



## Safety Data Sheet

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

Product identifier:

Product name: Methanesulfonyl chloride

SDS No. : 4842E-3

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

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### Section 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 (nervous system, respiratory system)

#### ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 3

Hazardous to the aquatic environment, long-term (chronic): Category 3

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

#### HAZARD STATEMENT

H301 Toxic if swallowed

H311 Toxic in contact with skin

H330 Fatal if inhaled

H314 Causes severe skin burns and eye damage

H370 Causes damage to organs (nervous system, respiratory system)

H412 Harmful to aquatic life with long lasting effects

#### PRECAUTIONARY STATEMENT

Prevention

P273 Avoid release to the environment.

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



P284 In case of inadequate ventilation wear respiratory protection.

P271 Use only outdoors or in a well-ventilated area.

P264 Wash contaminated parts thoroughly after handling.

P280 Wear protective gloves or protective clothing.

P280 Wear protective gloves, protective clothing or face protection.

P280 Wear eye protection/face protection.

P270 Do not eat, drink or smoke when using this product.

#### Response

P310 Immediately call a POISON CENTER/doctor/physician.

P312 Call a POISON CENTER/doctor/physician if you feel unwell.

P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor/physician.

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

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water or shower.

P363 Wash contaminated clothing before reuse.

P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.

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

P330 IF SWALLOWED: Rinse mouth.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.

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

#### Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

#### Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

#### Specific adverse human health effects

See "11. Toxicological Information".

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### Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
Methanesulfonyl chloride	99(min)	124-63-0	2-1583	CH <sub>3</sub> SO <sub>2</sub> Cl

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

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### Section 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

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.

Immediately call a POISON CENTER/doctor/physician.

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

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**Section 5. Fire-fighting measures**

## Extinguishing media

## Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

In case of fire, use spraying loaded liquid, foam (water-soluble liquid: alcohol-resistant foam), inactive gases, dry powder, dry sand to extinguish.

\*Fire Service Act Group 4 Hazardous Materials

## Unsuitable extinguishing media

Indoor Fire Plug System or Outdoor Fire Plug System

Sprinkler System

Dry Chemical Extinguishing System—Others (except for phosphates etc., Hydrogen Carbonates etc.)

Fire Extinguisher Discharging Jet Water/Spraying Water

Fire Extinguisher Discharging Jet Loaded Liquid

Fire Extinguisher Discharging Dry Extinguishing agents—Others (except for phosphates etc., Hydrogen Carbonates etc.)

Water Bucket or Water Tank

\*Cabinet Order Concerning the Control of Hazardous Materials (Attached Table 5) Group 4 Hazardous Materials

## Specific hazards arising from the substance or mixture

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

Runoff from fire control or dilution water may cause pollution.

See "10.Stability and Reactivity".

## 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 a full facepiece operated in the positive pressure mode.

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**Section 6. Accidental release measures**

## Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

## Environmental precautions



Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

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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## Section 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/eye protection/face protection.

Wash hands et al thoroughly after handling.

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 locked up. (P405)

Store in a cool, dry place. Do not store in direct sunlight.

Storage in accordance with local/national regulation.

Container and packaging materials for safe handling

Use closed unbreakable containers.

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## Section 8. Exposure controls/personal protection

Control parameters

Control value and concentration standard value are not available in ISHA.

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

Recommend to use protective equipment in conformity with the standards.

Use appropriate protective equipment in accordance with local/national regulation.

Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

Hand protection

Wear impervious protective glove.

Eye protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

Skin and body protection

Wear protective clothing.

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## Section 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

Solubility in solvent data is not available.

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

Vapor pressure: 0.27 kPa ( $20^{\circ}\text{C}$ )

Density and/or relative density: 1.5

Relative vapor density (Air=1): 4

Relative density of the Vapor/air – mixture at  $20^{\circ}\text{C}$  (Air = 1): 1.01

Particle characteristics data is not available.

Other information

Other information is not available.

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## Section 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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## Section 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

##### Acute toxicity (Oral)

###### [Product]

Category 3, Toxic if swallowed

###### [Data for components of the product]

[GHS Cat. Japan, base data]

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

##### Acute toxicity (Dermal)

###### [Product]

Category 3, Toxic in contact with skin

###### [Data for components of the product]

[GHS Cat. Japan, base data]

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

##### Acute toxicity (Inhalation)

###### [Product]

Category 1, Fatal if inhaled

###### [Data for components of the product]

[GHS Cat. Japan, base data]

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

#### Irritant properties

##### Skin corrosion/irritation

###### [Product]

Category 1, Causes severe skin burns and eye damage

###### [Data for components of the product]

[GHS Cat. Japan, base data]

mouse (anesthetized tail method) corrosive (PATY 5th, 2001 et al)

##### Serious eye damage/irritation

###### [Product]

Category 1, Causes serious eye damage

###### [Data for components of the product]

[GHS Cat. Japan, base data]

rabbit Draize test: corrosive (PATY 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.

Specific target organ toxicity (STOT)

STOT-single exposure

[Product]

Category 1, Causes damage to organs

[Data for components of the product]

[cat.1]

[GHS Cat. Japan, base data]

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

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

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## Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Product]

Category 3, Harmful to aquatic life

Category 3, Harmful to aquatic life with long lasting effects

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[GHS Cat. Japan, base data]

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

Water solubility

reaction (ICSC, 1995)

Persistence and degradability

[Data for components of the product]

Not rapidly degradable (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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## Section 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 as industrial waste. Accordance with local/national regulation.

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## Section 14. Transport Information

UN Number or ID Number : 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  
IMDG Code (International Maritime Dangerous Goods Regulations)  
UN Number or ID Number : 3246  
UN Proper Shipping Name :  
METHANESULPHONYL CHLORIDE  
Class or division (Transport hazard class) : 6.1  
Subsidiary hazard(s) : 8  
Packing group : I  
IATA (Dangerous Goods Regulations)  
UN Number or ID Number : 3246  
UN Proper Shipping Name :  
METHANESULPHONYL CHLORIDE  
Class or division (Transport hazard class) : 6.1  
Subsidiary hazard(s) : 8  
Packing group : I  
FORBIDDEN  
Environmental hazards  
Marine pollutants (yes/no) : no

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**Section 15. Regulatory Information**

Safety, health and environmental regulations/legislation specific for the substance or mixture  
U.S. Toxic Substances Control Act (TSCA) Inventory  
Chemicals listed in TSCA Inventory  
Applicable  
Other regulatory information  
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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**Section 16. Other information**

References and sources for data  
Globally Harmonized System of classification and labelling of chemicals, UN  
Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN  
IMDG Code, 2022 Edition (Incorporating Amendment 41-22)  
IATA Dangerous Goods Regulations (65th Edition) 2024  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2024 TLVs and BEIs. (ACGIH)  
JIS Z 7252 : 2019  
JIS Z 7253 : 2019  
2023 Recommendation on TLVs (JSOH)  
Supplier's data/information  
General Disclaimer  
© KISHIDA CHEMICAL CO., LTD.  
Unauthorized translation or modification is prohibited.  
Please provide SDS to customers for selling or transferring.  
All chemicals have unknown hazard. Handle the product with care.  
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 2022).