

## Chemical Safety Data Sheet MSDS / SDS

## 1-aminopropan-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-aminopropan-2-ol

CAS: 78-96-6

**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**

Skin corrosion, Sub-category 1B

## GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

### Hazard statement(s)

H314 Causes severe skin burns and eye damage

### Precautionary statement(s)

### Prevention

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

P264 Wash ... thoroughly after handling.

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

### Response

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

P363 Wash contaminated clothing before reuse.

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

P316 Get emergency medical help immediately.

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

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

### 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-aminopropan-2-ol
Common names and synonyms:	1-aminopropan-2-ol
CAS number:	78-96-6
EC number:	201-162-7
Concentration:	100%

### SECTION 4: First aid measures

#### Description of necessary first-aid measures

##### If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

##### Following skin contact

First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again. Refer for medical attention .

##### Following eye contact

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

##### Following ingestion

Rinse mouth. Give nothing to drink. Do NOT induce vomiting. Refer immediately for medical attention.

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

Vapor irritates eyes and nose. Liquid causes local injury to mouth, throat, digestive tract, skin, and eyes. (USCG, 1999)

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

no data available

## SECTION 5: Firefighting measures

### Suitable extinguishing media

Alcohol foam

### Specific hazards arising from the chemical

Special Hazards of Combustion Products: Irritating vapors generated when heated. (USCG, 1999)

### Special protective actions for fire-fighters

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

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

### Environmental precautions

Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

### 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. Above 77°C use a closed system and ventilation. 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. See Chemical Dangers. Well closed. Keep in a well-ventilated room. Store in an area without drain or sewer access.

## SECTION 8: Exposure controls/personal protection

### Control parameters

### Occupational Exposure limit values

Component	1-aminopropan-2-ol			
CAS No.	78-96-6			
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Germany (AGS)	2 (1)	5,8 (1)	4 (1)(2)	11,6 (1)(2)
	Remarks			
Germany (AGS)	(1) Inhalable aerosol and vapour (2) 15 minutes reference period			

### 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:	Liquid.
Colour:	Colourless.
Odour:	SLIGHT AMMONIA ODOR
Melting point/freezing point:	1 °C.
Boiling point or initial boiling point and boiling range:	159.73 °C. Atm. press.:1 013 hPa.
Flammability:	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	80 °C. Atm. press.:1 013 hPa.
Auto-ignition temperature:	365 °C. Atm. press.:1 013 hPa.
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	dynamic viscosity (in mPa s) = 30.2. Temperature:20°C.
Solubility:	greater than or equal to 100 mg/mL at 67.6° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Pow = -0.93. Temperature:23 °C.

Vapour pressure:	0.63 hPa. Temperature:25 °C.
Density and/or relative density:	0.96. Temperature:20 °C.
Relative vapour density:	2.6 (NTP, 1992) (Relative to Air)
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

On combustion, forms nitrogen oxides. Reacts violently with strong oxidants, cellulose nitrate, nitric acid and aldehydes.

### Chemical stability

no data available

### Possibility of hazardous reactions

MONOISOPROPANOLAMINE is an aminoalcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.

### Conditions to avoid

no data available

### Incompatible materials

no data available

### Hazardous decomposition products

no data available

## SECTION 11: Toxicological information

### Acute toxicity

Oral: LD50 - rat (male/female) - 2 813 mg/kg bw. Remarks: The LD50 was calculated from the original ml/kg values by using the density of 0.97 g/cm<sup>3</sup>.

Inhalation: RD50 (calculated) - mouse (male) - ca. 440 mg/m<sup>3</sup> air.

Dermal: LD50 - rabbit - 1 851 mg/kg bw.

### 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 corrosive to the eyes, skin and respiratory tract. Corrosive on ingestion. Inhalation may cause lung oedema, but only after initial corrosive effects on eyes and/or airways have become manifest. Medical observation is indicated. If swallowed the substance may cause vomiting and could result in aspiration pneumonitis.



### **STOT-repeated exposure**

Repeated or prolonged contact with skin may cause dermatitis.

### **Aspiration hazard**

No indication can be given whether a harmful concentration in the air will be reached.

## **SECTION 12: Ecological information**

### **Toxicity**

Toxicity to fish: LC50 - *Leuciscus idus* - 215 - 464 mg/L - 96 h. Remarks: Not neutralized.

Toxicity to daphnia and other aquatic invertebrates: EC50 - *Daphnia magna* - 108.82 mg/L - 48 h. Remarks: Not neutralized.

Toxicity to algae: EC50 - *Desmodesmus subspicatus* (previous name: *Scenedesmus subspicatus*) - 32.7 mg/L - 72 h.

Toxicity to microorganisms: EC50 - activated sludge - > 261 mg/L - 30 min.

### **Persistence and degradability**

A 5-day theoretical BOD of 4% was observed for 1-amino-2-propanol using a non-acclimated sewage inocula and a standard BOD dilution method(1); adaptation of the sewage inocula resulted in a 5-day theoretical BOD of 43%(1). Using a sewage inocula and a BOD dilution method, 5-day, 10-day, 15-day and 20-day theoretical BODs of 5.1, 34.0, 43.4 and 46.0% were measured respectively for 1-amino-2-propanol(2). In anaerobic serum bottle degradation studies, 1-amino-2-propanol exhibited a lag period of 9 days followed by a removal rate of 22 mg/l/day(3); during the observation period, 65% of initial 1-amino-2-propanol was removed compared to 100% removal for 1-propanol(3). 1-Amino-2-propanol is considered to be amenable to anaerobic biotechnology for industrial wastewater treatment(4).

### **Bioaccumulative potential**

Based upon an experimental log Kow of - 0.96(1), the BCF for 1-amino-2-propanol can be estimated to be 0.11 from a regression-derived equation(2, SRC). This BCF value suggests that 1-amino-2-propanol will not bioconcentrate significantly in aquatic organisms(SRC).

### **Mobility in soil**

Based upon an experimental log Kow of -0.96(1), the Koc for 1-amino-2-propanol can be estimated to be 7.1 from a regression-derived equation(2, SRC). This BCF value suggests that 1-amino-2-propanol has very high soil mobility(3).

**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: UN2735 (For reference only, please check.)

IMDG: UN2735 (For reference only, please check.)

IATA: UN2735 (For reference only, please check.)

**UN Proper Shipping Name**

ADR/RID: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (For reference only, please check.)

IMDG: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (For reference only, please check.)

IATA: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (For reference only, please check.)

**Transport hazard class(es)**

ADR/RID: 8 (For reference only, please check.)

IMDG: 8 (For reference only, please check.)

IATA: 8 (For reference only, please check.)

**Packing group, if applicable**

ADR/RID: I (For reference only, please check.)  
IMDG: I (For reference only, please check.)  
IATA: I (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**

Not 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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