Material Safety Data Sheet
Ethyl methanesulfonate

ACC# 91152

Section 1 - Chemical Product and Company Identification

MSDS Name: Ethyl methanesulfonate
Catalog Numbers: AC205260100, AC205260250
Synonyms: Ethyl ester of methanesulfonic acid; EMS.
Company Identification:
Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410
For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
62-50-0	Ethyl methanesulfonate	100	200-536-7

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless liquid.
Warning! Possible cancer hazard. May cause cancer based on animal data. Harmful if swallowed. May cause eye, skin, and respiratory tract irritation.
Target Organs: Kidneys.

Potential Health Effects
Eye: May cause eye irritation.
Skin: May cause skin irritation.
Ingestion: Harmful if swallowed. May cause irritation of the digestive tract.
Inhalation: May cause respiratory tract irritation.
Chronic: May cause cancer according to animal studies. Adverse reproductive effects have been reported in animals. Laboratory experiments have resulted in mutagenic effects.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Containers may explode in the heat of a fire. Runoff from fire control or dilution water may cause pollution.
Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.
Flash Point: 212e deg F (100.00 deg C)
Autoignition Temperature: Not available.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 1; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.
Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethyl methanesulfonate	none listed	none listed	none listed

OSHA Vacated PELs: Ethyl methanesulfonate: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear chemical splash goggles.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: colorless
Odor: Not available.
pH: Not available.
Vapor Pressure: 0.328 mm Hg @ 25 deg C
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 86 deg C
Freezing/Melting Point: Not available.
Decomposition Temperature: Not available.
Solubility: Not available.
Specific Gravity/Density:1.167
Molecular Formula:CH3SO3C2H5
Molecular Weight:124.1142

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Excess heat.
Incompatibilities with Other Materials: Strong oxidizing agents, strong bases.
Hazardous Decomposition Products: Carbon monoxide, oxides of sulfur, carbon dioxide.
Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:
CAS# 62-50-0: PB2100000
LD50/LC50:
CAS# 62-50-0:
Oral, mouse: LD50 = 470 mg/kg;
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Carcinogenicity:
CAS# 62-50-0:

- **ACGIH:** Not listed.
- **California:** carcinogen, initial date 1/1/88
- **NTP:** Suspect carcinogen
- **IARC:** Group 2B carcinogen

Epidemiology: No information available.
Teratogenicity: TDLo(Intraperitoneal, Rat) = 300 mg/kg; Kidney Tumors.TDLo (Oral, Rat) =1043 gm/kg.TDLo (Intraperitoneal, Rat) = 100 mg/kg; Transplacental tumorigenesis.
Reproductive Effects: Experimental reproductive effector.
Mutagenicity: Mutagenic effects have occurred in humans.

Neurotoxicity: No information available.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. Based on a Log KOW=0.09, BCF of <1 was estimated for ethyl methanesulfonate.
Environmental: If released into moist soil, ethyl methanesulfonate is expected to hydrolyze as fast, if not faster, than in water. Due to the reactivity of this compound, mobility is expected to be extremely limited. If released to dry soil, this compound is expected to volatilize fairly rapidly. Based on a vapor pressure of 0.328 mmHg @25 Celcius, ethyl methanesulfonate would volatilize rapidly from dry soil surfaces.
Physical: For chemical hydrolysis in water @ 20 Celcius, the halflife of ethyl methanesulfonate is equal to 96 hours.
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series:
CAS# 62-50-0: waste number U119.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Not Regulated	Not Regulated
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 62-50-0 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
CAS# 62-50-0: Section 5
TSCA Significant New Use Rule
CAS# 62-50-0: This product is for research and development use only. It is subject to a SNUR which has specific requirements and restrictions. The specific citation for this product is 40CFR citation 721.9580.
CERCLA Hazardous Substances and corresponding RQs
CAS# 62-50-0: 1 lb final RQ; 0.454 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 62-50-0: delayed.
Section 313 No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 62-50-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65
The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:
WARNING: This product contains Ethyl methanesulfonate, a chemical known to the state of California to cause cancer.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
XN
Risk Phrases:

R 22 Harmful if swallowed.
R 40 Limited evidence of a carcinogenic effect.

Safety Phrases:
S 24/25 Avoid contact with skin and eyes.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)
CAS# 62-50-0: No information available.

Canada - DSL/NDSL
CAS# 62-50-0 is listed on Canada's DSL List.

Canada - WHMIS
This product has a WHMIS classification of D2A, D2B.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List
CAS# 62-50-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 1/28/1999
Revision #6 Date: 10/07/2005