Sodium lauryl sulfate SDS/MSDS (Safety Data Sheet)

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

* Product Name: Sodium lauryl sulfate
* Catalog Number: S6218
* CAS Number: 151-21-3
* IUPAC Name: Sulfuric acid monododecyl ester sodium salt (1:1)

Relevant identified uses and uses advised against

* Identified uses: For research and development use only; laboratory chemicals; manufacture of substances.
* Uses advised against: Not for pharmaceutical, household, or other unapproved uses.

Details of the supplier

* Company: Selleck Chemicals
* TollFree: +1 877 796-6397
* Tel: +1 832 582-8158
* Fax: +1 832 582-8590

Emergency telephone number

* Emergency phone #: +1 832 582-8158

2. HAZARDS IDENTIFICATION

2.1 GHS classification in accordance with 29 CFR 1910 (OSHA HCS):

Flammable solids: Category 1. H228
Acute toxicity (oral): Category 4. H302
Acute toxicity (dermal): Category 1. H310
Acute toxicity (dermal): Category 3. H311
Acute toxicity (dermal): Category 4. H312
Skin irritation: Category 2. H315
Serious eye damage: Category 1. H318
Serious eye irritation: Category 2. H319
Acute toxicity (inhalation): Category 4. H332
Specific target organ toxicity (single exposure): Category 3. H335
Specific target organ toxicity (single exposure): Category 1. H370
Specific target organ toxicity (repeated exposure): Category 2. H373
Acute aquatic toxicity: Category 1. H400
Acute aquatic toxicity: Category 2. H401
Chronic aquatic toxicity: Category 3. H412

2.2 GHS Label elements, including precautionary statements

Hazard Pictogram(s)



Signal Word	Danger
Hazard statement(s)	H228: Flammable solid H302: Harmful if swallowed H310: Fatal in contact with skin H311: Toxic in contact with skin H312: Harmful in contact with skin H315: Causes skin irritation H318: Causes serious eye damage H319: Causes serious eye irritation H332: Harmful if inhaled H335: May cause respiratory irritation H370: Causes damage to organs H373: May causes damage to organs through prolonged or repeated exposure H400: Very toxic to aquatic life H401: Toxic to aquatic life H412: Harmful to aquatic life with long lasting effects
Precautionary statement(s)	None.
Prevention	P210: Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. P240: Ground/bond container and receiving equipment. P241: Use explosion-proof electrical/ventilating/lighting equipment. P260: Do not breathe dust/fume/gas/mist/vapors/spray. P261: Avoid breathing dust/fume/gas/mist/vapors/spray. P262: Do not get in eyes, on skin, or on clothing. P264: Wash hands thoroughly after handling. P264+P265: Wash hands thoroughly after handling. Do not touch eyes. P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response	P301+P317: IF SWALLOWED: Get medical help. P302+P352: IF ON SKIN: wash with plenty of water. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351: IF IN EYES: Rinse cautiously with water for several minutes. P305+P354: IF IN EYES: Immediately rinse with water for several minutes. P308+P316: IF exposed or concerned: Get emergency medical help immediately. P316: Get emergency medical help immediately. P317: Get emergency medical help. P319: Get medical help if you feel unwell. P321: Specific treatment (see information on this label and safety datasheet)). P330: Rinse mouth. P332+P317: If skin irritation occurs: Get medical help. P337+P317: If eye irritation persists: Get medical help. P338: Remove contact lenses, if present and easy to do. Continue rinsing. P361+P364: Take off immediately all contaminated clothing and wash it before reuse. P362+P364: Take off contaminated clothing and wash it before reuse. P370+P378: In case of fire: Use water spray, dry chemical, carbon dioxide, or appropriate foam to extinguish. P391: Collect spillage.
Storage	P403+P233: Store in a well-ventilated place. Keep container tightly closed. P405: Store locked up.
Disposal	P501: P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Product name: Sodium lauryl sulfate

CAS Number: 151-21-3

PubChem CID: 3423265

Molecular formula: C12H25NaO4S

Molecular weight: 288.38 g/mol

IUPAC name: sodium dodecyl sulfate

3.2 Mixtures

Not applicable (pure substance).

4. FIRST-AID MEASURES

4.1 Description of first aid measures

Inhalation: Fresh air, rest.

Skin contact: Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

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

Ingestion: Rinse mouth. Refer for medical attention .

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 (Toxicological Information).

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Contact a poison control center or physician for severe exposure.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable: Dry chemical, carbon dioxide (CO2), alcohol-resistant foam, water spray.

Unsuitable: High-pressure water jet (may spread fire).

5.2 Specific hazards arising from the substance or mixture

Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

Use powder, alcohol-resistant foam, water spray, carbon dioxide.

Advice for firefighters: Wear self contained breathing apparatus for fire fighting if necessary. Further information: Use water spray to cool unopened containers.

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.3 Advice for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective clothing.

Fight fire from upwind. Cool containers with water spray until fire is extinguished.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear appropriate personal protective equipment (see Section 8).

Avoid breathing dust/vapor. Ensure adequate ventilation.

