1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Oleic acid
Product Number: O1008
Brand: Sigma-Aldrich
Supplier: Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5052
Emergency Phone #: (314) 776-6555
Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Irritant

Target Organs
Lungs, Respiratory system

GHS Classification
Skin irritation (Category 2)
Eye irritation (Category 2B)

GHS Label elements, including precautionary statements

Pictogram

Signal word: Warning

Hazard statement(s)
H315 + H320: Causes skin and eye irritation.

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

HMIS Classification
Health hazard: 2
Flammability: 1
Physical hazards: 0

NFPA Rating
Health hazard: 2
Fire: 1
Reactivity Hazard: 0

Potential Health Effects
**Inhalation**
May be harmful if inhaled. Causes respiratory tract irritation.

**Skin**
May be harmful if absorbed through skin. Causes skin irritation.

**Eyes**
Causes eye irritation. Causes eye irritation.

**Ingestion**
May be harmful if swallowed.

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3. **COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>Oleic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elainic acid</td>
<td></td>
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<tr>
<td>cis-9-Octadecenoic acid</td>
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</tbody>
</table>

**Formula**: \( C_{18}H_{34}O_2 \)

**Molecular Weight**: 282.46 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
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<tr>
<td>Oleic acid</td>
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<tr>
<td>CAS-No.</td>
<td>112-80-1</td>
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<td>EC-No.</td>
<td>204-007-1</td>
</tr>
</tbody>
</table>

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4. **FIRST AID MEASURES**

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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5. **FIREFIGHTING MEASURES**

**Conditions of flammability**
Not flammable or combustible.

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters**
Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides

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6. **ACCIDENTAL RELEASE MEASURES**

**Personal precautions**
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

**Environmental precautions**
Do not let product enter drains.

**Methods and materials for containment and cleaning up**
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

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7. **HANDLING AND STORAGE**

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place.
Recommended storage temperature: -20 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Immersion protection
Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: > 480 min
Material tested: Camatril® (Aldrich Z677442, Size M)

Splash protection
Material: Nitrile rubber
Minimum layer thickness: 0.2 mm
Break through time: > 30 min
Material tested: Dermatril® P (Aldrich Z677388, Size M)

Eye protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form liquid, clear
Colour colourless

Safety data
pH no data available
Melting point/range: 13 - 14 °C (55 - 57 °F) - lit.
Boiling point 194 - 195 °C (381 - 383 °F) at 1.6 hPa (1.2 mmHg) - lit.
Flash point 113 °C (235 °F) - closed cup
Ignition temperature no data available
Autoignition temperature no data available
Lower explosion limit no data available
Upper explosion limit no data available
Vapour pressure 1 hPa (1 mmHg) at 176 °C (349 °F)
Density 0.89 g/cm³ at 25 °C (77 °F)
Water solubility no data available
Partition coefficient: n-octanol/water no data available
Relative vapour density no data available
Odour no data available
Odour Threshold no data available
Evaporation rate no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
no data available

Conditions to avoid
Air sensitive.

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Oral LD₅₀
LD50 Oral - rat - 74,000 mg/kg

Inhalation LC₅₀
no data available

Dermal LD₅₀
no data available

Other information on acute toxicity
LD₅₀ Intravenous - rat - 2.4 mg/kg
Remarks: Lungs, Thorax, or Respiration:Acute pulmonary edema. Lungs, Thorax, or Respiration:Other changes.
LD₅₀ Intraperitoneal - mouse - 282 mg/kg
LD₅₀ Intravenous - mouse - 230 mg/kg
Remarks: Behavioral:Convulsions or effect on seizure threshold.

Skin corrosion/irritation
Skin - Human - Skin irritation - 3 d

Serious eye damage/eye irritation
Eyes - rabbit - Mild eye irritation
Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

Teratogenicity
no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects
Inhalation May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion May be harmful if swallowed.
Skin May be harmful if absorbed through skin. Causes skin irritation.
Eyes Causes eye irritation. Causes eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects
no data available

Additional Information
RTECS: RG2275000

12. ECOLOGICAL INFORMATION

Toxicity
Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 205 mg/l - 96 h

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
13. DISPOSAL CONSIDERATIONS

**Product**
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**
Dispose of as unused product.

14. TRANSPORT INFORMATION

**DOT (US)**
Not dangerous goods

**IMDG**
Not dangerous goods

**IATA**
Not dangerous goods

15. REGULATORY INFORMATION

**OSHA Hazards**
Irritant

**SARA 302 Components**
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
Acute Health Hazard

**Massachusetts Right To Know Components**
No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

<table>
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**New Jersey Right To Know Components**

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**California Prop. 65 Components**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

**Further information**
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