

SAFETY DATA SHEET

Version 7.5
Revision Date 01.03.2024
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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 : L4509
Brand : Sigma-Aldrich
CAS-No. : 151-21-3

1.2 Other means of identification

Lauryl sulfatesodium salt
Sodium dodecyl sulphate
Sodium lauryl sulfate
Dodecyl sodium sulfate
Dodecyl sulfatesodium salt
SDS
Sodium dodecyl sulfate

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

Identified uses : For R&D use only. Not for pharmaceutical, household or other uses.

1.4 Details of the supplier of the safety data sheet

Company : Merck Life Science Pty Ltd
Ground Floor, Building 1, 885 Mountain Highway
BAYSWATER VIC 3153
AUSTRALIA

Telephone : +61 1800 800 097
E-mail address : customersupport.anz@merckgroup.com

1.5 Emergency telephone

Emergency Phone # : Free call (24/7): 1800 862 115
Int'l (24/7): +61 2 9037 2994
(CHEMTREC)

SECTION 2: Hazards identification

2.1 GHS Classification

Flammable solids (Category 2), H228
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Skin corrosion/irritation (Category 2), H315
Serious eye damage/eye irritation (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

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

H228

Flammable solid.

H302 + H332

Harmful if swallowed or if inhaled.

H315

Causes skin irritation.

H318

Causes serious eye damage.

H335

May cause respiratory irritation.

Precautionary Statements

Prevention

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P240

Ground and bond container and receiving equipment.

P261

Avoid breathing dust.

P264

Wash skin thoroughly after handling.

P280

Wear protective gloves/ eye protection/ face protection.

Response

P304 + P340 + P312

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

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.

P370 + P378

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage

P403 + P233

Store in a well-ventilated place. Keep container tightly closed.

Disposal

P501

Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

Substance / Mixture : Substance

3.1 Substances

Synonyms : Lauryl sulfatesodium salt
Sodium dodecyl sulphate
Sodium lauryl sulfate
Dodecyl sodium sulfate
Dodecyl sulfatesodium salt
SDS

Sodium dodecyl sulfate

Formula : C₁₂H₂₅O₄S.Na
Molecular weight : 288.38 g/mol
CAS-No. : 151-21-3
EC-No. : 205-788-1

Hazardous ingredients

Component	Classification	Concentration
Sodium dodecyl sulphate		
	Flam. Sol. 2; Acute Tox. 4; Skin Corr./Irrit. 2; Eye Dam./Irrit. 1; STOT SE 3; H228, H302, H332, H315, H318, H335 Concentration limits: 10 - < 20 %: Eye Irrit. 2, H319; >= 20 %: Eye Dam. 1, H318;	<= 100 %

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

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO₂) 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

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.

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. Keep away from heat and sources of ignition. 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. Risk of explosion.

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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

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

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Keep away from heat and sources of ignition.

hygroscopic

Storage class

Storage class (TRGS 510): 4.1B: Flammable solid hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.3 no other specific uses are stipulated.

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).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatril® L

Body Protection

Flame retardant antistatic protective clothing.

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.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state	Rods
b) Color	white
c) Odor	odorless
d) Melting point/freezing point	Melting point/range: 204 - 207 °C - lit.
e) Initial boiling point and boiling range	No data available
f) Flammability (solid, gas)	The substance or mixture is a flammable solid with the category 2. - Flammability (solids)
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	170 °C - Regulation (EC) No. 440/2008, Annex, A.9
i) Autoignition temperature	310.5 °C
j) Decomposition temperature	No data available
k) pH	9.1 at 10 g/l
l) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m) Water solubility	130 g/l at 20 °C - OECD Test Guideline 105
n) Partition coefficient: n-octanol/water	No data available

- | | |
|-----------------------------|--|
| o) Vapor pressure | <= 0.00 hPa at 20 °C - OECD Test Guideline 104 |
| p) Density | 0.425 g/cm ³ |
| Relative density | No data available |
| q) Relative vapor density | No data available |
| r) Particle characteristics | No data available |
| | |
| s) Explosive properties | No data available |
| t) Oxidizing properties | none |

9.2 Other safety information

- | | |
|-----------------------|---|
| Surface tension | 25.2 mN/m at 1g/l at 23 °C
- OECD Test Guideline 115 |
| Dissociation constant | 1.31 at 20 °C
- OECD Test Guideline 112 |

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

Violent reactions possible with:
Strong oxidizing agents

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

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.

Acute toxicity estimate Inhalation - 4 h - 1.51 mg/l - dust/mist

(Expert judgment)

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

Remarks: The value is given in analogy to the following substances: sodium octyl sulphate (1:1)

Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. - 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

No data available

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 test

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: dominant lethal test

Species: Mouse

Application Route: Oral

Method: OECD Test Guideline 478

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

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Inhalation - May cause respiratory irritation. - Respiratory Tract

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

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.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 29 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	flow-through test EC50 - Ceriodaphnia dubia (water flea) - 5.55 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 120 mg/l - 72 h (DIN 38412)
Toxicity to bacteria	static test EC50 - activated sludge - 135 mg/l - 3 h Remarks: (ECHA)
Toxicity to fish(Chronic toxicity)	flow-through test NOEC - Pimephales promelas (fathead minnow) - >= 1.36 mg/l - 42 d Remarks: (ECHA)
Toxicity to daphnia and other aquatic	flow-through test NOEC - Ceriodaphnia dubia (water flea) - 0.88 mg/l - 7 d

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invertebrates(Chronic (US-EPA)
toxicity)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d
Result: 95 % - Readily biodegradable.
(OECD Test Guideline 301B)

12.3 Bioaccumulative potential

Bioaccumulation Cyprinus carpio (Carp) - 72 h
(Sodium dodecyl sulphate)

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

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.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1325

IMDG: 1325

IATA-DGR: 1325

14.2 UN proper shipping name

ADR/RID: FLAMMABLE SOLID, ORGANIC, N.O.S. (dodecyl sulphate sodium salt)

IMDG: FLAMMABLE SOLID, ORGANIC, N.O.S. (dodecyl sulphate sodium salt)

IATA-DGR: Flammable solid, organic, n.o.s. (dodecyl sulphate sodium salt)

14.3 Transport hazard class(es)

ADR/RID: 4.1

IMDG: 4.1

IATA-DGR: 4.1

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA-DGR: III

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

14.6 Special precautions for user

None

14.7 Incompatible materials

Strong oxidizing agents

Other regulations

Hazchem Code : 1Z

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**Therapeutic Goods (Poisons Standard)
Instrument: No poison schedule number
allocated

SECTION 16: Other information

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Full text of H-Statements referred to under sections 2 and 3.

H228	Flammable solid.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

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 and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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