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Safety Data Sheet

1. Chemical product and company identification

Product name : Methanesulfonic acid

Company information

Name of manufacturer	:	KANTO CHEMICAL CO., INC.
Address	:	2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
Name of section	:	Business Administration Department, Reagent Division
Telephone number	:	+81-3-6214-1090
Facsimile number	:	+81-3-3241-1047
Mail address	:	BC32@kanto.co.jp
Reference No	:	25628
Recommended use	:	For research use only
Restrictions on use	:	Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Health hazards	Acute toxicity (oral)	Category 3
	Acute toxicity (inhalation:dust/mist)	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Reproductive toxicity	Category 2
Environmental hazards	Aquatic acute	Category 3

Hazard pictograms



Signal word : Danger

Hazard statements :
Toxic if swallowed
Causes severe skin burns and eye damage
Harmful if inhaled
Suspected of damaging fertility or the unborn child
Harmful to aquatic life

Precautionary statements

Prevention :
Do not handle until all safety precautions have been read and understood.
Do not breathe mist/vapors.
Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.

Response	:	IF SWALLOWED: Immediately call a POISON CENTER or doctor. IF SWALLOWED: Rinse mouth. Do not induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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. Immediately call a POISON CENTER or doctor. Call a POISON CENTER or doctor if you feel unwell.
Storage	:	Store locked up.
Disposal	:	Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Synonyms : Methylsulfonic acid, Sulfomethane

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Methanesulfonic acid	≥ 98	CH4O3S	Listed	200-898-6	75-75-2

4. First aid measures

First aid measures

First-aid measures after inhalation	:	Remove the victim to fresh air, and make him blow his nose and gargle. If necessary, get medical treatment.
First-aid measures after skin contact	:	Wash the affected areas under running water, get medical treatment as soon as possible.
First-aid measures after eye contact	:	Wash the affected areas under running water for at least 15 minutes. Get medical treatment.
First-aid measures after ingestion	:	Rinse mouth with water. Give the victim one or two glasses of water or milk. Do not induce vomiting. Get medical treatment as soon as possible.
Personal Protection in First Aid and Measures	:	Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Suitable extinguishing media	:	Water, dry chemical powder, carbon dioxide, dry sand, alcohol resistant foam
Unsuitable extinguishing media	:	Foam extinguisher
Firefighting instructions	:	Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area. Fight fire from windward. Dry chemical powder, carbon dioxide or dry sand should be used

		for small fires. Alcohol-resistant foam extinguisher is effective for a large scale fire.
Personal protection (Emergency response)	:	Firefighters should wear protective equipment.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures	:	Wear proper protective equipment and avoid contact with skin and inhalation of vapor. Conduct operations from upwind and evacuate people downwind. Remove all sources of ignition. Keep away personnel except for authorized ones from spillage area by stretching ropes.

Environmental precautions

Environmental precautions	:	Attention should be given to avoid discharge of spilled product into rivers and resulting environmental damage. When diluting spill with large amounts of water, discharge of untreated wastewater into the environment must be avoided.

Methods and Equipment for Containment and Cleaning up

For containment	:	Absorb spill with diatomaceous earth or dry sand and place in container. Neutralize residue with calcium hydroxide solution or sodium carbonate solution and then flush with copious amounts of water.
Prevention Measures for Secondary Accidents	:	Remove nearby sources of ignition and prepare extinguishing media.

7. Handling and storage

Handling

Technical measures	:	Wear proper protective equipment to avoid contact with skin or inhalation of vapor. Pay attention to fire. Ventilate well at working places.
Precautions for safe handling	:	Avoid formation of vapor and aerosols. Do not allow contact with oxidizing substances.

Storage

Storage conditions	:	Store in a dark, cool place and tightly closed.
Material used in packaging/containers	:	Glass, fluorine resin.

8. Exposure controls / Personal protection equipment

ACGIH TWA	Not established

Appropriate engineering controls	:	Use with an enclosed system or a local exhaust ventilation.

