

## SAFETY DATA SHEET

Version 6.8  
Revision Date 03/02/2024  
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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Sodium dodecyl sulfate

Product Number : L5750  
Brand : Sigma-Aldrich  
CAS-No. : 151-21-3

**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**

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute toxicity, Oral (Category 4), H302  
Skin irritation (Category 2), H315  
Serious eye damage (Category 1), H318  
Short-term (acute) aquatic hazard (Category 3), H402

Long-term (chronic) aquatic hazard (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard Statements

|      |                                                    |
|------|----------------------------------------------------|
| H302 | Harmful if swallowed.                              |
| H315 | Causes skin irritation.                            |
| H318 | Causes serious eye damage.                         |
| H412 | Harmful to aquatic life with long lasting effects. |

Precautionary Statements

|                           |                                                                                                                                                                            |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P264                      | Wash skin thoroughly after handling.                                                                                                                                       |
| P270                      | Do not eat, drink or smoke when using this product.                                                                                                                        |
| P273                      | Avoid release to the environment.                                                                                                                                          |
| P280                      | Wear protective gloves/ eye protection/ face protection.                                                                                                                   |
| P301 + P312 + P330        | IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.                                                                                                |
| P302 + P352               | IF ON SKIN: Wash with plenty of soap and water.                                                                                                                            |
| P305 + P351 + P338 + P310 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. |
| P332 + P313               | If skin irritation occurs: Get medical advice/ attention.                                                                                                                  |
| P362                      | Take off contaminated clothing and wash before reuse.                                                                                                                      |
| P501                      | Dispose of contents/ container to an approved waste disposal plant.                                                                                                        |

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

|          |                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Synonyms | : Lauryl sulfate sodium salt<br>Sodium dodecyl sulphate<br>Sodium dodecyl sulfate<br>Sodium lauryl sulfate<br>Dodecyl sodium sulfate<br>Dodecyl sulfate sodium salt<br>SDS |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                  |                                                       |
|------------------|-------------------------------------------------------|
| Formula          | : C <sub>12</sub> H <sub>25</sub> O <sub>4</sub> S.Na |
| Molecular weight | : 288.38 g/mol                                        |
| CAS-No.          | : 151-21-3                                            |
| EC-No.           | : 205-788-1                                           |

| Component | Classification | Concentration |
|-----------|----------------|---------------|
|-----------|----------------|---------------|

| <b>dodecyl sulphate sodium salt</b> |                                                                                                                                                                                                                     |          |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
|                                     | Acute Tox. 4; Skin Irrit. 2;<br>Eye Dam. 1; Aquatic Acute<br>3; Aquatic Chronic 3;<br>H302, H315, H318, H402,<br>H412<br>Concentration limits:<br>10 - < 20 %: Eye Irrit. 2,<br>H319; >= 20 %: Eye<br>Dam. 1, H318; | <= 100 % |

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## **SECTION 4: First aid measures**

### **4.1 Description of first-aid measures**

#### **General advice**

Show this material safety data sheet to the doctor in attendance.

#### **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. Immediately call in ophthalmologist. Remove contact lenses.

#### **If swallowed**

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### **4.2 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

### **4.3 Indication of any immediate medical attention and special treatment needed**

No data available

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## **SECTION 5: Firefighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

#### **Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

## **5.2 Special hazards arising from the substance or mixture**

Carbon oxides  
Sulfur oxides  
Sodium oxides  
Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

## **5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

## **5.4 Further information**

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains.

### **6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### **6.4 Reference to other sections**

For disposal see section 13.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

For precautions see section 2.2.

### **7.2 Conditions for safe storage, including any incompatibilities**

#### **Storage conditions**

Tightly closed. Dry.

Hygroscopic.

#### **Storage class**

Storage class (TRGS 510): 11: Combustible Solids

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### **Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### **Appropriate engineering controls**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

#### **Personal protective equipment**

##### **Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

##### **Skin protection**

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](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

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](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

##### **Body Protection**

protective clothing

##### **Respiratory protection**

Recommended Filter type: Filter type P2

The entrepreneur 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.

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.

### **Control of environmental exposure**

Do not let product enter drains.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

|                                                 |                                                                  |
|-------------------------------------------------|------------------------------------------------------------------|
| a) Appearance                                   | Form: Rods<br>Color: white                                       |
| b) Odor                                         | odorless                                                         |
| c) Odor Threshold                               | Not applicable                                                   |
| d) pH                                           | 9.1 at 10 g/l                                                    |
| e) Melting point/freezing point                 | Melting point/range: 204 - 207 °C (399 - 405 °F) - lit.          |
| f) Initial boiling point and boiling range      | No data available                                                |
| g) Flash point                                  | 170 °C (338 °F) - Regulation (EC) No. 440/2008, Annex, A.9       |
| 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                               | $\leq 0.00$ hPa at 20 °C (68 °F) - OECD Test Guideline 104       |
| l) Vapor density                                | No data available                                                |
| m) Density                                      | 1.03 g/cm <sup>3</sup> at 20 °C (68 °F)                          |
| Relative density                                | No data available                                                |
| n) Water solubility                             | 130 g/l at 20 °C (68 °F) - OECD Test Guideline 105 - soluble     |
| o) Partition coefficient: n-octanol/water       | log Pow: 1.6 - (experimental) - Bioaccumulation is not expected. |
| p) Autoignition temperature                     | 310.5 °C (590.9 °F)                                              |
| q) Decomposition temperature                    | No data available                                                |
| r) Viscosity                                    | No data available                                                |
| s) Explosive properties                         | No data available                                                |
| t) Oxidizing properties                         | none                                                             |

