SAFETY DATA SHEET

STEARIC ACID

CAS No.: 57-11-4

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

STEARIC ACID
Octadecanoic Acid, n-Octadecanoic Acid, Stearophanic Acid
CAS: 57-11-4

Other means of identification

Not relevant

Recommended use of the chemical and restrictions on use

Relevant uses: Manufacture of soaps, candles, cosmetics and personal care products, rubber processing (activator/lubricant), plastics (lubricant/stabiliser component), textile finishing, metal stearate/lubricant manufacture, general chemical intermediate. For industrial user only.

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

Supplier's details

SURAJ CHEMICALS
No 92, Govindappa Naicken Street, Shiva Complex, Chennai – 600001, Tamil Nadu, India
Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281
Email: sales@surajchemicals.com | Website: www.surajchemicals.com
GST No: 33ACEPV8190L1ZZ

Emergency phone number

Emergency Contact No: +91 - 7092722822, +91 - 9840284032

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), based on standard published data for stearic acid (technical grade).

Not classified	Does not meet GHS classification criteria as a hazardous substance based on available data

GHS label elements, including precautionary statements

GHS: No signal word, pictogram or hazard statement required under GHS based on available data.

Hazard statements

None assigned.

Precautionary statements

P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/eye protection when handling molten material or dust.
P302+P352: IF ON SKIN: Wash with plenty of 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.

Other hazards which do not result in classification

Fine dust/powder may form combustible dust-air mixtures under specific processing conditions (e.g. grinding, pneumatic conveying). Molten product can cause thermal burns. Not identified as PBT/vPvB.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: Stearic Acid (technical/industrial grade, typically a blend predominantly of stearic and palmitic acid)

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

Identification	Chemical Name / Classification	Concentration
CAS: 57-11-4	Stearic acid (octadecanoic acid) – Not classified	Predominant component; technical grade typically 40–95% stearic acid with balance palmitic acid (CAS 57-10-3) and minor other C16-C18 fatty acids, grade dependent

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16. Exact fatty-acid split is grade/specification dependent – available on request for the specific grade supplied.

Mixtures

Non-applicable

4. FIRST AID MEASURES

Description of necessary first-aid measures

Under normal conditions of use, first aid is generally not required. If needed:

By inhalation

If dust is inhaled and causes irritation, remove the person to fresh air and keep at rest.

By skin contact

Wash affected skin with soap and water. If molten product contacts skin, cool the area immediately with plenty of cold water; do not attempt to peel off solidified material – seek medical attention for burns.

By eye contact

Rinse eyes thoroughly with plenty of water for several minutes, holding eyelids open. If irritation persists, seek medical attention.

By ingestion/aspiration

Not normally hazardous. Rinse mouth with water. If a large quantity is swallowed or discomfort occurs, seek medical advice.

Most important symptoms/effects, acute and delayed

May cause mild, transient irritation to eyes on direct contact with dust; generally regarded as of low acute toxicity. See sections 2 and 11.

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

Not relevant; treat symptomatically if needed.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Water fog/spray, foam, dry chemical powder, carbon dioxide.
Unsuitable: Do not use a direct/solid water jet on molten material – risk of splattering/frothing.

Specific hazards arising from the chemical

Combustible solid. Finely divided dust may form explosive dust-air mixtures in the presence of an ignition source. Combustion produces carbon monoxide, carbon dioxide and irritant smoke/fumes.

Special protective actions for fire-fighters

Evacuate the area if a large fire. Wear self-contained breathing apparatus and standard fire-fighting protective clothing. Cool fire-exposed containers with water spray from a safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Avoid generating and inhaling dust. Use PPE as described in Section 8. Spilled flakes/powder or solidified material can create a slip hazard.

For emergency responders

No special measures beyond routine dust control PPE required.

Environmental precautions

Not classified as an environmental hazard; nonetheless, avoid unnecessary release to drains or watercourses as large accumulations can affect water quality (BOD load).

Methods and materials for containment and cleaning up

Sweep or vacuum up spilled material and place in a suitable labelled container for reuse or disposal. Avoid generating dust during cleanup.

