SAFETY DATA SHEET

OLEIC ACID (PURE)

CAS No.: 112-80-1

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

OLEIC ACID (PURE)
cis-9-Octadecenoic acid; Red Oil
CAS: 112-80-1

Other means of identification

Not relevant

Recommended use of the chemical and restrictions on use

Relevant uses: Fatty acid used as a raw material for soap and surfactant manufacture, metalworking/lubricant additives, emulsifiers, textile auxiliaries and as a chemical intermediate. For industrial user only.

Uses advised against: All uses not specified in this section or in section 7.3.

Supplier's details

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS:
Based on the well-established public data set for Oleic Acid (CAS 112-80-1), the substance does not meet the GHS criteria for mandatory classification as hazardous; it is supplied without a GHS pictogram or signal word. As a precaution, mild skin/eye irritation is possible on prolonged or repeated contact.

Not classified	No mandatory GHS hazard class triggered by available data

GHS label elements, including precautionary statements

GHS: Not classified – No signal word

Hazard statements

None assigned under GHS.

Precautionary statements

P264: Wash skin/hands thoroughly after handling.
P280: Wear protective gloves/eye protection as a general precaution.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501: Dispose of contents/container in accordance with local regulations on industrial waste.

Other hazards which do not result in classification

Slippery when spilled on floors. Combustible liquid – keep away from open flames/hot surfaces at elevated temperature (see Section 9 flash point).

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: Oleic Acid (cis-9-Octadecenoic acid), a mono-unsaturated C18 fatty acid

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration (%)
CAS: 112-80-1	Oleic Acid – Not classified	Min 65 – 90 (grade dependent)
–	Other C16–C18 fatty acids (linoleic, palmitic, stearic, etc., naturally co-occurring) – Not classified	Balance

Purity/grade (technical vs. double/triple-distilled) affects the exact fatty acid profile; certificate of analysis available on request. To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

Mixtures

Non-applicable – supplied as a single-substance fatty acid (with natural co-occurring fatty acid content as noted above).

4. FIRST AID MEASURES

Description of necessary first-aid measures

Take off immediately all contaminated clothing. Self-protection of the first aider is advised.

By inhalation

Remove to fresh air and keep at rest. Seek medical attention if irritation or discomfort persists.

By skin contact

Wash immediately with plenty of water and soap. Remove contaminated clothing and wash before reuse.

By eye contact

Flush immediately with plenty of water for at least 15 minutes, holding eyelids apart. Remove contact lenses if present and easy to do. Seek medical attention if irritation persists.

By ingestion/aspiration

Rinse mouth with water (only if the person is conscious). Do not induce vomiting. Seek medical attention if a large quantity has been swallowed or if symptoms occur.

Most important symptoms/effects, acute and delayed

Skin contact: may cause mild irritation with prolonged/repeated contact; generally well tolerated. Eye contact: may cause mild irritation, redness, watering. Ingestion: may cause mild gastrointestinal discomfort, nausea. Inhalation: heated vapour/mist may cause mild irritation of the respiratory tract.

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

Symptomatic treatment as required. No specific antidote available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Water spray/fog, foam, dry chemical powder, carbon dioxide (CO_2).
Unsuitable: Do not use a solid/jet water stream, which may spread the fire.

Specific hazards arising from the chemical

Combustible liquid with a relatively high flash point (see Section 9); does not ignite readily at ambient temperature. Combustion produces oxides of carbon and irritant smoke; may produce acrolein-type decomposition products if strongly overheated.

Special protective actions for fire-fighters

Fight fire from a safe distance/protected location. Wear self-contained breathing apparatus and full protective clothing when involved in a fire. Cool fire-exposed containers with water spray.

Additional provisions

Do not allow fire-fighting water/runoff to enter drains, surface water or ground water – contain and dispose of as contaminated waste.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Wear suitable protective equipment (see Section 8) to prevent contamination of skin, eyes and personal clothing. Note that spilled material is slippery underfoot.

For emergency responders

Wear protective equipment described in Section 8. Keep unprotected persons away.

Environmental precautions

Keep away from drains, surface water and ground water. Retain and dispose of contaminated washing/rinse water as waste; avoid uncontrolled discharge to the environment.

Methods and materials for containment and cleaning up

Contain the spill. Absorb with an inert absorbent material (sand, earth, diatomaceous earth). Collect with a clean shovel/scraper, place in suitable closed containers, and remove for disposal or recovery. Clean the affected area with detergent and water.