## 9.2 Other safety information

|                              |                                                              |
|------------------------------|--------------------------------------------------------------|
| Solubility in other solvents | Ethanol - partly soluble                                     |
| Surface tension              | 25.2 mN/m at 1g/l at 23 °C (73 °F) - OECD Test Guideline 115 |
| Dissociation constant        | 1.31 at 20 °C (68 °F) - OECD Test Guideline 112              |

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

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 substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Exothermic reaction with:  
strong oxidising agents

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - female - 977 mg/kg  
(OECD Test Guideline 401)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Inhalation: No data available

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

LD50 Dermal - Rat - male and female - > 2,000 mg/kg  
(OECD Test Guideline 402)

No data available

**Skin corrosion/irritation**

Skin - Rabbit

Result: Irritations - 24 h

(OECD Test Guideline 404)

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Irreversible effects on the eye

(OECD Test Guideline 405)

**Respiratory or skin sensitization**

Maximization Test - Guinea pig

Result: negative

Remarks: (IUCLID)

**Germ cell mutagenicity**

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: dominant lethal test

Species: Mouse

Cell type: Intrauterine

Application Route: Oral

Method: OECD Test Guideline 478

Result: negative

**Carcinogenicity**

IARC: No ingredient 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 ingredient 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 - 13 Weeks - NOAEL (No observed adverse effect level) - 488 mg/kg - LOAEL (Lowest observed adverse effect level) - 1,016 mg/kg

RTECS: WT1050000

sneezing, The sodium salt of dodecyl sulfate has been reported to cause pulmonary sensitization resulting in hyperactive airway dysfunction and pulmonary allergy accompanied by fatigue, malaise, and aching. Significant symptoms of exposure can persist for more than two years and can be activated by a variety of nonspecific environmental stimuli such as automobile exhaust, perfumes, and passive smoking. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption of toxic quantities:

Tiredness  
vasodilation

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12: Ecological information

### 12.1 Toxicity

|                                                                       |                                                                                                             |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                                      | flow-through test LC50 - Pimephales promelas (fathead minnow) - 29 mg/l - 96 h<br>(OECD Test Guideline 203) |
| Toxicity to daphnia and other aquatic invertebrates                   | flow-through test LC50 - Ceriodaphnia dubia (water flea) - 5.55 mg/l - 48 h<br>(OECD Test Guideline 202)    |
| Toxicity to algae                                                     | static test ErC50 - Desmodesmus subspicatus (green algae) - > 120 mg/l - 72 h<br>(DIN 38412)                |
| Toxicity to bacteria                                                  | static test EC50 - activated sludge - 135 mg/l - 3 h<br>Remarks: (ECHA)                                     |
| Toxicity to fish(Chronic toxicity)                                    | flow-through test NOEC - Pimephales promelas (fathead minnow) - >= 1.357 mg/l - 42 d<br>Remarks: (ECHA)     |
| Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity) | flow-through test NOEC - Ceriodaphnia dubia (water flea) - 0.88 mg/l - 7 d<br>(US-EPA)                      |

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## 12.2 Persistence and degradability

|                  |                                                                                                     |
|------------------|-----------------------------------------------------------------------------------------------------|
| Biodegradability | aerobic - Exposure time 28 d<br>Result: 95 % - Readily biodegradable.<br>(OECD Test Guideline 301B) |
| Ratio BOD/ThBOD  | 95.9 %                                                                                              |
| Ratio BOD/ThBOD  | 99 %                                                                                                |
|                  | Remarks: (Lit.)                                                                                     |

## 12.3 Bioaccumulative potential

|                 |                                                                 |
|-----------------|-----------------------------------------------------------------|
| Bioaccumulation | Cyprinus carpio (Carp) - 72 h<br>(dodecyl sulphate sodium salt) |
|                 | Bioconcentration factor (BCF): 3.9 - 5.3                        |

## 12.4 Mobility in soil

No data available

## 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

## 12.6 Endocrine disrupting properties

No data available

## 12.7 Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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## SECTION 14: Transport information

#### DOT (US)

Not dangerous goods

#### IMDG

Not dangerous goods

#### IATA

Not dangerous goods

**Further information**

Not classified as dangerous in the meaning of transport regulations.

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**SECTION 15: Regulatory information****SARA 302 Components**

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

**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**

Fire Hazard, Acute Health Hazard

**Massachusetts Right To Know Components**

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

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**SECTION 16: Other information****Further information**

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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