Reference to other sections

See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use

Avoid generating and breathing dust. Provide good general ventilation, particularly where the product is melted, ground or pneumatically conveyed.

B. Technical recommendations for the prevention of fires and explosions

Control dust accumulation and eliminate ignition sources in areas where fine powder is handled, ground or conveyed; bond/earth equipment to control static electricity.

C. Technical recommendations on general occupational hygiene

Do not eat or drink during handling; wash hands after handling.

D. Technical recommendations to prevent environmental risks

Avoid unnecessary discharge of product/dust to the environment or drains.

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Minimum Temp.	Ambient (avoid freezing conditions for molten/flaked stock in transit)
Maximum Temp.	<50°C (below melting range, to keep solid form)
Maximum time	24 Months (unopened original packaging, cool dry storage)

B. General conditions for storage

Store in a cool, dry, well-ventilated place away from strong oxidisers and direct sunlight, in tightly closed bags/containers.

Specific end use(s)

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

No substance-specific occupational exposure limit is notified for stearic acid under the Factories Act, 1948. Control as a nuisance/inert dust:

Identification	Occupational Exposure Limit Type	Value
Stearic acid (as total dust, general/particulates-not-otherwise-classified basis) CAS: 57-11-4	Time Weighted average concentration (8 hrs), total dust	10 mg/m³ (general nuisance dust guidance)
	Time Weighted average concentration (8 hrs), respirable fraction	3 mg/m³ (general nuisance dust guidance)

Appropriate engineering controls

Local exhaust ventilation at grinding, melting and packing operations to control dust/fume levels.

B. Respiratory protection

Dust/particulate respirator (e.g. FFP2) where dust levels are elevated; not normally required for routine handling of flakes/pastilles.

C. Specific protection for the hands

Protective gloves recommended for prolonged handling and for handling molten material (heat-resistant gloves).

D. Eye and face protection

Safety glasses recommended where dust is generated; face shield when handling molten product.

E. Bodily protection

Standard work clothing; heat-resistant clothing/apron for molten-material handling.

F. Additional emergency measures

Eyewash station recommended in the work area.

Environmental exposure controls

Avoid unnecessary release of dust or product to the environment. See subsection 7.1.D.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Solid (flakes, pastilles, powder or bars)
Appearance	Waxy solid
Color	White to pale yellow/off-white
Odor	Faint, characteristic fatty odor
Odour threshold	Not relevant *
Volatility	
Boiling point at atmospheric pressure	Approx. 383°C (with decomposition)
Vapour pressure at 20°C / 50°C	Negligible at ambient temperature
Evaporation rate at 20°C	Not relevant *
Product Description	
Density at 20°C	Approx. 0.94–0.98 g/cm³
Dynamic / Kinematic viscosity	Non-applicable in solid state; low viscosity liquid when molten
Concentration	Technical grade, min. purity per product specification (available on request)
pH	Non-applicable (insoluble in water); pH of dispersion mildly acidic
Vapour density at 20°C	Not relevant *
Partition coefficient n-octanol/water 20°C	Log Pow approx. 8.2 (estimated)
Solubility in water at 20°C	Practically insoluble (<1 mg/L); soluble in ethanol, ether, chloroform
Decomposition temperature	Above boiling point, on prolonged heating
Melting point/freezing point	Approx. 69–70°C (pure); technical grade typically 54–69°C depending on fatty-acid split
Flammability	
Flash Point	Approx. 196°C (closed cup)
Flammability (solid, gas)	Combustible solid; not readily ignitable at ambient temperature
Autoignition temperature	Approx. 395°C
Lower / Upper flammability limit	Not established for the solid; fine dust may be combustible
Particle Characteristics	
Median equivalent diameter	Available on request (flake/pastille/powder grade dependent)

** Not relevant due to the nature of the product, not providing information on the properties of its hazards.*

Other information

Explosive properties	Not explosive; fine dust may present a combustible dust hazard
Oxidising properties	Not oxidising
Corrosive to metals	Not corrosive to metals under normal conditions
Heat of combustion	Approx. 39.5 kJ/g
Surface tension at 20°C	Not relevant *
Refraction index	Not relevant *

10. STABILITY AND REACTIVITY

Reactivity

No hazardous reactivity expected under normal conditions of use and storage. Can react with strong oxidising agents and strong bases (saponification).

