

# SAFETY DATA SHEET

**CHEM SERVICE** Inc.

## 1. Identification

**Product identifier** Ethyl methanesulfonate

**Other means of identification**

**Item** N-11904

**Recommended use** For Laboratory Use Only

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company name** Chem Service, Inc.

**Address** 660 Tower Lane  
West Chester, PA 19380  
United States

**Telephone** Toll Free 800-452-9994  
Direct 610-692-3026

**Website** www.chemservice.com

**E-mail** info@chemservice.com

**Emergency phone number** Chemtrec US 800-424-9300  
Chemtrec outside US +1 703-527-3887

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Acute toxicity, oral Category 4

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2A

Germ cell mutagenicity Category 1

Carcinogenicity Category 2

Reproductive toxicity Category 2

Specific target organ toxicity, single exposure Category 3 respiratory tract irritation

Not classified.

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Danger

**Hazard statement** Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause genetic defects. Suspected of causing cancer. Suspected of damaging fertility or the unborn child.

**Precautionary statement**

**Prevention**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear eye protection/face protection. Wear protective gloves/protective clothing/eye protection/face protection.

<b>Response</b>	If swallowed: Call a poison center/doctor if you feel unwell. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Rinse mouth. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
<b>Storage</b>	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Substances

Chemical name	Common name and synonyms	CAS number	%
Ethyl methanesulfonate		62-50-0	100

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Skin contact</b>	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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## **Methods and materials for containment and cleaning up**

**Large Spills:** Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

**Small Spills:** Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

## **Environmental precautions**

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

## **7. Handling and storage**

### **Precautions for safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Provide adequate ventilation. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

### **Conditions for safe storage, including any incompatibilities**

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## **8. Exposure controls/personal protection**

### **Occupational exposure limits**

No exposure limits noted for ingredient(s).

### **Biological limit values**

No biological exposure limits noted for the ingredient(s).

### **Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

### **Individual protection measures, such as personal protective equipment**

#### **Eye/face protection**

Chemical respirator with organic vapor cartridge and full facepiece.

#### **Skin protection**

##### **Hand protection**

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

##### **Other**

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

#### **Respiratory protection**

Chemical respirator with organic vapor cartridge and full facepiece.

#### **Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

### **General hygiene considerations**

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## **9. Physical and chemical properties**

### **Appearance**

#### **Physical state**

Liquid.

#### **Form**

Liquid Liquid.

#### **Color**

Colorless to pale yellow

#### **Odor**

Not available.

#### **Odor threshold**

Not available.

#### **pH**

Not available.

#### **Melting point/freezing point**

Not available.

#### **Initial boiling point and boiling range**

415.4 - 416.3 °F (213 - 213.5 °C) 101.4583 kPa

#### **Flash point**

212.0 °F (100.0 °C) Closed Cup

#### **Evaporation rate**

Not available.

#### **Flammability (solid, gas)**

Not applicable.

#### **Upper/lower flammability or explosive limits**

##### **Flammability limit - lower (%)**

Not available.

<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	0.03 kPa at 25 °C
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	0.09
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	1.167 g/ml estimated at 22 °C
<b>Explosive properties</b>	Not explosive.
<b>Flammability class</b>	Combustible IIIB estimated
<b>Molecular formula</b>	C3-H8-O3-S
<b>Molecular weight</b>	124.15 g/mol
<b>Oxidizing properties</b>	Not oxidizing.
<b>Specific gravity</b>	1.15 at 22 °C

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system.
<b>Skin contact</b>	Causes skin irritation.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	Harmful if swallowed.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

### Information on toxicological effects

<b>Acute toxicity</b>	Harmful if swallowed. May cause respiratory irritation.
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<b>Product</b>	<b>Species</b>	<b>Test Results</b>
Ethyl methanesulfonate (CAS 62-50-0)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Mouse	470 mg/kg

\* Estimates for product may be based on additional component data not shown.

<b>Skin corrosion/irritation</b>	Causes skin irritation.
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<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.

<b>Germ cell mutagenicity</b>	May cause genetic defects.
<b>Carcinogenicity</b>	Suspected of causing cancer.

#### **IARC Monographs. Overall Evaluation of Carcinogenicity**

Ethyl methanesulfonate (CAS 62-50-0) 2B Possibly carcinogenic to humans.

