

Section 1. Product and Company Identification

Product Name Methanesulfonyl Chloride
CAS Number 124-63-0

Parchem - fine & specialty chemicals

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Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture

Classification of substance or mixture, according to Regulation (EC) No 1272/2008

Acute Tox. 2 H300 Fatal if swallowed.

Acute Tox. 2 H310 Fatal if in contact with skin.

Acute Tox. 2 H330 Fatal if inhaled.

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

T+ ; Very toxic R26

T; Toxic R24/R25 Toxic in contact with skin and if swallowed.

C; Corrosive, R34, Causes severe burns.

Information concerning particular hazards for human and environment: Not applicable

Hazards not otherwise classified: No information known.

GHS Label Elements

Pictograms:



Signal word: DANGER

Hazard and precautionary statements

Hazardous Statements

H300+H310+H330 Fatal if swallowed, In contact with skin or if inhaled.

H314 Causes severe skin burns and eye damage.

Precautionary Statements



P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P301+P310 If swallowed, immediately call a poison center/doctor/...
P303+P361+P353 If on SKIN , (or hair) Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 If IN EYES; Rinse cautiously with water for several minutes, Remove contact lenses, if present and easy to do. Continue rinsing.
P320 Specific treatment is urgent (See on this label)
P361 Take off immediately all contaminated clothing.
P405 Store in secured lock up area.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS Classification

D1A - very toxic material causing immediate and serious toxic effects D2B- Toxic material causing other toxic effects
E- Corrosive material

Classification System

HMIS Rating

Health: 3

Flammability: 1

Reactivity: 2

Other Hazards

Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

Emergency Overview: Light yellow liquid with unpleasant odor

Danger: Causes Skin Burns, May cause blindness, Causes Eye Burns, Harmful if swallowed, Causes respiratory tract burns, May be harmful if absorbed through the skin

Potential toxicological & health effects: Skin contact and inhalation are expected to be the primary routes of occupational exposure to methane sulfonyl chloride (MSC). This material can be destructive to tissue producing burns on contact with any body tissues. Contact with the eyes can cause severe irritation and injury, possibly with loss of sight. While the ingestion of MSC is unlikely, if swallowed this material can cause severe irritation and injury to the mouth, throat, and digestive tract. MSC vapors are severely irritating to the eyes, nose, and respiratory tract and may produce tearing of the eyes, coughing, breathing, difficulty and lung congesting (accumulation of fluid in the lungs). MSC is considered, on the basis of single exposure animal tests, to be moderately toxic after ingestion (swallowing), inhalation and skin contact. Due to the potential for MSC to produce severe respiratory tract irritation, workers with lung disease or limited respiratory capacity should have limited exposure to this material.

Generally, no genetic changes were observed in tests using bacteria or animal



Section 3. Composition / Information on Ingredients

Common Name Methanesulfonyl Chloride
Formula CH₃SO₂Cl
CAS Number 124-63-0

COMPONENT	CAS NUMBER	CONCENTRATION
Methanesulfonyl Chloride	124-63-0	> 99.5%

Section 4. First Aid Measures

Eye/Skin Contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Destroy contaminated shoes. Thoroughly clean shoes before reuse.

Ingestion: Do not induce vomiting; rinse mouth and lips with plenty of water if the subject is conscious, then hospitalize immediately. Get medical attention. Contact a Poison Control Center. Never give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Section 5. Firefighting Measures

Flash Point (CC): 230°F

Flammable Limits

Upper: NE

Lower: NE

Auto-ignition Temperature: NE

Extinguishing Media: Carbon dioxide; sand or powdered extinguishing agent/dry chemical. Do not use water.

Special Fire Fighting Procedures: Fire fighters and others who may be exposed to products of combustion should wear full firefighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Firefighting equipment should be thoroughly decontaminated after use. Do not use a solid stream of water. A solid stream of water can spread fire. Water spray may be ineffective for this material. If this material is involved in a fire, the following can be released.

Carbon Monoxide and carbon dioxide, sulfur oxides (SO_x), Hydrogen Chloride (HCl)

Fire and Explosion Hazards: Keep away from ignition sources. Avoid breathing fumes from fire exposed material



Section 6. Accidental Release Measures

If A Spill or Leak Occurs: Prevent spread of spill. Add soda ash solution to surface. Allow to react. Add more soda ash solution after bubble decrease. The spill is neutralized after no bubbles are produced. Absorb with sand or inert material. Place in container and seal.

