

## Chemical Safety Data Sheet MSDS / SDS

## 2-Propanethiol

Revision Date:2025-02-01 Revision Number:1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

## Product identifier

Product name : 2-Propanethiol  
CBnumber : CB6466705  
CAS : 75-33-2  
EINECS Number : 200-861-4  
Synonyms : 2-Propanethiol, isopropyl mercaptan

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash hands thoroughly after handling.  
P264 Wash skin thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continuerinsing.

P370+P378 In case of fire: Use ... for extinction.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container to.....

#### **Hazard statements**

H225 Highly Flammable liquid and vapour

H315 Causes skin irritation

H319 Causes serious eye irritation

H335 May cause respiratory irritation

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects

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## SECTION 3: Composition/information on ingredients

### **Substance**

Product name	: 2-Propanethiol
Synonyms	: 2-Propanethiol, isopropyl mercaptan
CAS	: 75-33-2
EC number	: 200-861-4
MF	: C <sub>3</sub> H <sub>8</sub> S
MW	: 76.16

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## SECTION 4: First aid measures

### **Description of first aid measures**

#### **General advice**

Consult a physician. Show this material safety data sheet to the doctor in attendance.

#### **If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### **In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

#### **In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### **If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### **Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### **Indication of any immediate medical attention and special treatment needed**

No data available

## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

Small (incipient) fires must be extinguished with alcohol resistant foam, dry chemical powder or carbon dioxide. Large amounts of water are ineffective. Cool containers with large amounts of water.

#### Special hazards arising from the substance or mixture

Carbon oxides, Sulfur oxides

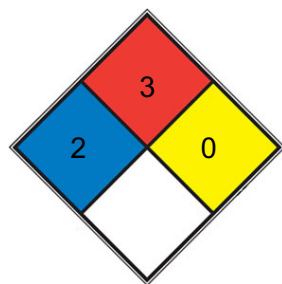
#### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### Further information

Use water spray to cool unopened containers.

#### NFPA 704



☒ HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

☒ FIRE 3 Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions. Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, [acetone](#))

☒ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N2](#))

☐ SPEC.

☐ HAZ.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition.

Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

For personal protection see section 8.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet- brushing and place in container for disposal according to local regulations (see section 13).

## Reference to other sections

For disposal see section 13.

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# SECTION 7: Handling and storage

## Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

## 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.

## Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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# SECTION 8: Exposure controls/personal protection

## control parameter

### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

## Exposure controls

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

#### Body Protection

Impervious clothing, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full- face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Appearance	colorless clear, liquid
Odour	No data available
Odour Threshold	0.000006ppm
pH	No data available
Melting point/freezing point	Melting point/range: -131 °C - lit.
Initial boiling point and boiling range	57 - 60 °C - lit.
Flash point	-34 °C - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	606,56 hPa at 37,7 °C
Vapour density	2,63 - (Air = 1.0)
Relative density	0,82 g/cm <sup>3</sup> at 25 °C
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

### Other safety information

Relative vapor density

2,63 - (Air = 1.0)

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## SECTION 10: Stability and reactivity

### Reactivity

No data available

## Chemical stability

Stable under recommended storage conditions.

## Possibility of hazardous reactions

No data available

## Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

## Incompatible materials

Bases, Oxidizing agents, Reducing agents, Alkali metals

## Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulfur oxides

Other decomposition products - No data available In the event of fire: see section 5

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# SECTION 11: Toxicological information

## Information on toxicological effects

### Acute toxicity

LD50 Oral - Rat - male - > 2.000 mg/kg

Remarks: (ECHA)

LC0 Inhalation - Rat - male and female - 4 h - > 32,24 mg/l (OECD Test Guideline 403)

LD0 Dermal - Rat - male - > 2.000 mg/kg Remarks: (ECHA)

### Skin corrosion/irritation

No data available

### Serious eye damage/eye irritation

Eyes - Rabbit

Result: slight irritation (Draize Test) Remarks: (ECHA)

### Respiratory or skin sensitization

(OECD Test Guideline 429)

