kidneys, the central nervous system, (see Neurotoxicity below) and the liver are identified as target organs of methyl chloride.

INHALATION HAZARD: High concentrations of Methyl Chloride gas in confined or closed environments can cause a lack of oxygen (asphyxiation). Methyl Chloride is not considered a respiratory irritant; thermal decomposition can result in toxic bronchopneumonia and toxic lung oedema (ARDS). In general, systemic symptoms constitute the major effect after inhalation of gaseous Methyl Chloride.

INGESTION HAZARD: Methyl Chloride is gaseous at room temperature; this route of exposure is thus insignificant under normal conditions.

GERM CELL/IN-VITRO MUTAGENICITY: Methyl Chloride shows genotoxic effects in vitro at high concentrations, but in-vivo studies primarily observe cytotoxicity rather than genotoxicity. The genetic toxicity seen in laboratory settings does not translate to living organisms, likely due to rapid metabolism and repair mechanisms. Overall, current evidence indicates that Methyl Chloride does not pose a significant genotoxic hazard in humans under typical exposure conditions. Therefore, Methyl Chloride is not classified as a mutagen per GHS criteria.

REPRODUCTIVE TOXICITY: Animal studies have shown that Methyl Chloride can cause damage to the testes and epididymis, resulting in reduced sperm count, poor sperm quality, and decreased fertility, including complete infertility

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

in rats. These effects vary according to species and sex. However, no human data are available regarding similar reproductive effects. Based on this evidence, Methyl Chloride is classified as Category 2 for reproductive toxicity related to fertility, but not for developmental toxicity.

ASPIRATION HAZARD: The liquid is expected to be volatilized and exhaled/absorbed as a gas. Not classified as an aspiration hazard per GHS criteria.

TOXICOKINETICS: Elimination of chloromethane from the blood follows second-order kinetics and is rapid once inhalation exposure ceases with a half-life of 15 minutes in the rat, 50 minutes in the dog and in humans that are rapid metabolizers, and 90 minutes in humans that are slow metabolizers.

METABOLISM: Methyl chloride is metabolized by conjugation with glutathione to yield S-methylglutathione, S-methylcysteine, and other sulfur-containing compounds that are excreted in the urine or further metabolized to methanethiol. Cytochrome P450-dependent metabolism of methanethiol may yield formaldehyde and formic acid, whose carbon atoms are then available to the one-carbon pool for incorporation into macromolecules or for formation of CO₂. Alternatively, formaldehyde may be directly produced from chloromethane via a P450 oxidative dechlorination.

BIOLOGICAL DISTRIBUTION: Methyl Chloride is rapidly absorbed from the lungs and rapidly reaches equilibrium with levels in blood and expired air approximately proportional to the exposure concentrations. At high concentrations, kinetic processes such as metabolism or excretion may become saturated limiting the rate of uptake. Animal studies show that Methyl Chloride is absorbed from the lungs and extensively distributed throughout the body.

PATHOGENICITY AND ACUTE INFECTIOUSNESS (ORAL, DERMAL, AND INHALATION): Not applicable.

ENDOCRINE DISRUPTOR: The effects of Methyl Chloride on sperm quality and fertility are due to a direct toxicity on the testes and not mediated by adverse changes in hormone concentrations. Thus, Methyl Chloride is not an endocrine disruptor.

NEUROTOXICITY: Methyl Chloride primarily targets the central nervous system, as demonstrated by various animal studies. Neurotoxic effects, including tremors, paralysis, impaired motor function, and notable histopathological changes in the cerebellum, were observed in mice, guinea pigs, cats, and dogs at different exposure levels and durations. Mice showed the greatest sensitivity, with functional impairments and cerebellar lesions occurring at lower concentrations than in other species. In contrast, rats displayed no significant neurofunctional or pathological changes, even after prolonged exposure. Human exposure to methyl chloride typically results in reversible central nervous system disturbances—such as confusion, tremors, headaches, and personality changes—especially at concentrations above 200 ppm. Long-term low-level exposure effects are generally mild and resolve after recovery. The data suggest humans metabolize methyl chloride less efficiently than rodents, making direct extrapolation from animal studies unreliable.

