

SAFETY DATA SHEET

Version 6.7 Revision Date 09/22/2025 Print Date 09/23/2025

SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : Stearic acid

Product Number : 85679

Brand : Sigma-Aldrich CAS-No. : 57-11-4

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption

(40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose

under TSCA unless appropriate consent is granted in writing by

MilliporeSigma.

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.

3050 SPRUCE ST ST. LOUIS MO 63103 UNITED STATES

Telephone : +1 314 771-5765 Fax : +1 800 325-5052

1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-

527-3887 CHEMTREC (International) 24

Hours/day; 7 Days/week

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS).

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Other hazards

None known.

GHS label elements

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Components

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
stearic acid	57-11-4*	>= 90 - <= 100	-

^{*} Indicates that the identifier is a CAS No. Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : After inhalation: fresh air.

In case of skin contact : In case of skin contact: Take off immediately all

contaminated clothing. Rinse skin with water/ shower.

In case of eye contact : After eye contact: rinse out with plenty of water.

Remove contact lenses.

If swallowed : After swallowing: make victim drink water (two

glasses at most). Consult doctor if feeling unwell.

Most important

symptoms and effects,

both acute and delayed

: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in

section 11

Protection of first-aiders : For personal protection see section 8.

Notes to physician : No data available

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing

media

: Water Foam

Carbon dioxide (CO2)

Dry powder

Unsuitable extinguishing

media

: For this substance/mixture no limitations of

extinguishing agents are given.

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Specific hazards during fire fighting

: Combustible.

Development of hazardous combustion gases or

vapours possible in the event of fire.

Hazardous combustion

products

: Carbon oxides

Specific extinguishing

methods

: No data available

Further information : none

Special protective equipment for fire-

fighters

: In the event of fire, wear self-contained breathing

apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Advice for non-emergency personnel:

Avoid inhalation of dusts.

Evacuate the danger area, observe emergency

procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

Environmental precautions

: No special precautionary measures necessary.

Methods and materials for containment and

cleaning up

: Observe possible material restrictions (see sections 7

and 10).

Take up dry. Dispose of properly. Clean up affected

area. Avoid generation of dusts.

SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

Further information on storage conditions

: Tightly closed.

Dry.

Storage class : 11, Combustible Solids

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Recommended storage temperature

Recommended storage : Recommended storage temperature see product label.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
stearic acid	57-11-4	TWA (Inhalable particulate matter)	10 mg/m3	ACGIH
		TWA (Respirable particulate matter)	3 mg/m3	ACGIH

Engineering measures : No data available

Personal protective equipment

Respiratory protection : required when dusts are generated.

Our recommendations on filtering respiratory

protection are based on the following standards: DIN

EN 143, DIN 14387 and other accompanying

standards relating to the used respiratory protection

system.

Recommended Filter

type:

: Filter type P1

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Hand protection

Material : Nitrile rubber
Break through time : 480 min
Glove thickness : 0.11 mm
Protective index : Full contact

Manufacturer : KCL 741 Dermatril® L

Material : Nitrile rubber Break through time : 480 min

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Glove thickness : 0.11 mm
Protective index : Splash contact

Manufacturer : KCL 741 Dermatril® L

Remarks : This recommendation applies only to the product

stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-

36124 Eichenzell, Internet: www.kcl.de).

Eye protection : Use equipment for eye protection tested and

approved under appropriate government standards

such as NIOSH (US) or EN 166(EU).

Safety glasses

Hygiene measures : Change contaminated clothing. Wash hands after

working with substance.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : solid

Color : No data available

Odor : No data available

Odor Threshold : No data available pH : No data available

Melting point/ range : 156 - 160 °F / 69 - 71 °C

153 - 162 °F / 67 - 72 °C

Method: lit.

Boiling point/boiling range : 682 °F / 361 °C

Method: lit.

Flash point : Not applicable

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Flammability (liquids) : No data available

Burning rate : No data available

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Millipore Sigma Upper explosion limit / Upper flammability limit

: No data available

Lower explosion limit / Lower flammability limit : No data available

Vapor pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : 0.845 g/cm3

Water solubility : No data available

Partition coefficient: n-

octanol/water

: No data available

Autoignition temperature : 743 °F / 395 °C

Decomposition temperature

: No data available

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Flow time : No data available

Explosive properties : No data available

Oxidizing properties : none

Molecular weight : 284.48 g/mol

Particle characteristics

Particle size : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Risk of dust explosion.

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point

is to be rated as critical.

The following applies in general to flammable organic

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substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion

potential may generally be assumed.

Chemical stability : The product is chemically stable under standard

ambient conditions (room temperature).

The product is chemically stable under standard

ambient conditions (room temperature) .

Possibility of hazardous

reactions

: Violent reactions possible with:

Strong oxidizing agents

Reducing agents strong alkalis

Conditions to avoid : Strong heating.

no information available

Incompatible materials : Strong oxidizing agents

products

Hazardous decomposition : In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - > 5,000 mg/kg (OECD Test Guideline 401) Inhalation: No data available

Acute toxicity estimate Dermal - 2,500 mg/kg

(Calculation method)

LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg

(OECD Test Guideline 434)

Skin corrosion/irritation Skin - Rabbit

Result: No skin irritation - 24 h

(Patch Test 24 Hrs.)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

Remarks: (ECHA)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: S. typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

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Result: negative

Remarks: (National Toxicology Program)

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.

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

on OSHA's list of regulated carcinogens.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - No observed adverse effect level -

1,000 mg/kg

Remarks: The value is given in analogy to the following substances: Docosanoic acid

RTECS: WI2800000

Cough, Gastrointestinal discomfort, irritant effects

To the best of our knowledge, the chemical, physical, and toxicological properties have not

been thoroughly investigated.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

stearic acid:

Toxicity to algae/aquatic

plants

: ErC50 (Pseudokirchneriella subcapitata): > 0.9 mg/l

Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes

Method: OECD Test Guideline 201

GLP: yes

Remarks: The value is given in analogy to the

following substances:

The value is given in analogy to the following

substances: palmitic acid

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operates as MilliporeSigma in the US and Canada

Toxicity to daphnia and

other aquatic

invertebrates (Chronic

toxicity)

: EC50 (Daphnia magna (Water flea)): > 0.22 mg/l

End point: reproduction rate

Exposure time: 21 d Test Type: semi-static test Analytical monitoring: yes

Method: OECD Test Guideline 211

GLP: yes

Remarks: The value is given in analogy to the

following substances:

The value is given in analogy to the following

substances: palmitic acid

Persistence and degradability

Components:

stearic acid:

Biodegradability : aerobic

Result: Readily biodegradable.

Biodegradation: 95 % Exposure time: 21 d Remarks: (ECHA)

BOD/ThOD : 44 %

Remarks: (HSDB)

Bioaccumulative potential

Components:

stearic acid:

Bioaccumulation : Species: Danio rerio (zebra fish)

Bioconcentration factor (BCF): 238 - 288

Exposure time: 28 d

Temperature: 70.7 °F / 21.5 °C

Concentration: 6.4 mg/l

Method: OECD Test Guideline 305

Remarks: The value is given in analogy to the

following substances:

The value is given in analogy to the following

substances: Sodium laurate

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Waste material must be disposed of in accordance

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with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

National Regulations

49 CFR Road

Not regulated as a dangerous good

Poison Inhalation Hazard : No

Special precautions for user

Remarks : Not classified as dangerous in the meaning of

transport regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312

: No SARA Hazards

Hazards

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.

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

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Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

The components of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN -Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA -International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA -Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the

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European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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