



## Safety Data Sheet

### 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Methanesulfonyl chloride

SDS No. : 4842E-2

Relevant identified uses of the substance or mixture and uses advised against

Research and Development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzenkanri@kishida.co.jp

### 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Oral): Category 3

Acute toxicity (Dermal): Category 3

Acute toxicity (Inhalation): Category 1

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Specific target organ toxicity – single exposure: Category 1 (respiratory system; nervous system)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 3

Hazardous to the aquatic environment (Long-term): Category 3

Label elements



Signal word: Danger

HAZARD STATEMENT

Toxic if swallowed

Toxic in contact with skin

Fatal if inhaled

Causes severe skin burns and eye damage

Causes damage to organs (respiratory system; nervous system)

Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

Do not breathe dust/fume/gas/mist/vapors/spray.

In case of inadequate ventilation wear respiratory protection.

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.



Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

Do not eat, drink or smoke when using this product.

#### Response

Call a POISON CENTER/doctor/physician if you feel unwell.

IF exposed or concerned: Call a POISON CENTER/doctor/physician.

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

IF ON SKIN: Wash with plenty of soap and water.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Take off immediately all contaminated clothing and wash it before reuse.

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

IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

#### Storage

Store in a well-ventilated place. Keep container tightly closed.

#### Disposal

Dispose of contents/container in accordance with local/national regulation.

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### 3. Composition/information on ingredients

Mixture/Substance selection:

#### Substance

Ingredient name:Methanesulfonyl chloride

Content (%):99(min)

Chemical formula:CH<sub>3</sub>SO<sub>2</sub>Cl

Chemicals No, Japan:2-1583

CAS No.:124-63-0

MW:114.55

ECNO:204-706-1

Note : The figures shown above are not the specifications of the product.

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### 4. First-aid measures

Descriptions of first-aid measures

#### IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

#### IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

#### IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

#### IF SWALLOWED

Rinse mouth. Do NOT induce vomiting.

Call a POISON CENTER/doctor/physician if you feel unwell.



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## 5. Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing media

In case of fire, use foam, dry powder, CO<sub>2</sub> to extinguish.

#### Unsuitable extinguishing media

Indoor firefighting equipment or outdoor firefighting equipment

Sprinkler equipment

Dry-powder firefighting equipment – except for phosphate etc.,hydrogen carbonate etc.

Straight stream water extinguisher

Water mist extinguisher

Reinforcing liquid jet extinguisher

Dry-powder extinguisher – except for phosphate etc.,hydrogen carbonate etc.

Bucket of water or tank of water

### Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

### Advice for firefighters

#### Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

#### Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

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

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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## 6. Accidental release measures

### Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

### Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

### Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

### Preventive measures for secondary accident

Collect spillage.

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## 7. Handling and storage

### Precautions for safe handling

#### Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

#### Safety Measures



Use only outdoors or in a well-ventilated area.  
Wear protective gloves, protective clothing or face protection.  
Wear eye protection/face protection.  
When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Take off immediately all contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.  
Store in a cool, dry place. Do not store in direct sunlight.  
Keep under lock and key.

Container and packaging materials for safe handling

Glass  
Polyethylene

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## 8. Exposure controls/personal protection

Control parameters

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.  
Eye wash station should be available.  
Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

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## 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless to pale yellow

Odor: Pungent odor

Melting point/Freezing point:  $-32^{\circ}\text{C}$

Boiling point or initial boiling point: (Methanesulfonyl chloride)(97.3 kPa)  $161^{\circ}\text{C}$

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point: (Methanesulfonyl chloride) $>110^{\circ}\text{C}$

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Reaction

n-Octanol/water partition coefficient data is not available.



Vapor pressure: 0.27 kPa (20°C)  
Density and/or relative density: 1.5  
Relative vapor density (Air=1): 4  
Relative density of the Vapor/air – mixture at 20°C (Air = 1): 1.01  
Particle characteristics data is not available.