Protective equipment

Respiratory protection	:	If necessary, wear a chemical cartridge respirator with acidic gases.
Hand protection	:	Impervious protective gloves
Eye protection	:	Safety goggles
Skin and body protection	:	Protective clothing, protective boots

9. Physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless - light orange
Odor	:	Pungent.
pH	:	Strong acidity
Melting point	:	20 ° C
Freezing point	:	No data available
Boiling point	:	167 ° C (13.3 hPa)
Flash point	:	233 ° C
Auto-ignition temperature	:	535 ° C (1010 hPa)
Decomposition temperature	:	> 215 ° C
Flammability	:	Flammable
Vapor pressure	:	0.0475 Pa (21℃)
Relative density	:	No data available
Density	:	1.478 - 1.484 g/cm³ (20℃)
Relative gas density	:	No data available
Solubility	:	Water: 1000 g/L (20℃) Organic solvent: Hexane(0%, 26-28℃), benzene(1.5%, 26-28℃), toluene(0.38%, 26-28℃).
Partition coefficient n-octanol/water (log Pow)	:	-2.38
Explosive limits (vol %)	:	11.4 - 24.3 vol %
Viscosity, kinematic	:	7.83 mm²/s (25℃)
Particle characteristics	:	No data available

10. Stability and reactivity

Reactivity	:	Corrosive to iron, steel, brass, copper, lead. May react with oxidizing substances.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Stable under normal conditions of use.
Conditions to avoid	:	Light, heat.
Incompatible materials	:	Oxidizing substances. Alkaline substances.
Hazardous decomposition products	:	Carbon monoxide, sulfur oxides.

11. Toxicological information

Acute toxicity (oral)	:	Toxic if swallowed rat LD50=200 mg/kg
Acute toxicity (dermal)	:	Classification not possible
Acute toxicity (inhalation)	:	No classification (gas) Classification not possible (vapor) Harmful if inhaled (dust, mist) rat LC50=1.95 mg/L/4h

Skin corrosion/irritation	:	Causes severe skin burns Since it is documented that in an irritation test with 1-h exposure to mouse skin, it was corrosive, and in an irritation test using guinea pigs, it resulted in numerous small lesions resembling acid burns, the substance was classified into category 1.
Serious eye damage/irritation	:	Causes serious eye damage Since it is reported that in an irritation test, the substance was corrosive to rabbit eyes, it was classified into category 1.
Respiratory sensitization	:	Classification not possible
Skin sensitization	:	Classification not possible
Germ cell mutagenicity	:	No classification Since it is reported that in a micronucleus assay by gavage using mice (OECD TG 474) (in vivo mutagenicity test) no bone marrow toxicity was evident, and that in an Ames test (in vitro mutagenicity test) negative result was obtained, it was classified as "No classification".
Carcinogenicity	:	Classification not possible
Reproductive toxicity	:	Suspected of damaging fertility or the unborn child Since in a developmental toxicity test using rats and mice, no general toxicity in parental animals was described, but abnormalities such as cleft palate were noted, the substance was classified into category 2.
STOT-single exposure	:	Classification not possible
STOT-repeated exposure	:	Classification not possible
Aspiration hazard	:	Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	:	Harmful to aquatic life Daphnia sp. EC50=12 mg/L/48h
Aquatic chronic	:	No classification

Persistence and degradability

Readily biodegradable
BOD : 106%

Bioaccumulative potential

Low bioconcentration
log Pow : -2.38

Mobility in soil

No additional information available

Hazardous to the ozone layer

Ozone	:	Classification not possible

13. Disposal considerations

Ecological waste information	:	Combustion method Burn in a chemical incinerator equipped with a scrubber. Alkaline method Adding a large amount of water or dilute aqueous alkali solution, and was allowed to decompose on standing or stirring, and neutralized with acid or alkali for disposal.

		Or entrust approved waste disposal companies with the disposal.
Contaminated container and packaging	:	In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG)	:	2586
Proper Shipping Name (IMDG)	:	ALKYLSULPHONIC ACIDS, LIQUID
Packing group (IMDG)	:	III
Transport hazard class(es) (IMDG)	:	8

Air transport(IATA)

UN-No. (IATA)	:	2586
Proper Shipping Name (IATA)	:	Alkylsulphonic acids, liquid
Packing group (IATA)	:	III
Transport hazard class(es) (IATA)	:	8
Marine pollutant	:	Not applicable
MFAG-No	:	153

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Data sources	:	NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation. Encyclopaedia Chimica, Kyoritsu Shuppan Co, Ltd. (1963) . Handbook of 17524 Chemical Products, The Chemical Daily Co. (2024) .

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully.The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements.The information herein is only provision of information, and it does not represent a guarantee the properties of the product.The Safety Data Sheet(SDS) is prepared based on JIS Z7253.