

## Chemical Safety Data Sheet MSDS / SDS

## 1,3-dichloropropan-2-ol SDS

Revision Date:2024-04-25 Revision Number:1

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name: 1,3-dichloropropan-2-ol

CAS: 96-23-1

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

Relevant identified uses: For R&amp;D use only. Not for medicinal, household or other use.

Uses advised against: none

**Company Identification**

Company: Chemicalbook.in

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**SECTION 2: Hazards identification****Classification of the substance or mixture**

Acute toxicity - Category 3, Oral

Acute toxicity - Category 4, Dermal

Carcinogenicity, Category 1B

**GHS label elements, including precautionary statements**

Pictogram(s)



Signal word

Danger

**Hazard statement(s)**

H301 Toxic if swallowed

H312 Harmful in contact with skin

H350 May cause cancer

**Precautionary statement(s)**

**Prevention**

P264 Wash ... thoroughly after handling.

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

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P203 Obtain, read and follow all safety instructions before use.

**Response**

P301+P316 IF SWALLOWED: Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P330 Rinse mouth.

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

P317 Get medical help.

P362+P364 Take off contaminated clothing and wash it before reuse.

P318 IF exposed or concerned, get medical advice.

**Storage**

P405 Store locked up.

**Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

#### Other hazards which do not result in classification

no data available

### SECTION 3: Composition/information on ingredients

#### Substance

Chemical name:	1,3-dichloropropan-2-ol
Common names and synonyms:	1,3-dichloropropan-2-ol
CAS number:	96-23-1
EC number:	202-491-9
Concentration:	100%

### SECTION 4: First aid measures

#### Description of necessary first-aid measures

##### If inhaled

Fresh air, rest. Half-upright position. Refer immediately for medical attention.

##### Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

##### Following eye contact

Rinse with plenty of water (remove contact lenses if easily possible). Refer for medical attention.

##### Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Refer immediately for medical attention.

#### Most important symptoms/effects, acute and delayed

**SYMPTOMS:** Symptoms of exposure to this compound include hemorrhagic gastritis and pharyngitis. Other symptoms include headache, vertigo, nausea, vomiting, pulmonary edema and liver damage. **ACUTE/CHRONIC HAZARDS:** This compound is toxic by inhalation and ingestion. It is also harmful if absorbed through the skin. It is an irritant of the skin, eyes, mucous membranes and

upper respiratory tract. When heated to decomposition it emits highly toxic fumes of carbon monoxide, carbon dioxide, hydrogen chloride gas and phosgene gas. (NTP, 1992)

#### **Indication of immediate medical attention and special treatment needed, if necessary**

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for shock and treat if necessary. Monitor for pulmonary edema and treat if necessary. Anticipate seizures and treat if necessary. For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport. Do not use emetics. For ingestion, rinse mouth and administer 5 mL/kg up to 200 mL of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal. Higher alcohols (> 3 carbons) and related compounds

### **SECTION 5: Firefighting measures**

#### **Suitable extinguishing media**

Alcohol" foam.

#### **Specific hazards arising from the chemical**

This chemical is combustible. (NTP, 1992)

#### **Special protective actions for fire-fighters**

Use fine water spray, alcohol-resistant foam, dry powder, carbon dioxide.

### **SECTION 6: Accidental release measures**

#### **Personal precautions, protective equipment and emergency procedures**

Personal protection: chemical protection suit including self-contained breathing apparatus. Collect leaking liquid in sealable containers.

#### **Environmental precautions**

Personal protection: chemical protection suit including self-contained breathing apparatus. Collect leaking liquid in sealable containers.

#### **Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## **SECTION 7: Handling and storage**

### **Precautions for safe handling**

NO open flames. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### **Conditions for safe storage, including any incompatibilities**

Separated from strong oxidants and food and feedstuffs. Well closed.

## **SECTION 8: Exposure controls/personal protection**

### **Control parameters**

### **Occupational Exposure limit values**

MAK: skin absorption (H); carcinogen category: 2

### **Biological limit values**

no data available

### **Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### **Individual protection measures, such as personal protective equipment (PPE)**

#### **Eye/face protection**

Wear face shield or eye protection in combination with breathing protection.

#### **Skin protection**

Protective gloves. Protective clothing.

### Respiratory protection

Use ventilation, local exhaust or breathing protection.

### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	PHYSICAL DESCRIPTION: Colorless to yellow slightly viscous liquid with an ethereal odor. (NTP, 1992)
Colour:	COLORLESS, SLIGHTLY VISCOUS, LIQUID
Odour:	ETHEREAL ODOR
Melting point/freezing point:	-4°C(lit.)
Boiling point or initial boiling point and boiling range:	174°C
Flammability:	Combustible.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	74°C(lit.)
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available

Solubility:	greater than or equal to 100 mg/mL at 73° F (NTP, 1992)
Partition coefficient n-octanol/water:	0.78
Vapour pressure:	1 mm Hg at 82.4° F ; 5 mm Hg at 126.0° F (NTP, 1992)
Density and/or relative density:	1.351
Relative vapour density:	4.45 (NTP, 1992) (Relative to Air)
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

Decomposes on heating or on burning. This produces toxic fumes including hydrogen chloride (see ICSC 0163). Reacts with strong oxidants. Attacks powdered metals and plastic.

### Chemical stability

UNSTABLE

### Possibility of hazardous reactions

Flammable when exposed to heat, flame, or oxidizers. Sensitive to heat. Incompatible with oxidizers. Also incompatible with strong acids, strong reducing agents, acid chlorides and acid anhydrides. (NTP, 1992)

### Conditions to avoid

no data available

### Incompatible materials

no data available

### Hazardous decomposition products

Dangerous; when heated to decomposition it emits highly toxic fumes of /hydrogen chloride/ and phosgene.

## SECTION 11: Toxicological information

### Acute toxicity

Oral: LD50 Mouse oral 100 mg/kg

Inhalation: no data available

Dermal: no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

no data available

### Reproductive toxicity

no data available

### STOT-single exposure

The substance is irritating to the eyes and respiratory tract. The substance is mildly irritating to the skin. The substance may cause effects on the liver.



### **STOT-repeated exposure**

The substance may have effects on the liver and kidneys. This substance is possibly carcinogenic to humans.

### **Aspiration hazard**

A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20°C.

## **SECTION 12: Ecological information**

### **Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **Persistence and degradability**

When incubated with a filtered effluent from a sanitary waste treatment plant, 1,3-dichloro-2-propanol displayed a theoretical 5 day BOD of 1%(1). 1,3-Dichloro-2-propanol reached 0%, 84%, and 86% of its theoretical BOD over 4 weeks using activated sludge inoculum(2). Pure cultures of *Pseudomonas* sp. degraded 1,3-dichloro-2-propanol to epichlorohydrin, 1-chloro-2,3-propylene diol, glycidol, and ultimately glycerin(3).

### **Bioaccumulative potential**

An estimated BCF of 3 was calculated for 1,3-dichloro-2-propanol(SRC), using an estimated log Kow of 0.78(1,SRC) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low.

### **Mobility in soil**

Using a structure estimation method based on molecular connectivity indices(1), the Koc for 1,3-dichloro-2-propanol can be estimated to be about 4(SRC). According to a classification scheme(2), this estimated Koc value suggests that 1,3-dichloro-2-propanol is expected to have very high mobility in soil.

### **Other adverse effects**

no data available

## SECTION 13: Disposal considerations

### Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## SECTION 14: Transport information

### UN Number

ADR/RID: UN2750 (For reference only, please check.)

IMDG: UN2750 (For reference only, please check.)

IATA: UN2750 (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: 1,3-DICHLOROPROPANOL-2 (For reference only, please check.)

IMDG: 1,3-DICHLOROPROPANOL-2 (For reference only, please check.)

IATA: 1,3-DICHLOROPROPANOL-2 (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.)

IMDG: 6.1 (For reference only, please check.)

IATA: 6.1 (For reference only, please check.)

### Packing group, if applicable

ADR/RID: II (For reference only, please check.)

IMDG: II (For reference only, please check.)

IATA: II (For reference only, please check.)

#### **Environmental hazards**

ADR/RID: No

IMDG: No

IATA: No

#### **Special precautions for user**

no data available

#### **Transport in bulk according to IMO instruments**

no data available

### **SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

**China Catalog of Hazardous chemicals 2015**

Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Listed.

**(PICCS)**

Listed.

#### **Vietnam National Chemical Inventory**

Listed.

#### **IECSC)**

Listed.

#### **Korea Existing Chemicals List (KECL)**

Listed.

### **SECTION 16: Other information**

#### **Abbreviations and acronyms**

CAS: Chemical Abstracts Service

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

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

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

#### **References**

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

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

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

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)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

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

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

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

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

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