Chemical stability

Chemically stable under the indicated conditions of storage, handling and use.

Possibility of hazardous reactions

Under the specified conditions, hazardous reactions are not expected. May react exothermically with strong oxidisers.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Slow oxidation on prolonged exposure	Melts above approx. 55–70°C; avoid strong heat sources near dust	No particular effect	No particular effect

Incompatible materials

Strong Oxidising Agents	Strong Alkalis	Strong Acids
Risk of vigorous exothermic reaction	Saponification (soap formation)	No significant reaction expected

Hazardous decomposition products

On combustion or strong heating: carbon monoxide, carbon dioxide, and irritant fumes/smoke (acrolein-like decomposition products from fat pyrolysis).

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Stearic acid is a naturally-occurring fatty acid widely used in foods, cosmetics and pharmaceuticals and is considered to be of low acute toxicity. Under normal industrial handling conditions, adverse effects are not expected:

A. Ingestion (acute effect)

Acute toxicity classification criteria are not met based on available data; regarded as practically non-toxic by ingestion.

B. Inhalation (acute effect)

Dust may cause mechanical/mild irritation to the respiratory tract at high concentrations; not classified as an inhalation hazard.

C. Contact with skin and eyes (acute effect)

Generally non-irritating; may cause mild, transient mechanical irritation from dust or thermal effects from molten material.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)

Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data.

E. Sensitizing effects

Classification criteria for respiratory or skin sensitisation are not met based on available data.

F. Specific target organ toxicity (STOT) – single exposure

Classification criteria are not met based on available data.

G. Specific target organ toxicity (STOT) – repeated exposure

Classification criteria are not met based on available data.

H. Aspiration hazard

Classification criteria are not met based on available data.

Product-specific toxicological information

Identification	Acute Toxicity	Genus
Stearic acid CAS: 57-11-4	LD50 oral: >5000 mg/kg	Rat
	LD50 dermal: >5000 mg/kg	Rabbit

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, low solubility limits exposure)	Non-applicable	Fish
EC50: >100 mg/L (48h, low solubility limits exposure)	Non-applicable	Crustacean

Persistence and degradability

Readily biodegradable (natural fatty acid).

Bioaccumulative potential

Low bioaccumulation potential expected; rapidly metabolised in biological systems despite a high theoretical log Pow.

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
High (low water solubility)	Not relevant	Low mobility	Low mobility

Results of PBT and vPvB assessment

Not considered PBT or vPvB – readily biodegradable and not expected to bioaccumulate significantly.

Other adverse effects

Not described

13. DISPOSAL CONSIDERATIONS

Disposal methods

Dispose of via a licensed waste contractor, or by controlled incineration where permitted. Packaging that has contained the product should be emptied completely before disposal or recycling.

Refer to national and local regulations on waste management.

14. TRANSPORT INFORMATION

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

14.1 UN number	Not assigned
14.2 UN proper shipping name	Non-hazardous for transport under ADR/RID
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

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

14.1 UN number	Not assigned
14.2 UN proper shipping name	Non-hazardous for transport under IMDG
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	Non-applicable
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

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

14.1 UN number	Not assigned
14.2 UN proper shipping name	Non-hazardous for transport under IATA/ICAO
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Non-applicable
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

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.

Other legislation

The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
Food Safety and Standards Act, 2006 (where product is supplied for food-contact/cosmetic grade applications – consult relevant certificate of analysis)

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

Not applicable – product is not classified as hazardous under GHS based on available data.

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

Publicly available GHS classification and physical/toxicological reference data for CAS 57-11-4.

Abbreviations and acronyms

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | BOD: Biochemical oxygen demand | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | PBT: Persistent, Bioaccumulative, Toxic | vPvB: very Persistent, 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.

(This document is computer generated and therefore does not require any signature.)