

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.1  
Creation Date: July 15, 2019  
Revision Date: April 16, 2024

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name Methanesulfonic Acid

### 1.2 Other means of identification

Product number CCHM700298

Other names Methanesulfonic Acid; Methanesulfonic acid

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.

Uses advised against no data available

### 1.4 Supplier's details

Company CATO Research Chemicals Inc.

Address 3/F, Building B, No. 179 BASIGO, Guangpu Rd East, Huangpu Dist, Guangzhou

Telephone +86-20-81960175

### 1.5 Emergency phone number

Emergency phone number +86-20-81960175

Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Skin corrosion, Sub-category 1B

### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word Danger

Hazard statement(s) H314 Causes severe skin burns and eye damage

Precautionary statement(s)

Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash ... thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

Response

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P316 Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### 2.3 Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Chemical name        | Common names and synonyms | CAS number | EC number | Concentration |
|----------------------|---------------------------|------------|-----------|---------------|
| Methanesulfonic Acid | Methanesulphonic acid     | 75-75-2    | 200-898-6 | 100%          |

## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

#### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

#### Following skin contact

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

#### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

#### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

### 4.2 Most important symptoms/effects, acute and delayed

no data available

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Silane, Chlorosilane, and Related Compounds

## SECTION 5: Fire-fighting measures

### 5.1 Suitable extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Specific hazards arising from the chemical

no data available

### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### 6.2 Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a permitted wastewater treatment facility is acceptable only after review by the governing authority and assurance that "pass through" violations will not occur. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must be evaluated in accordance with EPA 40 CFR Part 261, specifically Subpart B, in order to determine the appropriate local, state and federal requirements for disposal.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

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

Store in cool place. 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 deg C. Heat sensitive.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure limit values

|               |                                                                |                   |                          |                   |
|---------------|----------------------------------------------------------------|-------------------|--------------------------|-------------------|
| Component     | Methanesulphonic acid                                          |                   |                          |                   |
| CAS No.       | 75-75-2                                                        |                   |                          |                   |
|               | Limit value - Eight hours                                      |                   | Limit value - Short term |                   |
|               | ppm                                                            | mg/m <sup>3</sup> | ppm                      | mg/m <sup>3</sup> |
| Germany (AGS) |                                                                | 0,7 (1)           |                          | 0,7 (1)(2)        |
|               | Remarks                                                        |                   |                          |                   |
| Germany (AGS) | (1) Inhalable fraction and vapour (2) 15 minutes average value |                   |                          |                   |

#### Biological limit values

no data available

### 8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

|                                                          |                                                                                                                                                                                                                                    |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical state                                           | Liquid.                                                                                                                                                                                                                            |
| Colour                                                   | No data.                                                                                                                                                                                                                           |
| Odour                                                    | no data available                                                                                                                                                                                                                  |
| Melting point/freezing point                             | 20 °C.                                                                                                                                                                                                                             |
| Boiling point or initial boiling point and boiling range | 167 °C. Atm. press.:13.3 hPa.                                                                                                                                                                                                      |
| Flammability                                             | no data available                                                                                                                                                                                                                  |
| Lower and upper explosion limit/flammability limit       | no data available                                                                                                                                                                                                                  |
| Flash point                                              | 189 °C. Atm. press.:1 013.25 hPa.                                                                                                                                                                                                  |
| Auto-ignition temperature                                | 535 °C. Atm. press.:1 010 hPa.                                                                                                                                                                                                     |
| Decomposition temperature                                | no data available                                                                                                                                                                                                                  |
| pH                                                       | no data available                                                                                                                                                                                                                  |
| Kinematic viscosity                                      | dynamic viscosity (in mPa s) = 11.6. Temperature:25.0°C.;kinematic viscosity (in mm <sup>2</sup> /s) = 7.86. Temperature:25.0°C.                                                                                                   |
| Solubility                                               | Partially miscible with water                                                                                                                                                                                                      |
| Partition coefficient n-octanol/water                    | log Pow = -2.38.                                                                                                                                                                                                                   |
| Vapour pressure                                          | 0 hPa. Temperature:21 °C. Remarks:Interpolated from regression equation.;0.001 hPa. Temperature:25 °C. Remarks:Interpolated from regression equation.;0.112 hPa. Temperature:80 °C. Remarks:Interpolated from regression equation. |
| Density and/or relative density                          | 1.48 g/cm <sup>3</sup> . Temperature:20 °C.                                                                                                                                                                                        |
| Relative vapour density                                  | 3.3 (vs air)                                                                                                                                                                                                                       |
| Particle characteristics                                 | no data available                                                                                                                                                                                                                  |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

## 10.2 Chemical stability

Thermally stable at moderately elevated temperatures.

