

## Chemical Safety Data Sheet MSDS / SDS

## Oleic acid 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: Oleic acid  
CAS: 112-80-1

**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.in  
Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090  
Telephone: +91 9550333722

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

Not classified.

**GHS label elements, including precautionary statements**

Signal word                      No signal word

**Hazard statement(s)**

none

**Precautionary statement(s)****Prevention**

none

**Response**

none

**Storage**

none

**Disposal**

none

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

no data available

**SECTION 3: Composition/information on ingredients****Substance**

Chemical name:                      Oleic acid

Common names and  
synonyms:                      Oleic acid

CAS number:                      112-80-1

EC number:                      204-007-1

Concentration:                      100%

## SECTION 4: First aid measures

### Description of necessary first-aid measures

#### If inhaled

Fresh air, rest.

#### Following skin contact

Rinse and then wash skin with water and soap.

#### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### 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

Industrial use of compound involves no known hazards. Ingestion causes mild irritation of mouth and stomach. Contact with eyes or skin causes mild irritation. (USCG, 1999)

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

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. Organic acids and related compounds

## SECTION 5: Firefighting measures

### Suitable extinguishing media

Use water spray, dry chemical, foam or carbon dioxide. Water or foam may cause frothing. Water spray may be used to flush spills away from exposures.

### Specific hazards arising from the chemical

This chemical is combustible. (NTP, 1992)

**Special protective actions for fire-fighters**

Use water spray, powder, foam, carbon dioxide.

**SECTION 6: Accidental release measures**

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

Collect leaking and spilled liquid in covered containers as far as possible. Wash away remainder with plenty of water.

**Environmental precautions**

Collect leaking and spilled liquid in covered containers as far as possible. Wash away remainder with plenty of water.

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

Cover with soda ash or sodium bicarbonate. Mix and add water. Neutralize and drain into a drain with sufficient water.

**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 bases. Keep containers closed and store in cool and dark places.

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

**Control parameters**

**Occupational Exposure limit values**

no data available

### 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 safety spectacles.

#### Skin protection

Protective gloves.

#### Respiratory protection

Use local exhaust.

#### Thermal hazards

no data available

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

Physical state:	Oleic acid is a colorless to pale yellow liquid with a mild odor. Floats on water. (USCG, 1999)
Colour:	Colorless or nearly colorless liq (above 5-7 deg C)
Odour:	PECULIAR LARD-LIKE ODOR
Melting point/freezing point:	22°C(lit.)
Boiling point or initial boiling point and boiling range:	194-195°C/1.2mmHg(lit.)

Flammability:	Combustible.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	>113°C
Auto-ignition temperature:	685° F (USCG, 1999)
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	25.6 cP at 30 deg C
Solubility:	Insoluble (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow = 7.64
Vapour pressure:	52 mm Hg ( 37 °C)
Density and/or relative density:	0.887g/mL at 25°C
Relative vapour density:	1.03 (vs air)
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

The substance is a weak acid.

### Chemical stability

On exposure to air, especially when impure, it oxidizes & acquires yellow to brown color & rancid odor