Evacuate personnel to safe areas. Keep people away from and upwind of spill.

WARNING: Highly toxic — only trained personnel should handle spills.

6.2 Environmental precautions

Prevent product from entering drains, waterways, or soil.

Contain spill with inert absorbent material.

6.3 Methods and materials for containment and cleaning up

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Methods and materials for containment and cleaning up: Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container

for disposal according to local regulations.

SRP: The most favorable course of action is to use an alternative chemical product with less inherent propensity for occupational harm/injury/toxicity or environmental contamination. Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or water; effects on animal and plant life; and conformance with environmental and public health regulations.

Product: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. 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.

SRP: The scientific literature for the use of contact lenses by industrial workers is inconsistent. The benefits or detrimental effects of wearing contact lenses depend not only upon the substance, but also on factors including the form of the substance, characteristics and duration of the exposure, the uses of other eye protection equipment, and the hygiene of the lenses. However, there may be individual substances whose irritating or corrosive properties are such that the wearing of contact lenses would be harmful to the eye. In those specific cases, contact lenses should not be worn. In any event, the usual eye protection equipment should be worn even when contact lenses are in place.

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)

Separated from strong oxidants and strong acids. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.

Keep container tightly closed in a dry and well-ventilated place. hygroscopic

Keep away from heat, sparks, and open flames. Use explosion-proof equipment.

7.2 Conditions for safe storage, including any incompatibilities

Separated from strong oxidants and strong acids. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.

Keep container tightly closed in a dry and well-ventilated place. hygroscopic

Store away from incompatible materials (see Section 10).

[Note: Specific storage temperature not available in public databases. Refer to supplier Certificate of Analysis (COA) for exact storage conditions.]

Store in original container. Keep upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure controls

8.1.1 Occupational exposure limits (OEL)

OSHA PEL: Not established.

ACGIH TLV: Not established.

NIOSH REL: Not established.

No occupational exposure limit values are established for this substance.

Use the lowest feasible exposure level (ALARA principle).

8.1.2 Appropriate engineering controls

Use only in a chemical fume hood or with local exhaust ventilation.

Ensure adequate ventilation to keep airborne concentrations below exposure limits.

8.2 Individual protection measures

8.2.1 Eye/face protection

Wear chemical safety goggles and face shield.

8.2.2 Skin protection

Wear protective gloves. Recommended material: Nitrile rubber.

Wear suitable protective clothing (lab coat).

8.2.3 Respiratory protection

Use NIOSH-approved dust/mist respirator (N95 or higher) if ventilation is inadequate.

8.2.4 Thermal hazards

Not applicable.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance: Dodecyl sulfate, [sodium salt] appears as white to pale yellow paste or liquid with a mild odor. Sinks and mixes with water. (USCG, 1999)

b) Odor: Faint odor of fatty substances

c) Odor threshold: No data available

d) pH: No data available

e) Melting point/freezing point: 399 to 405 °F (NTP, 1992)

f) Initial boiling point and boiling range: No data available

g) Flash point: No data available

h) Evaporation rate: No data available

i) Flammability (solid, gas): No data available

j) Upper/lower flammability or explosive limits: No data available

k) Vapor pressure: No data available

l) Vapor density: No data available

m) Relative density: greater than 1.1 at 68 °F (USCG, 1999)

n) Water solubility: less than 1 mg/mL at 66 °F (NTP, 1992)

o) Partition coefficient: n-octanol/water: Log P: No data available

p) Auto-ignition temperature: No data available

q) Decomposition temperature: No data available

r) Viscosity: No data available

s) Explosive properties: No data available

t) Oxidizing properties: No data available

9.2 Other information

Topological Polar Surface Area (TPSA): 74.8 Å²

Complexity: 249

10. STABILITY AND REACTIVITY

10.1 Reactivity

No specific reactivity hazards identified under normal handling conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions under normal conditions.

10.4 Conditions to avoid

Avoid heat, sparks, open flames, direct sunlight, and moisture.

Avoid strong oxidizing agents, strong acids, and strong bases.

10.5 Incompatible materials

Conditions to avoid: Heat, flames and sparks. Extremes of temperature and direct sunlight. Incompatible materials: Oxidizing agents

10.6 Hazardous decomposition products

Thermal decomposition may produce: Carbon monoxide (CO), Carbon dioxide (CO□), Nitrogen oxides (NOx), Sulfur oxides (SOx).

See also Section 5 (Fire-fighting measures) for combustion products.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

No acute toxicity data available.

Skin corrosion/irritation:

Causes skin irritation (H315).

Serious eye damage/eye irritation:

Causes serious eye damage (H318).

Respiratory or skin sensitization:

No data available.

Germ cell mutagenicity:

No data available.

Carcinogenicity:

No data available.

Reproductive toxicity:

No data available.

Specific target organ toxicity (single exposure):

H370, H373

Specific target organ toxicity (repeated exposure):

No data available.

Aspiration hazard:

No data available.

11.2 Additional information

Carcinogen classification:

Not listed by IARC. Certain nitrosamines are classified by IARC as either probably or possibly carcinogenic to humans (Groups 2A and 2B, respectively). (L135)

Exposure routes:

The substance can be absorbed into the body through the skin and by ingestion.

