

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
 	Toxic compound, do not ingest or inhale. Avoid all contact with this material. CARCINOGEN. MINIMIZE EXPOSURE.	   

Section I. Chemical Product and Company Identification

Chemical Name	Methanesulfonic Acid Ethyl Ester		
Catalog Number	M0607	Supplier	TCl America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	Ethyl Methylsulphonate		
Chemical Formula	CH ₃ SO ₃ C ₂ H ₅		
CAS Number	62-50-0	In case of Emergency Call	Chemtrec® (800) 424-9300 (U.S.) (703) 527-3887 (International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Methanesulfonic Acid Ethyl Ester	62-50-0	Min. 99.0 (GC,T)	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen. This compound is classified as a possible mutagen. There is no acceptable exposure limit for a mutagen.	Rat LD ₅₀ (intraperitoneal) 350mg/kg Mouse LD ₅₀ (intraperitoneal) 435mg/kg Mouse LD ₅₀ (oral) 470mg/kg

Section III. Hazards Identification

Acute Health Effects	Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Tumorigenic- rat (intraperitoneal) 300mg/kg. Tumorigenic- Carcinogenic by RTECS criteria. rat (intraperitoneal) 825mg/kg/10 days intermittent. Tumorigenic- Neoplastic by RTECS criteria. DEVELOPMENTAL TOXICITY Reproductive: rat (intraperitoneal) 300mg/kg. Duration: male 1 day prior to mating. Effects on fertility- Male fertility index. rat (intraperitoneal) 50mg/kg. Duration: male 1 day prior to mating. Effects on fertility- Post-implantation mortality. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes. Keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thorough wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. Cover the irritated skin with an emollient. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.
Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform artificial respiration. WARNING: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, administer artificial respiration. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	Not available.
Flash Points	100°C (212°F).	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO ₂), sulfur oxides (SO ₂ , SO ₃ ...).		
Fire Hazards	No specific information is available regarding the flammability of this compound in the presence of various materials.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. No additional information is available regarding the risks of explosion.		
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemicals, CO ₂ , water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. Consult with local fire authorities before attempting large scale fire-fighting operations.		

Section VI. Accidental Release Measures

Spill Cleanup Instructions	Toxic material. Carcinogenic and mutagenic material. In case of a spill and/or a leak, always shut off any sources of ignition, ventilate the area, and exercise caution. Prevent entry into sewers, basements or confined areas; dike if needed. Consult federal, state, and/or local authorities for assistance on disposal.
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Section VII. Handling and Storage

Handling and Storage Information	TOXIC. CARCINOGENIC AND MUTAGENIC. Handle with caution and minimize exposure. Keep away from heat and sources of ignition. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas, fumes, vapor or spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Always store away from incompatible compounds such as oxidizing agents, alkalis (bases).
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Section VIII. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.
Personal Protection	Splash goggles. Lab coat. Vapor respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. 
Exposure Limits	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen. This compound is classified as a possible mutagen. There is no acceptable exposure limit for a mutagen.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Colorless to yellow liquid.	Solubility	Not available.
Specific Gravity	1.167		
Molecular Weight	124.16	Partition Coefficient	Not available.
Boiling Point	85 to 86°C @ 10mm Hg	Vapor Pressure	Not available.
Melting Point	Not available.	Vapor Density	Not available.
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Not available.
Viscosity	Not available.	Taste	Not available.

Section X. Stability and Reactivity Data

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Avoid excessive heat and light.
Incompatibilities	Reactive with strong oxidizing agents, strong alkalis (bases).

Section XI. Toxicological Information

RTECS Number	PB2100000
Routes of Exposure	Eye contact. Ingestion. Inhalation. Skin contact.
Toxicity Data	Rat LD ₅₀ (intraperitoneal) 350mg/kg Mouse LD ₅₀ (intraperitoneal) 435mg/kg Mouse LD ₅₀ (oral) 470mg/kg
Chronic Toxic Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Tumorigenic- rat (intraperitoneal) 300mg/kg. Tumorigenic- Carcinogenic by RTECS criteria. rat (intraperitoneal) 825mg/kg/10 days intermittent. Tumorigenic- Neoplastic by RTECS criteria. DEVELOPMENTAL TOXICITY Reproductive: rat (intraperitoneal) 300mg/kg. Duration: male 1 day prior to mating. Effects on fertility- Male fertility index. rat (intraperitoneal) 50mg/kg. Duration: male 1 day prior to mating. Effects on fertility- Post-implantation mortality. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Acute Toxic Effects	Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Release of ethyl methanesulfonate to the environment from anthropogenic sources is expected to be minimal since this compound is available only as a research chemical. If released to water, ethyl methanesulfonate will hydrolyze (half-life 96 hours at 20°C). Direct photolysis, reaction with alkylperoxy radicals and singlet oxygen, bioaccumulation in aquatic organisms, and adsorption to suspended solids and sediments in water are not expected to be important fate processes. If released to moist soil, ethyl methanesulfonate is expected to hydrolyze as fast, if not faster, than in water. Mobility is expected to be extremely limited. If released to dry soil, this compound is expected to volatilize fairly rapidly. If released to the atmosphere, ethyl methanesulfonate is expected to exist almost entirely in the vapor phase. This compound may be removed from the atmosphere by reaction with photochemically generated hydroxyl radicals (estimated half-life 30 days) or by wet deposition. Human exposure to ethyl methanesulfonate is expected to be limited to workers involved with research on this chemical. Dermal contact and inhalation of contaminated air are potential routes of exposure.

Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state, and local regulations when disposing of the substance.
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Section XIV. Transport Information

DOT Classification	CLASS 6.1: Toxic material.
PIN Number	UN2810
Proper Shipping Name	Toxic liquid, organic, n.o.s.
Packing Group (PG)	III
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This compound is ON the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	Not available.
EINECS Number (EEC)	200-536-7
EEC Risk Statements	R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R45- May cause cancer. R46- May cause heritable genetic damage.
Japanese Regulatory Data	Not available.

Section XVI. Other Information**Version 1.0****Validated on 4/3/2001.****Printed 3/9/2005.****Notice to Reader**

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.

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