Section 7. Handling and Storage

Handling: Do not get in eyes, on skin or on clothing. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Do not taste or swallow.

Storage: Keep container closed. Store in a cool, dry, well-ventilated area. Keep away from food and drink. Isolate from incompatible material

Section 8. Exposure Controls / Personal Protection

Engineering Controls: Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposure. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual of NFPA Standard 91 for design of exhaust systems.

Eye Protection: Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment immediately available.

Skin Protection: Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Synthetic rubber gloves should be worn when handling this material. Wear chemical goggles, a face shield and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing promptly and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash skin thoroughly after handling.

Respiratory Protection: Avoid breathing mist. Use NIOSH/MSHA approved respiratory protection equipment appropriate to the material and/or its components where airborne exposure is likely. Full face-piece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full-face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR 1910.134.

Airborne Exposure Guidelines

TWA: N/E

OSHA PEL STEL: N/E

CEILING: N/E

TWA: N/E

ACGIH TLV STEL: N/E

CEILING: N/E

Section 9. Physical and Chemical Properties

Molecular Weight: 114.55
Boiling Point: > 320°F
Flash Point: 97°C (207°F)
Ignition Temperature: Not determined
Autoignition Temperature: Not determined
Danger of Explosion: Not determined
Density at 20°C: 1.477 g/m³ (12.326 lbs/gal)
Freezing Point, C: -33°C (-27°F)
Specific Gravity: 1.475 - 1.480 @ 20°C
Vapor Pressure (20°C): 2.1 mm Hg ≈ 2.79 hPa (mbar)
Vapor Pressure (53°C): 16 hPa (mbar)
Vapor Pressure (98°C): 126.6 hPa (mbar)
Viscosity: 1.33 cSt/1.97 mPa @ 25°C
Vapor Density: 3.9 (Air = 1)
Coefficient of Cubical Expansion/°C: 0.00082
Refractive Index@ 25C: 1.45
Evaporation Rate: NE
% Volatiles: 0
Solubility in Water: HYDROLYZES SLOWLY
Solubility in Other Material: Acetone, Ethyl Ether
Appearance And Odor: Water white to light yellow liquid with unpleasant odor

Section 10. Stability and Reactivity

Reactivity: No information known.
Chemical Stability: This material is chemically stable under normal and anticipated storage and handling conditions. However, avoid flames, welding arcs, potential ignition sources, or other high temperature sources which induce thermal decomposition.
Incompatibility: Contact with combustible materials may enhance the risk of fire. Avoid contact with strong acids, strong oxidizers. May generate heat or dangerous fumes. Avoid contact with water, alcohols or diethylhydroxylamine.
Hazardous Decomposition Products: Hydrolyzes (slowly below 70°C, but rapidly above 70°C) to produce Hydrogen chloride gas. Thermal decomposition products include carbon monoxide, carbon dioxide, sulfur oxides, Hydrogen Chloride(HCL)

Hazardous Polymerization: Does not occur.

Section 11. Toxicological Information

Information on Toxicological Effects

Acute Toxicity: Danger through skin absorption, Fatal in contact with skin, Fatal if swallowed,



Fatal if inhaled. Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach. The registry of Toxic effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 Values that are relevant to classification

Oral LD50: 0 mg /kg (rat)

Dermal LD50: 100uL/kg (guinea pig)

Skin Irritation or corrosion: Causes severe skin burns

Eye Irritation or corrosion: Causes serious eye damage

Sensitization: No sensitization effects known

Germ Cell Mutagenicity: The RTECS contains mutation data for this substance.

Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA, or ACGIH.

Reproductive toxicity: No effects known

Specific Target organ system toxicity - repeated exposure: No effects known.

Specific Target organ system toxicity - single exposure: No effects known.

Aspiration hazard: No effects known.