### Germ cell mutagenicity

Ames test

Salmonella typhimurium Result: negative

(National Toxicology Program) sister chromatid exchange assay Chinese hamster ovary cells Result: negative

The value is given in analogy to the following substances: In vitro mammalian cell gene mutation test

Mouse lymphoma test Result: negative

The value is given in analogy to the following substances: Ames test

Salmonella typhimurium Result: negative

The value is given in analogy to the following substances:

OECD Test Guideline 474 Mouse - male and female Result: negative

The value is given in analogy to the following substances:

### Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### **Reproductive toxicity**

##### **Specific target organ toxicity - single exposure    Specific target organ toxicity - repeated exposure**

No data available

#### **Aspiration hazard**

No data available

#### **Additional Information**

Repeated dose toxicity - Rat - male and female - Oral - 42 - 53 d - NOAEL (No observed adverse effect level) - 50 mg/kg - LOAEL (Lowest observed adverse effect level) - 200 mg/kg

Subchronic toxicity The value is given in analogy to the following substances:

Repeated dose toxicity - Rat - male and female - inhalation (vapor) - 91 d Subchronic toxicity The value is given in analogy to the following substances: RTECS: TZ7302000

Nausea, Headache, Vomiting

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### **Toxicity**

LD50 orally in Rabbit: > 2000 mg/kg

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## **SECTION 12: Ecological information**

### **Toxicity**

#### **Toxicity to fish**

semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 34 mg/l - 96 h

(OECD Test Guideline 203)

Remarks: The value is given in analogy to the following substances:

#### **Toxicity to daphnia and other aquatic invertebrates**

static test EC50 - Daphnia magna (Water flea) - 0,25 - 0,5 mg/l - 48 h

(OECD Test Guideline 202)

#### **Toxicity to algae**

static test EC50 - Pseudokirchneriella subcapitata (green algae) - 21,9 mg/l - 72 h

(OECD Test Guideline 201)

static test NOEC - Pseudokirchneriella subcapitata (algae) - 1,216 mg/l - 72 h

(OECD Test Guideline 201)

#### **Toxicity to bacteria**

static test EC50 - activated sludge - 880,5 mg/l - 3 h

(OECD Test Guideline 209)

### **Persistence and degradability**

Biodegradability aerobic - Exposure time 28 d

Result: 0 % - Not readily biodegradable. (OECD Test Guideline 301D)

### **Bioaccumulative potential**

### **Mobility in soil**

## Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

## Other adverse effects

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# SECTION 13: Disposal considerations

## Waste treatment methods

### Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

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# SECTION 14: Transport information

## UN number

ADR/RID: 2402 IMDG: 2402

## UN proper shipping name

ADR/RID: PROPANETHIOLS IMDG: PROPANETHIOLS IATA: Propanethiols

## Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

## Packaging group

ADR/RID: II IMDG: II IATA: II

## Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

## Special precautions for user

No data available

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# SECTION 15: Regulatory information

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

### Regulations on the Safety Management of Hazardous Chemicals



China Catalog of Hazardous chemicals 2015: Listed. website: <https://www.mem.gov.cn/>

#### **Measures for Environmental Management of New Chemical Substances**

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC): Listed. website: <https://www.mee.gov.cn/>

EC Inventory: Listed.

European Inventory of Existing Commercial Chemical Substances (EINECS): Listed. website: <https://echa.europa.eu/>

Korea Existing Chemicals List (KECL): Listed. website: <http://ncis.nier.go.kr>

New Zealand Inventory of Chemicals (NZIoC): Listed. website: <https://www.epa.govt.nz/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed. website: <https://emb.gov.ph/>

United States Toxic Substances Control Act (TSCA) Inventory: Listed. website: <https://www.epa.gov/>

Vietnam National Chemical Inventory: Listed. website: <https://chemicaldata.gov.vn/>

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## **SECTION 16: Other information**

### **Abbreviations and acronyms**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

### **References**

**[1]** CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

**[2]** ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

**[3]** ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

**[4]** 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)

**[5]** ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

**[6]** Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

**[7]** HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

**[8]** IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

**[9]** IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

**[10]** Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

#### **Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.