Reference to other sections

See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use

Provide adequate ventilation. Avoid contact with skin and eyes. Handle with care at elevated temperature – product is slippery when spilled.

B. Technical recommendations for the prevention of fires and explosions

Keep away from open flames, sparks and hot surfaces, especially when heated for processing. Ground/bond containers when transferring heated material to control static.

C. Technical recommendations on general occupational hygiene

Do not eat, drink or smoke in work areas. Wash hands and exposed skin before breaks and after work.

D. Technical recommendations to prevent environmental risks

Prevent release to drains, surface water and groundwater. See subsection 6.2.

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Recommended storage temperature	Below 40°C (ambient); avoid prolonged storage near the melting point (13 – 14°C) to prevent partial solidification
Container	Keep tightly closed, protected from light and air to minimise oxidation/rancidity

B. General conditions for storage

Store away from strong oxidising agents and strong alkalis. Protect from prolonged exposure to air and light, which can accelerate oxidative discoloration/odour development. For additional information see subsection 10.5.

Specific end use(s)

No additional information available beyond the uses listed in Section 1.2.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Oleic Acid (CAS 112-80-1): no occupational exposure limit established under the Factories Act, 1948 or other Indian regulations; treat as a nuisance organic mist/vapour and apply general good-hygiene ventilation practice.

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Appropriate engineering controls

Provide sufficient general/local ventilation as a collective protection measure, in addition to individual PPE as needed.

B. Respiratory protection

Not normally required in well-ventilated areas; use a suitable respirator if heated mist/vapour is generated in poorly ventilated spaces.

C. Specific protection for the hands

Wear suitable chemical-resistant gloves (e.g. nitrile or neoprene) for prolonged or repeated contact.

D. Eye and face protection

Use chemical safety goggles with side protection; wear a face shield where splashing may occur.

E. Bodily protection

Wear suitable protective clothing and chemical-resistant footwear/apron for prolonged or repeated contact.

F. Additional emergency measures

Emergency shower and eyewash stations should be available near the work area.

Environmental exposure controls

Avoid environmental spillage of both the product and its container. See subsection 6.2.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Liquid (oily)
Appearance	Oily liquid
Color	Pale yellow to light brown
Odor	Faint, characteristic fatty odour
Odour threshold	Not available
Volatility	
Boiling point at atmospheric pressure	Approx. 360°C (decomposes; lower under reduced pressure)
Vapour pressure at 20°C	Negligible (< 0.01 mmHg)
Evaporation rate	Negligible
Product Description	
Density / Relative density at 20°C	Approx. 0.89 – 0.90 g/cm³
Concentration (purity)	Technical grade – see section 3.1
pH	Not applicable (water-insoluble)
Vapour density	> 1 (heavier than air, negligible at ambient temperature)
Partition coefficient n-octanol/water (log KOW)	Approx. 7.7 (literature value)
Solubility in water at 20°C	Practically insoluble; soluble in most organic solvents
Melting point/freezing point	13 – 14°C
Flammability	
Flash Point	Approx. 189°C (closed cup, literature value)
Flammability (solid, gas)	Not applicable (liquid); combustible at elevated temperature
Autoignition temperature	Approx. 360°C (literature value)
Lower / Upper flammability limit	Not available

** Values are well-established literature/handbook values for Oleic Acid; batch-specific certificates of analysis are available on request.*

Other information

Explosive properties	Not relevant
Oxidising properties	Not relevant (susceptible to slow air-oxidation/rancidity, not an oxidiser itself)
Dynamic viscosity	Approx. 26 – 40 mPa·s at 25°C (literature value)

10. STABILITY AND REACTIVITY

Reactivity

Reacts with strong oxidising agents (risk of exothermic oxidation) and strong bases (saponification, releasing heat).

Chemical stability

Stable under normal conditions of storage and handling. Susceptible to slow autoxidation on prolonged exposure to air and light (rancidity/discoloration).

Possibility of hazardous reactions

Hazardous polymerisation will not occur.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Avoid prolonged exposure (oxidation)	Avoid open flames and hot surfaces near flash point	Avoid prolonged exposure	Not critical

Incompatible materials

Strong oxidising agents, strong bases/alkalis.

