

## Chemical Safety Data Sheet MSDS / SDS

## 1-Dodecanol

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

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

**Product identifier**

Product name : 1-Dodecanol  
CBnumber : CB1334632  
CAS : 112-53-8  
EINECS Number : 203-982-0  
Synonyms : 1-Dodecanol,Lauryl Alcohol

**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

**Classification of the substance or mixture**

Eye irritation, Category 2  
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

**Label elements****Pictogram(s)**

☐☐☐

Signal word : Warning

**Hazard statement(s)**

H315 Causes skin irritation  
H319 Causes serious eye irritation  
H320 Causes eye irritation  
H371 May cause damage to organs  
H400 Very toxic to aquatic life  
H410 Very toxic to aquatic life with long lasting effects

### Precautionary statement(s)

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

P264 Wash hands thoroughly after handling.

P264 Wash skin thoroughly after handling.

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

P273 Avoid release to the environment.

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

P391 Collect spillage. Hazardous to the aquatic environment

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

Continuerinsing.

P332+P313 IF SKIN irritation occurs: Get medical advice/attention.

P337+P313 IF eye irritation persists: Get medical advice/attention.

P405 Store locked up.

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

### Prevention

P264 Wash ... thoroughly after handling.

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

P273 Avoid release to the environment.

### Response

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

P391 Collect spillage.

### Storage

none

### 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

no data available

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## SECTION 3: Composition/information on ingredients

### Substance

|              |                              |
|--------------|------------------------------|
| Product name | : 1-Dodecanol                |
| Synonyms     | : 1-Dodecanol,Lauryl Alcohol |
| CAS          | : 112-53-8                   |
| EC number    | : 203-982-0                  |
| MF           | : C12H26O                    |
| MW           | : 186.33                     |

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## SECTION 4: First aid measures

## Description of first aid measures

### If inhaled

Fresh air, rest. Seek medical attention if you feel unwell.

### Following skin contact

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

### Following eye contact

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

### Following ingestion

Rinse mouth. Rest. Do NOT induce vomiting. Seek medical attention if you feel unwell.

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

Liquid will cause burning of the eyes and may irritate skin. (USCG, 1999)

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

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Higher alcohols (>3 carbons) and related compounds

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## SECTION 5: Firefighting measures

### Extinguishing media

Wear self contained breathing apparatus for fire fighting if necessary.

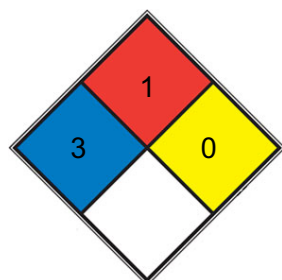
### Specific Hazards Arising from the Chemical

Combustible.

### Advice for firefighters

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

### NFPA 704



■ HEALTH 3 Short exposure could cause serious temporary or moderate residual injury (e.g. [liquid hydrogen](#), [sulfuric acid](#), [calcium hypochlorite](#), hexafluorosilicic acid)

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Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion

FIRE 1 can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. [mineral oil](#), ammonia)

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

SPEC.

HAZ.

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Ventilation. Sweep spilled substance into sealable containers. If liquid: collect leaking liquid in containers. Absorb remaining liquid in inert absorbent. Then store and dispose of according to local regulations.

### Environmental precautions

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Ventilation. Sweep spilled substance into sealable containers. If liquid: collect leaking liquid in containers. Absorb remaining liquid in inert absorbent. Then store and dispose of according to local regulations.

### Methods and materials for containment and cleaning up

Accidental Release Measures: ... Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## SECTION 7: Handling and storage

### Precautions for safe handling

NO contact with hot surfaces. 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

Cool. Well closed. Store in an area without drain or sewer access. Provision to contain effluent from fire extinguishing. Keep tightly closed. Store in a cool dry place.

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## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Occupational Exposure limit values

|           |                           |                   |                          |                   |
|-----------|---------------------------|-------------------|--------------------------|-------------------|
| Component | Dodecan-1-ol              |                   |                          |                   |
| CAS No.   | 112-53-8                  |                   |                          |                   |
|           | Limit value - Eight hours |                   | Limit value - Short term |                   |
|           | ppm                       | mg/m <sup>3</sup> | ppm                      | mg/m <sup>3</sup> |

|               |  |         |           |            |
|---------------|--|---------|-----------|------------|
| Germany (AGS) | 20 (1)   | 155 (1) | 20 (1)(2) | 155 (1)(2) |
| Latvia        | ?  | 10      | ?         | ?          |
|               | <b>Remarks</b>   |         |           |            |
| Germany (AGS) | (1) Inhalable aerosol and vapour (2) 15 minutes reference period |         |           |            |

#### Biological limit values

no data available

#### Exposure 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

##### Eye/face protection

Wear safety spectacles.

##### Skin protection

Protective gloves.

##### Respiratory protection

Use ventilation.

##### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

|  |  |
|--|--|
| Physical state   | Liquid   |
| Colour   | APHA: ≤10  |
| Odour  | CHARACTERISTIC FATTY ODOR; UNPLEASANT AT HIGH CONCEN BUT DELICATE & FLORAL ON DILUTION |
| Melting point/freezing point                             | 24 °C. Atm. press.:Ca. 101.3 kPa. Remarks:Pour point.                                  |
| Boiling point or initial boiling point and boiling range | 229 °C. Atm. press.:101.3 hPa. Remarks:Equilibrium boiling point (corrected).          |
| Flammability   | Combustible.   |
| Lower and upper explosion limit/flammability limit       | 4%   |
| Flash point  | Ca. 134.8 °C. Atm. press.:101.3 kPa.   |
| Auto-ignition temperature                                | Ca. 275 °C. Atm. press.:Ca. 1 atm.   |
| Decomposition temperature                                | no data available  |
| pH   | no data available  |
| Kinematic viscosity                                      | kinematic viscosity (in mm <sup>2</sup> /s) = 11.251. Temperature:40°C.                |
| Solubility   | water: slightly soluble 1g/L at 23°C   |
| Partition coefficient n-octanol/water                    | log Pow = 5.4. Temperature:23 °C.  |
| Vapour pressure  | 0.1 mm Hg ( 20 °C)   |

Density and/or relative density 0.9 g/cm<sup>3</sup>. Temperature: 16 °C.

Relative vapour density 7.4 (vs air)

Particle characteristics no data available

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## SECTION 10: Stability and reactivity

### Reactivity

Reacts violently with oxidizing materials and acids.

### Chemical stability

no data available

### Possibility of hazardous reactions

Combustible when it is exposed to heat or flame. DODECANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.

### Conditions to avoid

no data available

### Incompatible materials

Incompatible materials: Strong oxidizing agents.

### Hazardous decomposition products

When heated to decomposition it emits acrid smoke and fumes.

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD<sub>50</sub> Rat oral 12,800 mg/kg
- Inhalation: LC<sub>50</sub> Rat inhalation >1050 mg/cu m (138 ppm)
- Dermal: LD<sub>50</sub> - rabbit (male/female) - 8 000 - 12 000 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 irritating to the skin, eyes and possibly the respiratory tract. If swallowed the substance may cause vomiting and could result in aspiration pneumonitis.

### **STOT-repeated exposure**

See Notes.

### **Aspiration hazard**

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

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## **SECTION 12: Ecological information**

### **Toxicity**

Toxicity to fish: LC50 - *Pimephales promelas* - 1.01 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: EC50 - *Daphnia magna* - 0.765 mg/L - 48 h.

Toxicity to algae: EC50 - *Desmodesmus subspicatus* (previous name: *Scenedesmus subspicatus*) - 0.33 mg/L - 72 h.

Toxicity to microorganisms: EC0 - *Pseudomonas putida* - > 10 000 mg/L - 30 min.

### **Persistence and degradability**

**AEROBIC:** A 5-day theoretical BOD of 20% was observed for 1-dodecanol in an aerobic screening test using a sewage inoculum(1). A 5-day theoretical BOD of 23.2% was observed for 1-dodecanol in a standard BOD dilution test using a mixed microbial inoculum(2-3). A 5-day theoretical BOD of 27-29.7% was observed for 1-dodecanol in a standard BOD aerobic screening test using a sewage inoculum or an acclimated activated sludge inoculum(4); using a Warburg respirometer technique and a sewage inoculum, a 6-hr theoretical BOD of 15.2% was observed(4). Using a Warburg respirometer technique and various activated sludge inoculum, respective 6-hr, 12-hr and 24-hr theoretical BODs of 4.5, 10.1 and 13.4% were observed(5). 1-Dodecanol was found to be readily biodegraded(6).

### **Bioaccumulative potential**

An estimated BCF of 48 was calculated in fish for 1-dodecanol(SRC), using a log Kow of 5.13(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).

### **Mobility in soil**

Koc values of 2042-3388 were reported for 1-dodecanol in humic acid(1). According to a classification scheme(2), this Koc range suggests that 1-dodecanol is expected to have slight mobility in soil. Koc values of 2570-6574, 2337-11,184, 7700 and 16,700-17,981 were reported for 1-dodecanol in activated sludge, sediment, suspended solids and suspended solids with activated sludge, respectively(1).

### **Other adverse effects**

no data available

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## 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.

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## SECTION 14: Transport information

### UN Number

ADR/RID: UN3077 (For reference only, please check.)

IMDG: UN3077 (For reference only, please check.)

IATA: UN3077 (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: 9 (For reference only, please check.)

IMDG: 9 (For reference only, please check.)

IATA: 9 (For reference only, please check.)

### Packing group, if applicable

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

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

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

### Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

### Special precautions for user

no data available



## Transport in bulk according to IMO instruments

no data available

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## 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.

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## 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?pagelD=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pagelD=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/>

## **Other Information**

Health effects of exposure to the substance have not been investigated adequately.

### **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.