Subacute to chronic toxicity. The RTECS contains multiple dose toxicity data for this substance.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Early Data Information

Single Exposure (Acute) Studies Indicate

Oral: Moderately Toxic to Rats (LD50 255 mg/kg)

Dermal: No More Than Moderately Toxic To Rabbits (LD50> 200mg/kg with 10% MSC in PEG 400) (LD50< 2000mg/kg with undiluted MSC)

Inhalation: Moderately Toxic to Rats (4hr LC50 25ppm) (1hr LC50 about 200 ppm)

Eye Irritation: Corrosive to Rabbits

Skin Irritation: Corrosive to Mice

Signs of severe eye and lung irritation with gasping, tearing of the eyes, salivation, and lung congestion were observed in rats after single inhalation exposures to MSC. MSC has generally produced no genetic changes in standard tests using bacterial cells. However, a positive response was reported in one strain of Salmonella bacteria.

Section 12. Ecological Information

Ecotoxicological information

Aquatic Toxicity: No further relevant information is available.

Persistence and Degradability: No further relevant information is available.

Bioaccumulative potential: No further relevant information is available.



Mobility in Soils: No further relevant information is available.

Additional Information

96hr LC50 Guppy (static with neutralized MSC): > 1,200mg/l, practically non-toxic

96hr LC50 Tidewater silverside (static): 15 ppm, slightly toxic

96hr LC50 Bluegill sunfish (static): 11 ppm, slightly toxic

General Notes: Do not allow this material to be released to the environment without proper governmental permits. Do not allow undiluted product or large quantities of it to reach groundwater, water course or sewage system.

Chemical Fate Information: No data are available

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

DOT Proper Shipping Name: Methanesulfonyl chloride

Technical Shipping Name: Methane Sulfonyl Chloride

DOT Hazard Class: 6.1(8)

UN Number: UN3246

Packing Group: PG I

Segregation Groups: Acids

Product RQ (lbs): No

Label Required: Primary Poison inhalation hazard Zone B; Corrosive, 6.1 Toxic Substances 6.1+8

DOT Miscellaneous Info: Corrosive Subsidiary Hazard

Transportation/additional DOT info: this material is poisonous by inhalation hazard, zone b.

Section 15. Regulatory Information

Safety, health and environmental regulations/legislation specific for this substance or mixture

National Regulations; All components of this product are listed in the US EPA Toxic Substances Control Act Chemical Substance Inventory (TSCA). All components of this product are listed on the Canadian Domestic Substance List (DSL)

SARA Section 313(specific toxic chemical listings): Substance is not listed.

REACH: Pre-Registration of this substance is listed.

Chemical Safety Assessment: A chemical safety assessment has not been carried out.

Information about limit of Use: For use only by technically qualified individuals.



SARA Hazard Classification

Immediate (Acute) Health: Yes

Delayed (Chronic) Health: No

Sudden Release of pressure: No

Reactive: No

Fire: No

SARA Title III, Section 302: This product does not contain any chemicals currently on the Extremely Hazardous Substance List, Section 302, Sara Title III, above the OSHA de minimis concentration.

SARA Title III, Section 313: This product does not contain any chemicals currently on the Toxic Chemical List, Section 313, Sara Title III, above the OSHA De Minimis concentration.

CERCLA RQ: This product does not contain any chemicals listed with a CERCLA RQ above the OSHA De Minimis concentration.

California Proposition 65: This product does not contain any chemicals currently listed on the California List of known Carcinogens.

California Proposition 65: This product does not contain any chemicals currently listed on the California List of known Reproductive Toxins.

Pennsylvania Right-to-Know

Hazardous Substance List: This product does not contain any chemicals currently on the Pennsylvania Hazardous Substance List, above the OSHA de minimis concentration.

Environmental hazardous substance list: This product does not contain any chemicals currently on the Pennsylvania Environmental Hazardous Substance List, above the OSHA De Minimis concentration.

Special hazardous substance list: This product does not contain any chemicals currently on the Pennsylvania Special Hazardous Substance List, above the OSHA De Minimis concentration.

Massachusetts Right-to-Know: This product does not contain any chemicals currently on the Massachusetts Hazardous Substance List, above the OSHA De Minimis concentration.

New Jersey Right-to-Know: This product does not contain any chemicals currently on the New Jersey Hazardous Substance List, above the OSHA De Minimis concentration

Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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