#### **US. National Toxicology Program (NTP) Report on Carcinogens**

Ethyl methanesulfonate (CAS 62-50-0) Reasonably Anticipated to be a Human Carcinogen.

#### **US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

<b>Reproductive toxicity</b>	Suspected of damaging fertility or the unborn child.
<b>Specific target organ toxicity - single exposure</b>	May cause respiratory irritation.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Prolonged exposure may cause chronic effects.

## **12. Ecological information**

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	
<b>Partition coefficient n-octanol / water (log Kow)</b>	
0.09	
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## **13. Disposal considerations**

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

#### **US RCRA Hazardous Waste U List: Reference**

Ethyl methanesulfonate (CAS 62-50-0) U119

<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## **14. Transport information**

### **DOT**

<b>UN number</b>	UN2810
<b>UN proper shipping name</b>	Toxic, liquids, organic, n.o.s.
<b>Transport hazard class(es)</b>	
<b>Class</b>	6.1(PGIII)
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	6.1
<b>Packing group</b>	III
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

<b>Special provisions</b>	IB3, T7, TP1, TP28
<b>Packaging exceptions</b>	153
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	241
<b>IATA</b>	
<b>UN number</b>	UN2810
<b>UN proper shipping name</b>	Toxic liquid, organic, n.o.s.
<b>Transport hazard class(es)</b>	
<b>Class</b>	6.1(PGIII)
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	6L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed.
<b>Cargo aircraft only</b>	Allowed.
<b>IMDG</b>	
<b>UN number</b>	UN2810
<b>UN proper shipping name</b>	TOXIC LIQUID, ORGANIC, N.O.S.
<b>Transport hazard class(es)</b>	
<b>Class</b>	6.1(PGIII)
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-A, S-A
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not established.
<b>DOT</b>	



IATA; IMDG



## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Ethyl methanesulfonate (CAS 62-50-0)

0.1 % One-Time Export Notification only.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Ethyl methanesulfonate (CAS 62-50-0)

Listed.

**SARA 304 Emergency release notification**

Not regulated.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

<b>Hazard categories</b>	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical****SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)****US state regulations****US - New Jersey RTK - Substances: Listed substance**

Ethyl methanesulfonate (CAS 62-50-0)

**US - Pennsylvania RTK - Hazardous Substances: Special hazard**

Ethyl methanesulfonate (CAS 62-50-0)

**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Ethyl methanesulfonate (CAS 62-50-0)

**US. Massachusetts RTK - Substance List**

Ethyl methanesulfonate (CAS 62-50-0)

**US. New Jersey Worker and Community Right-to-Know Act**

Not regulated.

**US. Pennsylvania RTK - Hazardous Substances**

Ethyl methanesulfonate (CAS 62-50-0)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Ethyl methanesulfonate (CAS 62-50-0)

**US. Rhode Island RTK**

Ethyl methanesulfonate (CAS 62-50-0)

**US. California Proposition 65**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Ethyl methanesulfonate (CAS 62-50-0)      Listed: January 1, 1988

**International Inventories**

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).  
 A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 12-07-2015

**Version #** 01

**NFPA ratings**  
 Health: 2  
 Flammability: 0  
 Instability: 0

**Disclaimer**  
 The above information is believed to be correct on the date it was last revised and must not be considered all inclusive. The information has been obtained only by a search of available literature and is only a guide for handling the chemicals. OSHA regulations require that if other hazards become evident, an upgraded SDS must be made available to the employee within three months. RESPONSIBILITY for updates lies with the employer and not with CHEM SERVICE, Inc.

Persons not specifically and properly trained should not handle this chemical or its container. This product is furnished FOR LABORATORY USE ONLY! Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticide products, food additives or as household chemicals.

This Safety Data Sheet (SDS) is intended only for use with Chem Service, Inc. products and should not be relied on for use with materials from any other supplier even if the chemical name(s) on the product are identical! Whenever using an SDS for a solution or mixture the user should refer to the SDS for every component of the solution or mixture. Chem Service warrants that this SDS is based upon the most current information available to Chem Service at the time it was last revised. THIS WARRANTY IS EXCLUSIVE, AND CHEM SERVICE, INC. MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. This SDS is provided gratis and CHEM SERVICE, INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR CONTINGENT DAMAGES.

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