

## Chemical Safety Data Sheet MSDS / SDS

## 1-naphthol 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-naphthol

CAS: 90-15-3

**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

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

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

Acute toxicity - Category 4, Oral

Acute toxicity - Category 4, Dermal

Skin irritation, Category 2  
Serious eye damage, Category 1  
Specific target organ toxicity - single exposure, Category 3

### GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

### Hazard statement(s)

H302 Harmful if swallowed  
H312 Harmful in contact with skin  
H315 Causes skin irritation  
H318 Causes serious eye damage  
H335 May cause respiratory irritation

### 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/...  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P271 Use only outdoors or in a well-ventilated area.

### Response

P301+P317 IF SWALLOWED: Get medical help.  
P330 Rinse mouth.  
P302+P352 IF ON SKIN: Wash with plenty of water/...  
P317 Get medical help.  
P321 Specific treatment (see ... on this label).  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P332+P317 If skin irritation occurs: Get medical help.  
P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P319 Get medical help if you feel unwell.

### Storage

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

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-naphthol

Common names and synonyms: 1-naphthol

CAS number: 90-15-3

EC number: 201-969-4

Concentration: 100%

## SECTION 4: First aid measures

### Description of necessary first-aid measures

#### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

#### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

#### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

#### **Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

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

no data available

#### **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 pulmonary edema and treat if necessary . For 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 . Ketones and related compounds

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

#### **Suitable extinguishing media**

Use dry chemical, carbon dioxide or alcohol-resistant foam.

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

no data available

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

Wear self-contained breathing apparatus for firefighting if necessary.

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

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

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### 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

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

Keep in dark places.

## SECTION 8: Exposure controls/personal protection

### Control parameters

### Occupational Exposure limit values

Component	1-naphthol			
CAS No.	90-15-3			
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Latvia	?	0,5	?	?
	Remarks			

### 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 tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

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

Physical state:	Liquid, Pellets, Large Crystals
Colour:	Yellow monoclinic needles from water
Odour:	Phenolic odor
Melting point/freezing point:	342°C (lit.)
Boiling point or initial boiling point and boiling range:	278-280°C (lit.)
Flammability:	no data available

Lower and upper explosion limit/flammability limit:	no data available
Flash point:	125°C
Auto-ignition temperature:	1007°F
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	In water, 866 mg/L at 25 deg C
Partition coefficient n-octanol/water:	log Kow = 2.85
Vapour pressure:	1.7 mm Hg at 110 deg C (2.74X10 <sup>-4</sup> mm Hg at 25 deg C) /extrapolated to solid-phase/
Density and/or relative density:	1.224
Relative vapour density:	4.5 (120 °C, vs air)
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

no data available

### Chemical stability

Water stability: stable at pH < or =6.5; increased transformation with increased pH. from table

**Possibility of hazardous reactions**

Combustible when exposed to heat or flame.

**Conditions to avoid**

no data available

**Incompatible materials**

no data available

**Hazardous decomposition products**

When heated to decomposition it emits acrid smoke and irritating fumes.

**SECTION 11: Toxicological information****Acute toxicity**

Oral: LD50 Rat oral 2.59 g/kg

Inhalation: LC50 Rat (female Wistar) inhalation >97 mg/cu m/4 hr

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**

no data available

### **STOT-repeated exposure**

no data available

### **Aspiration hazard**

no data available

## **SECTION 12: Ecological information**

### **Toxicity**

Toxicity to fish: LC50 Pimephales promelas (Fathead minnow, weight 114 mg) 7.01 mg/L/24 hr (95% confidence limit: 6.74-7.30 mg/L); flow-through bioassay, dissolved oxygen 7.4 (4.6-8.8) mg/L, water hardness 44.9 (42.4-46.6) mg/L as CaCO<sub>3</sub>, pH 6.9-7.7, alkalinity 42.9 (39.6-61.4) mg/L CaCO<sub>3</sub>, temp: 26.4 +/- 1.4 deg C, Purity 99%+

Toxicity to daphnia and other aquatic invertebrates: EC50 Daphnia magna (Water flea; immobilization) 3.53 mg/L/48 hr (95% confidence limit: 3.2-5.6 mg/L); static /95.7% purity

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **Persistence and degradability**

AEROBIC: 1-Naphthol was biodegradable in screening tests(1-5). It proved to be readily biodegradable in a respiratory biodegradation test (24 participating laboratories) similar to the MITI test but using an activated sludge inoculum(3). The median lag time was 3 days and a mean BOD of 60% of theoretical was achieved in 10 days thereafter; 82% of dissolved organic carbon (DOC) was removed(3). In a 2-week biodegradation screening test (MITI test) using 1-naphthol (30 ppm) and an activated sludge inoculum,

96% of theoretical BOD was removed(1). 92.1% of the chemical oxygen demand (COD) was removed in 24 hr in a degradability test using an acclimated activated sludge inoculum(2). In another 5-BOD test, 66-69% of the theoretical BOD was consumed(5).

### **Bioaccumulative potential**

An estimated BCF of 31 was calculated for 1-naphthol(SRC), using a log Kow of 2.85(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is moderate(SRC). There is evidence that 1-naphthol is rapidly transformed in *M edulis*(4). Experiments conducted with the marine gastropod, *Littorina littorea*, show that the loss of 1-naphthol in seawater was greater when animals were present in the experimental tanks(4).

### **Mobility in soil**

Batch equilibrium adsorption studies of 1-naphthol were performed using 16 soils and sediments(1). The Koc average value using ten of these soils was 522 which was in good agreement with that predicted from the octanol-water partition coefficient (hydrophobic adsorption), 432(1); the other six soils and sediments yielded Koc value that were higher (1645, 1733, 2102, 2700, 4198, and 15,618) with the highest value (15, 618) measured in a sediment soil (0.11% organic carbon)(1); it was found that for 1-naphthol, hydrophobic adsorption is dominant only when the ratio of percent organic carbon to percent montorillonite exceeds 0.1% and that adsorption of 1-naphthol is a function of soil and sediment properties(1). According to a classification scheme(2), a Koc value of 522 (average) suggests that 1-naphthol is expected to have low mobility in soil(SRC).

### **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: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (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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