Oral (A2880) ; inhalation (A2880) ; dermal (L1889)

Signs and symptoms of exposure:

Sore throat. Cough.

Redness.

Redness. Pain.

Nausea. Vomiting. Diarrhoea.

SLS can cause skin and eye irritation, as well as canker sores when used in toothpasete. (L1898)

Data source: Hazardous Substances Data Bank (HSDB) via PubChem.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

EC50; Species: Americamysis bahia (Opossum Shrimp) age 4 days juvenile; Conditions: saltwater, static, 20 °C, pH 7.5-8.0, dissolved oxygen 70-121% saturated; Concentration: 16500 ug/L for 96 hr; Effect: decreased survival /formulated product/

EC50; Species: Daphnia magna (Water Flea) age <24 hr juvenile; Conditions: freshwater, renewal; Concentration: 51500 ug/L for 48 hr (95% confidence interval: 50600-52300 ug/L); Effect: decreased acetylcholinesterase /99% purity/

LC50; Species: Ceriodaphnia dubia (Water Flea) neonate; Conditions: freshwater, static, 25 °C, pH 8.11-8.66, hardness 54-72 mg/L CaCO3, alkalinity 56-76 mg/L, dissolved oxygen 7.46-9.14 mg/L; Concentration: 1260 ug/L for 48 hr (95% confidence interval: 1140-1390 ug/L) /100% purity/

LC50; Species: Daphnia magna (Water Flea) age 24 hr neonate; Conditions: freshwater, static, 25 °C, pH 7-8, hardness 93 mg/L CaCO3, alkalinity 45 mg/L, dissolved oxygen >4 mg/L; Concentration: 1800 ug/L for 48 hr /99% purity/

For more Ecotoxicity Values (Complete) data for SODIUM LAURYL SULFATE (9 total), please visit the HSDB record page.

/AQUATIC SPECIES/ Swim-through chemical repellency tests, using sodium lauryl sulphate (SLS), cupric acetate, and rotenone, were conducted in a specially-designed roundabout tank on horn sharks, Heterodontus francisci, swell sharks, Cephaloscylliun ventriosum, and leopard sharks, Triakis semifasciata. Effective concentration

thresholds (EC50s) were calculated for two levels of response: (1) minimum n

12.2 Persistence and degradability
No data available.

12.3 Bioaccumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available.

12.6 Other adverse effects
This substance is classified as hazardous to the aquatic environment.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Waste Treatment Methods: Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers and do not mix with other waste. Handle uncleaned containers in the same manner as the product itself.

14. TRANSPORT INFORMATION

14.1 UN number
Not regulated as dangerous goods (research quantities typically exempt).

14.2 UN proper shipping name
Not subject to transport regulations (small quantities for research use).

14.3 Transport hazard class(es)
Not classified as dangerous goods for transport (research quantities).

14.4 Packing group
Not applicable (not regulated as dangerous goods in typical research quantities).

14.5 Environmental hazards
Marine pollutant: Yes (classified as environmentally hazardous per GHS).

14.6 Special precautions for user
Transport in original packaging. Ensure containers are tightly sealed.

For bulk or commercial quantities, consult applicable transport regulations (DOT, IATA, IMDG).

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

US EPA / TSCA: Subject to EPA TSCA regulations

EU ECHA / REACH: Registered (REACH Active)

SARA 302 Components:

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

SARA 313 Components:

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 (short-term) health hazard

Chronic (long-term) health hazard

Environmental hazard

Fire hazard

Massachusetts Right To Know Components:

This material contains components subject to the Massachusetts Right to Know Act. See Section 2 for hazard classification.

Pennsylvania Right To Know Components:

This material contains components subject to the Pennsylvania Right to Know Act. See Section 2 for hazard classification.

New Jersey Right To Know Components:

This material contains components subject to the New Jersey Right to Know Act. See Section 2 for hazard classification.

California Prop. 65 Components:

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

Other regulatory listings:

- The Australian Inventory of Industrial Chemicals: Chemical: Sulfuric acid, monododecyl ester, sodium salt

- FIFRA Requirements: Residues of the following chemical substances are exempted from the requirement of a tolerance when used in accordance with good manufacturing practice as ingredients in an antimicrobial pesticide formulation, provided that the substance is applied on a semi-permanent or permanent food-contact surfa

- FDA Requirements: Coatings may be applied to fresh citrus fruit for protection of the fruit in accordance with the following conditions: (a) the coating is applied in the minimum amount required to accomplish the intended effect and (b) the coating may be formulated from /sodium lauryl sulfate/ ... used in the minimu

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this substance.

For research-use-only compounds, no CSA is required under REACH Annex I.

16. OTHER INFORMATION

Revision Date: 2026/09/09

Further Information: The information provided is believed to be correct but is not exhaustive and should be used only as a guideline based on current knowledge. It does not represent a guarantee of the properties of the product.

Selleck Chemicals Corporation and its Affiliates shall not be held liable for any damage resulting from handling or contact with the product.