



Safety Data Sheet

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

Product identifier:

Product name: 1,3-Propane sultone

SDS No. : 6043E-4

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

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 4

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2A

Germ cell mutagenicity: Category 2

Carcinogenicity: Category 1B

Specific target organ toxicity – single exposure: Category 1 (systemic toxicity)

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

H332 Harmful if inhaled

H315 Causes skin irritation

H319 Causes serious eye irritation

H341 Suspected of causing genetic defects

H350 May cause cancer

H370 Causes damage to organs (systemic toxicity)

H412 Harmful to aquatic life with long lasting effects

**PRECAUTIONARY STATEMENT****Prevention**

- P202 Do not handle until all safety precautions have been read and understood.
- P273 Avoid release to the environment.
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- 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.
- P280 Wear eye protection/face protection.
- P280 Use personal protective equipment as required.
- P270 Do not eat, drink or smoke when using this product.

Response

- P308 + P313 IF exposed or concerned: Get medical advice/attention.
- 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.
- P332 + P313 If skin irritation occurs: Get medical advice/attention.
- P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.
- P362 + P364 Take off 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.
- P337 + P313 If eye irritation persists: Get medical advice/attention.
- P330 IF SWALLOWED: Rinse mouth.
- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.

Storage

- 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".

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name	Content (%)	CAS No.	Chemicals No, Japan	Chemical formula
1,3-Propane sultone	99(min)	1120-71-4	5-530	C3H6O3S

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

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

- IF exposed or concerned: Get medical advice/attention.
- Call a POISON CENTER/doctor/physician if you feel unwell.

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

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

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.

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.
Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident



Collect spillage.

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

Do not handle until all safety precautions have been read and understood.

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

Glass

Stainless steel

etc.

Section 8. Exposure controls/personal protection

Control parameters

Adopted value

ACGIH(2006) TWA: as low as possible(L) (Cancer)

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



1,3-Propane sultone,6043E-4,2023/12/13

Recommend to use protective equipment in conformity with the standards.

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.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid or solid

Color: Colorless to pale yellow

Odor: Characteristic odor

Melting point/Freezing point: 32°C

Boiling point or initial boiling point: (1,3-Propane sultone)180°C(4kPa)

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 data is not available.

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: Insoluble

Solubility in solvent data is not available.

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

Vapor pressure data is not available.

Density and/or relative density: 1.40g/cm³(30°C)

Relative vapor density (Air=1) data is not available.

Particle characteristics data is not available.

Other information

Other information is not available.

Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Decomposes on heating. This produces toxic fumes including sulfur oxides. Reacts with moist air. This produces toxic 3-propane sulfonic acid. (ICSC 1524)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

**Incompatible materials**

Acids, Bases, Oxidizing agents

Hazardous decomposition products

Carbon oxides, Sulfur oxides, 3-Propane sulfonic acid

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=100 – 157mg/kg (MHLW Risk Assessment Report, 2010)

Acute toxicity (Dermal)

[Product]

Category 3, Toxic in contact with skin

[Data for components of the product]

[GHS Cat. Japan, base data]

rabbit LD50=660mg/kg (MAK (DFG) vol.4, 1992)

Acute toxicity (Inhalation)

[Product]

Category 4, Harmful if inhaled

[Data for components of the product]

[GHS Cat. Japan, base data]

dust: rat LC50=1.3–2.14mg/L/6hr (cal. 1.95–3.21mg/L/4hr) (AICIS IMAP, 2015)

Irritant properties**Skin corrosion/irritation**

[Product]

Category 2, Causes skin irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

human irritation (MAK (DFG) vol.4, 1992) et al.

Serious eye damage/irritation

[Product]

Category 2A, Causes serious eye irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

rabbit conjunctivitis and corneal opacity observed 24–72 hours later, chemosis recovered but conjunctival redness and corneal opacity did not recover by 14 days after application (AICIS IMAP, 2015; REACH Registration dossier, Access on August 2020 et al.)

Allergenic and sensitizing effects data is not available.

Germ cell mutagenicity

[Product]

Category 2, Suspected of causing genetic defects

[Data for components of the product]

[GHS Cat. Japan, base data]

cat. 2; IARC 110, 2017 et al.

Carcinogenicity



[Product]

Category 1B, May cause cancer

[Data for components of the product]

[GHS Cat. Japan, base data]

cat.1B; IARC Gr. 2A (IARC 110, 2017), JSOH 2A (OEL Documentations, JSOH, 2017)

[IARC]

Group 2A : Probably carcinogenic to humans

[ACGIH]

A3(2006) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

[NTP]

RAHC : Reasonably Anticipated to be Human Carcinogens

[EU]

Category 1B; Substances presumed to have carcinogenic potential for humans

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]

systemic toxicity (MHLW Risk Assessment Report, 2010)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

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]

Crustacea (Daphnia magna) EC50=16mg/L/48hr (REACH Registration dossier, 2020)

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

[GHS Cat. Japan, base data]

Algae (Desmodesmus subspicatus) EC10:>320mg/L/72hr (REACH Registration dossier, 2020)

Water solubility

10 g/100 ml (ICSC, 2004)

Persistence and degradability

[Data for components of the product]

Rapidly degradable (BOD_Degradation: 95%/4 weeks (METI Existing Chemical Substances Safety Inspections Data, 2002))

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.

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.

Section 14. Transport Information

UN Number or ID Number : 2811

UN Proper Shipping Name :

TOXIC SOLID, ORGANIC, N.O.S.

Class or division (Transport hazard class) : 6.1

Packing group : III

ERG GUIDE No.: 154

Special provisions No.: 223; 274

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 2811

UN Proper Shipping Name :

TOXIC SOLID, ORGANIC, N.O.S.

Class or division (Transport hazard class) : 6.1

Packing group : III

Special provisions No.: 223; 274

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 2811

UN Proper Shipping Name :

TOXIC SOLID, ORGANIC, N.O.S.

Class or division (Transport hazard class) : 6.1

Hazard labels : Toxic

Packing group : III

Special provisions No.: A3; A5

Environmental hazards

Marine pollutants (yes/no) : no

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.



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, 2020 Edition (Incorporating Amendment 40-20)
IATA Dangerous Goods Regulations (64th Edition) 2023
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2023 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 2022).