IMMUNOTOXICITY: Not Available.

Health Hazards Not Mentioned in GHS Classification

- Thermal Hazard: Contact with liquid or rapidly expanding gas may cause frostbite to contacted tissue (eyes, skin, etc.)
 - Methyl Chloride is a neurotoxin. Subacute, sub-chronic and chronic exposures to methyl chloride may cause functional changes in the central nervous system
 - May displace oxygen and cause rapid suffocation
-

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

SECTION 12. ECOLOGICAL INFORMATION**ECOTOXICITY (EC, IC, and LC):****Ecotoxicity - Available LOLI Data for Components:**

Component:	Freshwater Fish:	Invertebrate Toxicity:	Algae Toxicity:	Other Toxicity:
Methyl Chloride 74-87-3 (99.9 - 100 %)	*LC50 Lepomis macrochirus: 550 mg/L 96h static	No data available	No data available	No data available

Aquatic Toxicity:

Methyl chloride is not classified as either an acute or chronic aquatic toxin per GHS and its water solubility = 5320 mg/L.

Fish Toxicity:

LC50 Bluegill sunfish: 550 mg/L (96 hour).
LC50 Inland silversides: 270 mg/L (96 hour).

Algae Toxicity:

LC50 Green algae: 1450 mg/L.

FATE AND TRANSPORT:

PERSISTENCE: Methyl Chloride is present in the atmosphere as a gas. Its primary removal mechanism is through reaction with hydroxyl radicals, resulting in an estimated atmospheric half-life of 0.6 years and a lifetime of 0.9 years. This reaction produces formyl chloride as a byproduct.

BIODEGRADATION: Theoretical BOD was reached in 4 weeks, indicating that biodegradation is not an important environmental fate process in soil or water. However, volatilization from water surfaces is expected to be an important fate process based upon this compound's Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 2.1 hours and 2.8 days, respectively.

BIOACCUMULATIVE POTENTIAL: An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low. The hydrolysis half-life is 0.93 years at pH 7 and 25 °C. In addition, based on the available information (log Kow 0.91), there are no indications for a bioaccumulation potential.

MOBILITY IN SOIL: Methyl Chloride exhibits high mobility in soil. Based on a classification scheme, an estimated Koc value of 13, determined from a structure estimation method, indicates that methyl chloride is expected to have very high mobility in soil. Volatilization of methyl chloride from moist soil surfaces is expected to be an important fate process given a Henry's Law constant of 8.82×10^{-3} atm-cu m/mole. Methyl chloride is expected to volatilize from dry soil surfaces based upon a vapor pressure of 4300 mm Hg at 25 °C.

ADDITIONAL ECOLOGICAL INFORMATION: This substance is not listed in Annexes to the Montreal Protocol; however, it is reported to EU according to Article 27; see Annex II, Part B, footnote 1 as an ozone depleting substance (ODS). The principal sink for Methyl Chloride in the troposphere is chemical reaction with hydroxyl radicals, and the atmospheric lifetime is estimated to be 1–3 years. A certain amount of methyl chloride reaches the stratosphere; there, photodissociation generates chlorine radicals, which contribute to ozone depletion. Estimates of the amount of Methyl Chloride reaching the stratosphere, and thus depleting ozone, vary widely. As estimated from figures presented by the World Meteorological Organization (WMO), Methyl Chloride contributes

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

approximately 15% of the total equivalent effective stratospheric chlorine. The stratospheric ozone depletion potential (ODP) of Methyl Chloride has been determined to be 0.02 relative to the reference compound CFC-11, which has an ODP of 1. Methyl Chloride is not thought to contribute significantly to either global warming or photochemical air pollution.

Persistent, Bioaccumulative, and Toxic (PBT) and Very Persistent and Very Bioaccumulative (vPvB) Assessment:

This product does not fulfill the criteria for persistence, bioaccumulation, and toxicity. Therefore, this substance is not considered a PBT or a vPvB substance.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from material:

Use or reuse if possible. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. WASTEWATER from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a permitted wastewater treatment facility is acceptable only after review by the governing authority and assurance that "pass through" violations will not occur. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must be evaluated in accordance with EPA 40 CFR Part 261, specifically Subpart B, in order to determine the appropriate local, state and federal requirements for disposal.