## 10.3 Possibility of hazardous reactions

no data available

## 10.4 Conditions to avoid

no data available

## 10.5 Incompatible materials

Materials to avoid: Amines, strong reducing agents, strong oxidizing agents, bases

## 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: Carbon oxides, Sulfur oxides

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# SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 - rat (male/female) - 648.7 mg/kg bw.
- Inhalation: LC0 - mouse (male) - > 1.88 mg/m<sup>3</sup> air.
- Dermal: LD50 - rabbit (male/female) - > 1 000 mg/kg bw.

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

no data available

### Reproductive toxicity

no data available

### STOT-single exposure

no data available

### STOT-repeated exposure

no data available

### Aspiration hazard

no data available

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# SECTION 12: Ecological information

## 12.1 Toxicity

- Toxicity to fish: LC50 - *Oncorhynchus mykiss* (previous name: *Salmo gairdneri*) - 73 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - *Daphnia magna* - 70 mg/L - 48 h.
- Toxicity to algae: EC50 - *Pseudokirchneriella subcapitata* (previous names: *Raphidocelis subcapitata*, *Selenastrum capricornutum*) - >= 12 - <= 24 mg/L - 72 h.
- Toxicity to microorganisms: EC20 - activated sludge, domestic - > 1 000 mg/L - 30 min. Remarks:Respiration rate.

## 12.2 Persistence and degradability

AEROBIC: Methanesulfonic acid, present at 100 mg/L, reached 100% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(1).

## 12.3 Bioaccumulative potential

Methanesulfonic acid is miscible with water(1) and therefore bioconcentration in aquatic organisms is low(SRC).

## 12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of methanesulfonic acid can be estimated to be 1(SRC). According to a classification scheme(2), this estimated Koc value suggests that methanesulfonic acid is expected to have very high mobility in soil. The pKa of methanesulfonic acid is -1.86(3), indicating that this compound will almost entirely exist in the anion form in the environment and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral

counterparts(4).

## 12.5 Other adverse effects

no data available

## SECTION 13: Disposal considerations

### 13.1 Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: UN2586 (For reference only, please check.) IMDG: UN2586 (For reference only, please check.) IATA: UN2586 (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: ALKYL SULPHONIC ACIDS, LIQUID or ARYL SULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid (For reference only, please check.)  
IMDG: ALKYL SULPHONIC ACIDS, LIQUID or ARYL SULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid (For reference only, please check.)  
IATA: ALKYL SULPHONIC ACIDS, LIQUID or ARYL SULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: 8 (For reference only, please check.) IMDG: 8 (For reference only, please check.) IATA: 8 (For reference only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.) IMDG: III (For reference only, please check.) IATA: III (For reference only, please check.)

### 14.5 Environmental hazards

ADR/RID: No IMDG: No IATA: No

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

| Chemical name                                                            | Common names and synonyms | CAS number | EC number |
|--------------------------------------------------------------------------|---------------------------|------------|-----------|
| Methanesulphonic acid                                                    | Methanesulphonic acid     | 75-75-2    | 200-898-6 |
| European Inventory of Existing Commercial Chemical Substances (EINECS)   |                           |            | Listed.   |
| EC Inventory                                                             |                           |            | Listed.   |
| United States Toxic Substances Control Act (TSCA) Inventory              |                           |            | Listed.   |
| China Catalog of Hazardous chemicals 2015                                |                           |            | Listed.   |
| New Zealand Inventory of Chemicals (NZIoC)                               |                           |            | Listed.   |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS)       |                           |            | Listed.   |
| Vietnam National Chemical Inventory                                      |                           |            | Listed.   |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) |                           |            | Listed.   |
| Korea Existing Chemicals List (KECL)                                     |                           |            | Listed.   |

## SECTION 16: Other information

Information on revision

Creation Date

July 15, 2019

Revision Date

April 16, 2024

#### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

#### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

**Any questions regarding this SDS, Please send your inquiry to [info@cato-chem.com](mailto:info@cato-chem.com)**

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