### **Possibility of hazardous reactions**

Combustible OLEIC ACID is a carboxylic acid. Carboxylic acids donate hydrogen ions if a base is present to accept them. They react in this way with all bases, both organic (for example, the amines) and inorganic. Their reactions with bases, called "neutralizations", are accompanied by the evolution of substantial amounts of heat. Neutralization between an acid and a base produces water plus a salt. Carboxylic acids with six or fewer carbon atoms are freely or moderately soluble in water; those with more than six carbons are slightly soluble in water. Soluble carboxylic acids dissociate to an extent in water to yield hydrogen ions. The pH of solutions of carboxylic acids is therefore less than 7.0. Many insoluble carboxylic acids react rapidly with aqueous solutions containing a chemical base and dissolve as the neutralization generates a soluble salt. Carboxylic acids in aqueous solution and liquid or molten carboxylic acids can react with active metals to form gaseous hydrogen and a metal salt. Such reactions occur in principle for solid carboxylic acids as well, but are slow if the solid acid remains dry. Even "insoluble" carboxylic acids may absorb enough water from the air and dissolve sufficiently in it to corrode or dissolve iron, steel, and aluminum parts and containers. Carboxylic acids, like other acids, react with cyanide salts to generate gaseous hydrogen cyanide. The reaction is slower for dry, solid carboxylic acids. Insoluble carboxylic acids react with solutions of cyanides to cause the release of gaseous hydrogen cyanide. Flammable and/or toxic gases and heat are generated by the reaction of carboxylic acids with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides. Carboxylic acids, especially in aqueous solution, also react with sulfites, nitrites, thiosulfates (to give H<sub>2</sub>S and SO<sub>3</sub>), dithionites (SO<sub>2</sub>), to generate flammable and/or toxic gases and heat. Their reaction with carbonates and bicarbonates generates a harmless gas (carbon dioxide) but still heat. Like other organic compounds, carboxylic acids can be oxidized by strong oxidizing agents and reduced by strong reducing agents. These reactions generate heat. A wide variety of products is possible. Like other acids, carboxylic acids may initiate polymerization reactions; like other acids, they often catalyze (increase the rate of) chemical reactions.

### **Conditions to avoid**

no data available

### **Incompatible materials**

The improved preparation of 1,4-octadecanolactone involves heating oleic acid (or other C18 acids) with 70% perchloric acid to 115 deg C. This is considered to be a potentially dangerous method.

### **Hazardous decomposition products**

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

## **SECTION 11: Toxicological information**

### **Acute toxicity**

Oral: LD50 Rat oral 74 g/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 mildly irritating to the eyes and skin.

**STOT-repeated exposure**

no data available

**Aspiration hazard**

Evaporation at 20°C is negligible; a nuisance-causing concentration of airborne particles can, however, be reached quickly on



spraying.

## SECTION 12: Ecological information

### Toxicity

Toxicity to fish: LC50; Species: *Pimephales promelas* (Fathead minnow, juvenile 4-8 wk, length 1.1-3.1 cm); Conditions: freshwater, static, 18-22 deg C, dissolved oxygen < or =4.0 mg/L; Concentration: 1000000 ug/L for 1 hr

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

AEROBIC: A 47 and 52 theoretical %BOD for oleic acid (initial concn of 1,000 ppm) was measured over a period of 5 days in screening tests at 20 deg C using sewage inoculum(1). A biodegradation half-life of 0.66 days was measured for oleic acid at an initial concn of 100 ppm with an aerobic Warburg respirometer at 25 deg C using activated sludge inocula(2). In another screening study a first order rate constant was measured to be 0.12/hr for oleic acid (initial concn of 100 ppm) which corresponds to a biodegradation half-life of 0.2 days(3). Oleic acid at initial concns of 1, 10, 1, and 10 ppm exhibited 90, 24, 97, and 28 theoretical %BOD, respectively, over incubation periods of 5, 5, 10, and 10 days, respectively, in an aerobic screening study using sewage inoculum(4). A 68 theoretical %BOD (initial concn of 100 ppm) was measured over a period of 5 days in a screening test at 20 deg C using sewage inoculum(5). A 39 theoretical %BOD for oleic acid (initial concn not given) was measured over a period of 5 days in a screening test at 20 deg C using sewage inoculum(6). After a 16 day acclimation time, a 63.5 theoretical %BOD was measured for oleic acid (initial concn not given) over a period of 5 days in a screening test at 20 deg C using activated sludge inocula(7). A 57.2 theoretical %BOD was measured for oleic acid (initial concn of 500 ppm) over a period of 5 days in an aerobic screening test at 20 deg C using activated sludge inoculum(8).

### Bioaccumulative potential

An estimated BCF of 10 was calculated in fish for oleic acid(SRC), using a log Kow of 7.64(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

### Mobility in soil

The Koc of undissociated oleic acid is estimated as 340,000(SRC), using a log Kow of 7.64(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that oleic acid is expected to be immobile in soil. The pKa of oleic acid is 5.02(4), indicating that this compound will exist almost entirely in anion form in the environment and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts(5).

### **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/>

### **Other Information**

The substance can be absorbed by ingestion, but no harmful effects have been found.

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any