Container Management:

Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

Contaminated Material:

Contaminated packaging must be disposed of as unused product by a licensed / permitted waste disposal service.

SECTION 14. TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:

UN NUMBER:	UN1063
PROPER SHIPPING NAME:	Methyl Chloride
HAZARD CLASS/ DIVISION:	2.1
LABELING REQUIREMENTS:	2.1
RQ (Lbs.):	RQ 100 Lbs. (Methyl Chloride)

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

Special provisions for transport: N86, T50.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

UN NUMBER: UN1063
SHIPPING NAME: Methyl Chloride
CLASS OR DIVISION: 2.1
LABELING REQUIREMENTS: 2.1

MARITIME TRANSPORT (IMO / IMDG)

UN NUMBER: UN1063
PROPER SHIPPING NAME: Methyl Chloride
HAZARD CLASS / DIVISION: 2.1
LABELING REQUIREMENTS: 2.1

AIR TRANSPORT (ICAO / IATA)

Special Instructions CAO: IATA Certificate for shipping personnel is required

SECTION 15. REGULATORY INFORMATION**U.S. REGULATIONS****OSHA REGULATORY STATUS:**

Health hazard classifications were performed using OSHA Hazard Communication 2024 (1910.1200) Appendix A and/or UN GHS Rev. 8 (2019). This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

If a release is reportable under CERCLA section 103, notify the state emergency response commission and local emergency planning committee. In addition, notify the National Response Center at (800) 424-8802 or (202) 426-2675.

Component	U.S. DOT Hazardous Substances/ RQs	CERCLA Hazardous Substances / RQs	CERCLA Section 302 EHS EPCRA RQs	Section 302 Threshold Planning Quantity (TPQ)
Methyl Chloride 74-87-3 (99.9 - 100 %)	100 lbs. (RQ)	100 lbs. (final RQ)	Not listed	Not Listed

SARA EHS Chemical (40 CFR 355.30)

Not regulated.

SARA HAZARD CATEGORIES ALIGNED WITH GHS (2018):

Physical Hazard - Flammable (gases, aerosols, liquids, or solids)
Physical Hazard - Gas Under Pressure
Health Hazard - Acute Toxin (any route of exposure)
Health Hazard - Reproductive Toxin
Health Hazard - Carcinogen
Health Hazard - Specific Target Organ Toxicity (STOT) Single Exposure (SE)
Health Hazard - Specific Target Organ Toxicity (STOT) Repeat Exposure (RE)

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

Health Hazard - Simple Asphyxiant

EPCRA SECTION 313 (40 CFR 372.65):

The following chemicals are listed in 40 CFR 372.65 and may be subject to Community Right-to Know Reporting requirements.

Component	SARA 313 - Emission Reporting	SARA 313 PBT
Methyl Chloride 74-87-3 (99.9-100)	1.0% (de minimis concentration)	Not Listed

DEPARTMENT OF HOMELAND SECURITY (DHS)- Chemical Facility Anti-Terrorism Standards (6 CFR 27):
 This product is regulated under the U.S. Department of Homeland Security (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) as follows:

Component	DHS - Security Issues	DHS-Sabotage Screening Threshold Qty.	DHS-Sabotage Min. Conc.	DHS-Theft Screening Threshold Qty.	DHS-Theft Min. Conc.	DHS-Release Screening Threshold Qty.	DHS-Release Min. Conc.	CWC Toxic Chemicals:
Methyl Chloride 74-87-3 (99.9-100)	Release - Flammable	Not Listed	Not Listed	Not Listed	Not Listed	10000 lbs. STQ	1.0% Minimum Concentration	Not Listed

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):

The PSM standard may apply to processes which involve a flammable liquid or gas in a quantity of 10,000 pounds (4535.9 kg) or more.

Component	EPA RMP Toxic or Flammable TPQ	PSM - Highly Hazardous Substances, Toxics and Reactives	Flash Point
Methyl Chloride 74-87-3 (99.9-100)	Toxic (10000 lbs. threshold quantity)	15000 lbs. TQ	-10°C

EPA'S CLEAN WATER AND CLEAN AIR ACTS:

Regulated as noted in table below.

