

Material Safety Data Sheet

Version 3.2
Revision Date 05/07/2009
Print Date 06/05/2009

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Methanesulfonic acid

Product Number : 471356
Brand : Sigma-Aldrich

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : $\text{CH}_4\text{O}_3\text{S}$
Molecular Weight : 96.11 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Methanesulphonic acid			
75-75-2	200-898-6	607-145-00-4	-

3. HAZARDS IDENTIFICATION**Emergency Overview****OSHA Hazards**

Toxic by inhalation., Harmful by ingestion., Toxic by skin absorption, Corrosive

HMIS Classification

Health Hazard: 3
Flammability: 1
Physical hazards: 1

NFPA Rating

Health Hazard: 3
Fire: 1
Reactivity Hazard: 0

Potential Health Effects

Inhalation Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin Toxic if absorbed through skin. Causes skin burns.

Eyes Causes eye burns.

Ingestion Harmful if swallowed. Causes burns.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point 189 °C (372 °F) - closed cup - DIN 51755 Part 1

Ignition temperature 535 °C (995 °F)

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

Avoid inhalation of vapour or mist.

Normal measures for preventive fire protection.

Storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature: 2 - 8 °C

Heat sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Colour	light yellow
Odour	characteristic

Safety data

pH	< 1 at 20 °C (68 °F)
Melting point	17 - 19 °C (63 - 66 °F)
Boiling point	167 °C (333 °F) at 13 hPa (10 mmHg)
Flash point	189 °C (372 °F) - closed cup - DIN 51755 Part 1
Ignition temperature	535 °C (995 °F)
Lower explosion limit	11.4 %(V)
Upper explosion limit	24.3 %(V)
Vapour pressure	1 hPa (1 mmHg) at 120 °C (248 °F) 4 hPa (3 mmHg) at 150 °C (302 °F)
Density	1.481 g/mL at 25 °C (77 °F)
Water solubility	completely miscible
Partition coefficient: n-octanol/water	log Pow: -2.38 at 20 °C (68 °F)
Viscosity, kinematic	7.86 mm ² /s at 25 °C (77 °F)
Relative vapour density	3.32 - (Air = 1.0)

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Conditions to avoid

Heat.

Materials to avoid

Amines, Strong reducing agents, Strong oxidizing agentsBases

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 649 mg/kg

LC50 Inhalation - rat - 6 h - 1.3 mg/l

LD50 Dermal - guinea pig - > 2,000 mg/kg

LD50 Dermal - rabbit - 1,000 - 2,000 mg/kg

Irritation and corrosion

Skin - rabbit - Corrosive

Sensitisation

no data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation	Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	Toxic if absorbed through skin. Causes skin burns.
Eyes	Causes eye burns.
Ingestion	Harmful if swallowed. Causes burns.

Additional Information

RTECS: PB1140000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Readily biodegradable, according to appropriate OECD test.

Ecotoxicity effects

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 73 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia - 10 - 100 mg/l - 48 h
Toxicity to algae	EC50 - SELENASTRUM - 12 - 24 mg/l - 72 h
Toxicity to bacteria	- other microorganisms - > 1,000 mg/l - 0.5 h

Further information on ecology

13. DISPOSAL CONSIDERATIONS**Product**

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN-Number: 3265 Class: 8 Packing group: II
Proper shipping name: Corrosive liquid, acidic, organic, n.o.s. (Methanesulphonic acid)
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN-Number: 3265 Class: 8 Packing group: II EMS-No: F-A, S-B
Proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Methanesulphonic acid)
Marine pollutant: No

IATA

UN-Number: 3265 Class: 8 Packing group: II
Proper shipping name: Corrosive liquid, acidic, organic n.o.s. (Methanesulphonic acid)

15. REGULATORY INFORMATION**OSHA Hazards**

Toxic by inhalation., Harmful by ingestion., Toxic by skin absorption, Corrosive

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Methanesulphonic acid

CAS-No.
75-75-2

Revision Date

New Jersey Right To Know Components

Methanesulphonic acid

CAS-No.
75-75-2

Revision Date

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION**Further information**

Copyright 2009 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.