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## 10. Stability and Reactivity

### Reactivity

Not available.

### Chemical stability

Stable under normal storage/handling conditions.

### Possibility of hazardous reactions

Decomposes on heating and on burning. This produces toxic and corrosive fumes including hydrogen chloride and sulfur oxides. Reacts with water and steam. This produces toxic and corrosive fumes including hydrogen chloride. This generates toxic hazard. Reacts violently with bases including ammonia and many other substances. This generates fire and explosion hazard. (ICSC 1163)

### Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

### Incompatible materials

Bases, Water

### Hazardous decomposition products

Sulfur oxides, Hydrogen chloride

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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

##### Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Methanesulfonyl chloride)

rat LD50=205 – 317mg/kg (PATTY 5th, 2001)

##### Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(Methanesulfonyl chloride)

rabbit : all death/2000mg dose, all aliv/200mg dose (PATTY 5th, 2001; IUCLID, 2000)

##### Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Methanesulfonyl chloride)

vapor: rat LC50=25ppm (PATTY 5th, 2001)

#### Irritant properties

##### Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Methanesulfonyl chloride)

mouse (anesthetized tailmethod) corrosive (PATTY 5th, 2001 et al)

##### Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Methanesulfonyl chloride)

rabbit Draize test: corrosive (PATTY 5th, 2001 et al)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenic effects data is not available.



Reproductive toxicity data is not available.

**STOT**

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Methanesulfonyl chloride)

respiratory system; nervous system (PATTY 5th, 2001)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

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**12. Ecological Information****Ecotoxicity****Aquatic toxicity**

Harmful to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Methanesulfonyl chloride)

Fish (bluegill) LC50=11mg/L/96hr (Aquire, 2010)

**Water solubility**

(Methanesulfonyl chloride)

reaction (ICSC, 1995)

**Persistence and degradability**

(Methanesulfonyl chloride)

Not degrade rapidly (BIOWIN)

**Bioaccumulative potential**

Bioaccumulative potential data is not available.

**Mobility in soil**

Mobility in soil data is not available.

**Other adverse effects**

Ozone depleting chemical data is not available.

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**13. Disposal considerations**

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

**Waste treatment methods**

Avoid release to the environment.

Dispose of contents/container in accordance with local/national regulation.

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**14. Transport Information**

UN No. or ID No.: 3246

UN Proper Shipping Name :

METHANESULPHONYL CHLORIDE

Class or division (Transport hazard class) : 6.1

Subsidiary hazard(s) : 8

Packing group : I

ERG GUIDE No.: 156

Special provisions No.: 354

**IMDG Code (International Maritime Dangerous Goods Regulations)**

UN No.: 3246

Proper Shipping Name :

METHANESULPHONYL CHLORIDE



Class or division : 6.1  
Subsidiary hazard(s) : 8  
Packing group : I  
Special provisions No.: 354  
IATA Dangerous Goods Regulations  
UN No.: 3246  
Proper Shipping Name :  
METHANESULPHONYL CHLORIDE  
Class or division : 6.1  
Subsidiary hazard(s) : 8  
Environmental hazards  
MARPOL Annex III – Prevention of pollution by harmful substances  
Marine pollutants (yes/no) : no

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#### 15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemicals listed in TSCA Inventory

Methanesulfonyl chloride

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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#### 16. Other information

GHS classification and labelling

Acute Tox. 3: H301 Toxic if swallowed

Acute Tox. 3: H311 Toxic in contact with skin

Acute Tox. 1: H330 Fatal if inhaled

Skin Corr. 1: H314 Causes severe skin burns and eye damage

Eye Dam. 1: H318 Causes serious eye damage

STOT SE 1: H370 Causes damage to organs

Aquatic Acute 3: H402 Harmful to aquatic life

Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (62nd Edition) 2021

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2021 TLVs and BEIs. (ACGIH)

Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2020).