Component	Clean Water Act - Priority Pollutants	CAA - ODS CLASS 1 AND CLASS 2	CAA - Volatile Organic Compounds (VOCs) in SOCM	CAA - HON Rule - Organic HAPs	CAA - Hazard Air Pollutants	CAA - Urban HAPs List (Integrated Urban Strategy)	SNAP - Substitutes for ODS	EPA RMP Toxic or Flammable TPQ
Methyl Chloride 74-87-3 (99.9-100 %)	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Toxic (10000 lbs. threshold quantity)

NATIONAL INVENTORY STATUS

U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):

Component	TSCA Inventory	TSCA ACTIVE LIST	TSCA 12(b)	TSCA/Section 4	TSCA/Section 5	TSCA/Section 6	TSCA/Section 8
Methyl Chloride 74-87-3 (99.9-100 %)	Listed	ACTIVE	Not Listed	40 CFR 799.5055	Not Listed	Not Listed	Listed

TSCA 12(b):

- This product is not subject to export notification

Canadian Chemical Inventory: All components of this product are listed on either the DSL or the NDSL.

Component	DSL	NDSL
Methyl Chloride	Listed	Not Listed

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

74-87-3 (99.9-100)		
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STATE REGULATIONS**California Proposition 65:**

This product contains a chemical known to the State of California to cause cancer, and/or birth defects, and/or other reproductive harm as listed under Proposition 65 State Drinking Water and Toxic Enforcement Act. For additional information, contact OxyChem Technical Services.

Component	U.S. - California - Proposition 65 - Carcinogens List	CA. Prop. 65 Teratogen	California Proposition 65 CRT List - Male reproductive toxin:	California Proposition 65 CRT List - Female reproductive toxin:	Massachusetts Right to Know Hazardous Substance List	Rhode Island Right to Know Hazardous Substance List
Methyl Chloride 74-87-3 (99.9-100 %)	Not listed	Listed - developmental toxicity	Listed	Not Listed	Listed	Listed

Component	New Jersey Right to Know Hazardous Substance List	New Jersey Special Health Hazards Substance List	New Jersey - Environmental Hazardous Substance List	Pennsylvania Right to Know Hazardous Substance List	Pennsylvania Right to Know Special Hazardous Substances	Pennsylvania Right to Know Environmental Hazard List
Methyl Chloride	1235	flammable - fourth degree	Listed	Listed	Not Listed	Environmental hazard

CANADIAN REGULATIONS

This product has been classified in accordance with the hazard criteria of the Workplace Hazardous Materials Information System (WHMIS 2015) which includes the amended Hazardous Products Act (HPA) and the Hazardous Product Regulations (HPR).

Component	Canada - CEPA - Schedule I - List of Toxic Substances	Canada - NPRI	Canada - CEPA - Greenhouse Gases (GHG) Subject to Mandatory Reporting	Canadian Chemical Inventory:	NDSL
Methyl Chloride 74-87-3 (99.9-100)	Part 2 (2.060)	Part 1, Group A Substance (051)	Not Listed	Listed	Not Listed

SECTION 16. OTHER INFORMATION

Prepared by: Occidental Chemical Corporation - HES&S Product Stewardship Department

Rev. Date: 03-Dec-2025

Reason for Revision:

- Scheduled review
- SDS format adopts revisions to the Hazardous Products Regulations (HPR) to include revisions to "Section 9: Physical and chemical properties" and ensures classification with at a minimum the seventh revised edition of GHS and certain elements from the eighth revised edition (Revision 8)
- SDS format adopts revisions to the OSHA's 2024 Hazard Communication Rule 29CFR 1910.1200 and ensures classification with at a minimum the seventh revised edition of GHS and certain elements from the eighth revised

METHYL CHLORIDE, TECHNICAL GRADE

SDS No.: M47038
Supersedes Date: 2021-07-June

Rev. Date: 03-Dec-2025
Rev. Num. 09

edition (Revision 8)

IMPORTANT:

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End of Safety Data Sheet