Hazardous decomposition products

None under normal use and storage conditions. Thermal decomposition/overheating may release oxides of carbon and irritant aldehyde-type fumes (e.g. acrolein) typical of overheated fats/fatty acids.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Oleic acid is a naturally occurring fatty acid with a well-documented, low acute toxicity profile. In case of exposure that is repetitive, prolonged, or at high concentrations, mild adverse effects may result depending on the means of exposure:

A. Ingestion (acute effect)
Very low acute oral toxicity. Large quantities may cause mild gastrointestinal discomfort.

B. Inhalation (acute effect)
Low vapour pressure – not normally an inhalation hazard at ambient temperature; heated mist/vapour may cause mild irritation.

C. Contact with skin and eyes (acute effect)
May cause mild irritation on prolonged/repeated contact; not corrosive.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)
Not classified as a germ cell mutagen, carcinogen, or reproductive toxicant based on available data; oleic acid is a normal dietary fatty acid.

E. Sensitizing effects
Not classified as a respiratory or skin sensitiser based on available data.

F. Specific target organ toxicity (STOT) – single/repeated exposure
Not classified based on available data.

H. Aspiration hazard
Not classified based on available data.

Product-specific toxicological information (literature values for Oleic Acid)

Exposure route	Effect rate / concentration	ATE value
Acute Oral (rat)	LD50	> 5000 mg/kg (practically non-toxic)
Acute Dermal (rabbit)	LD50	> 5000 mg/kg
Acute Inhalation	LC50	Not established (negligible vapour pressure)

12. ECOLOGICAL INFORMATION

Not classified as hazardous to the aquatic environment based on available data.

Toxicity

Acute Toxicity	Species	Genus
LC50: > 100 mg/L (96h) – literature range for C18 fatty acids; low aquatic toxicity	Freshwater fish	Fish
EC50: > 100 mg/L (48h) – literature range	Daphnia	Crustacean

Persistence and degradability
Readily biodegradable – natural fatty acid, extensively metabolised by micro-organisms.

Bioaccumulative potential
Despite a high log Kow, oleic acid is rapidly metabolised by living organisms (it is a normal biological/dietary fatty acid) and is not expected to bioaccumulate significantly.

Mobility in soil
Practically insoluble in water; expected to adsorb strongly to soil/organic matter with low leaching potential. No further quantitative data available.

Results of PBT and vPvB assessment
Not identified as PBT or vPvB – readily biodegradable, naturally occurring fatty acid.

Other adverse effects
No data available.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Do not empty into drains; avoid uncontrolled release to the environment. Not classified as hazardous waste; treat as industrial organic/fatty waste. Dispose of via a licensed waste disposal contractor in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and applicable local, state and central regulations.

Contaminated packaging should be emptied as completely as possible and may then be handled in the same way as the product; uncleaned packaging should be disposed of as hazardous/industrial waste.

14. TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023)

14.1 UN number	Not applicable
14.2 UN proper shipping name	Not a regulated material
14.3 Transport hazard class(es)	Non-hazardous for transport
14.4 Packing group	Non-applicable
14.5 Environmental hazard	No
14.6 Special precautions for user	None
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not applicable

Transport of dangerous goods by sea (IMDG 41-22)

14.1 UN number	Not applicable
14.2 UN proper shipping name	Not a regulated material
14.3 Transport hazard class(es)	Non-hazardous for transport
14.4 Packing group	Non-applicable
14.5 Marine pollutant	No
14.6 Special precautions for user	None
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not applicable

Transport of dangerous goods by air (IATA/ICAO 2024)

14.1 UN number	Not applicable
14.2 UN proper shipping name	Not a regulated material
14.3 Transport hazard class(es)	Non-hazardous for transport
14.4 Packing group	Non-applicable
14.5 Environmental hazard	No
14.6 Special precautions for user	Not necessary
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not applicable

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product. Listed in international chemical inventories such as TSCA, DSL and EINECS.

Other legislation

Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

16. OTHER INFORMATION

Legislation related to safety data sheets

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3

No mandatory GHS hazard statement applies to this substance based on available classification data.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources

Well-established public physicochemical and toxicological handbook data for Oleic Acid (CAS 112-80-1); no product-specific third-party source PDF was used for this document.

Abbreviations and acronyms

GHS: Globally Harmonized System of Classification and Labelling of Chemicals | ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ATE: Acute Toxicity Estimate | CMR: Carcinogenic, Mutagenic or toxic for Reproduction | STOT: Specific Target Organ Toxicity | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log Pow: Octanol-water partition coefficient | PBT: Persistent, Bioaccumulative and Toxic | vPvB: Very Persistent and very Bioaccumulative

Disclaimer: The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

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