

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate ≥95 %

article number: **5136**
Version: **GHS 3.2 en**
Replaces version of: 2021-04-30
Version: (GHS 3)

date of compilation: 2018-06-22
Revision: 2021-05-03

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Identification of the substance	Sodium dodecyl sulphate ≥95 %
Article number	5136
CAS number	151-21-3
Alternative name(s)	SDS

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

Relevant identified uses:	Laboratory chemical Laboratory and analytical use
Uses advised against:	Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone:+49 (0) 721 - 56 06 0
Telefax: +49 (0) 721 - 56 06 149
e-mail: sicherheit@carlroth.de
Website: www.carlroth.de

Competent person responsible for the safety data sheet: :Department Health, Safety and Environment

e-mail (competent person): **sicherheit@carlroth.de**

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.7	Flammable solid	2	Flam. Sol. 2	H228
3.10	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.11	Acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.2	Skin corrosion/irritation	2	Skin Irrit. 2	H315

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate $\geq 95\%$

article number: 5136

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.8R	Specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335

For full text of abbreviations: see SECTION 16

2.2 Label elements

Labelling

Signal word

Danger

Pictograms

GHS02, GHS05,
GHS07



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

Precautionary statements - prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P261 Avoid breathing dust/fume/gas/mist/vapours/spray
P280 Wear protective gloves

Precautionary statements - response

P302+P352 IF ON SKIN: Wash with plenty of soap and 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
P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction

Precautionary statements - storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed

Precautionary statements - disposal

P501 Dispose of contents/container to industrial combustion plant

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate ≥95 %

article number: 5136

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	Sodium dodecyl sulphate
Molecular formula	$C_{12}H_{25}NaO_4S$
Molar mass	288.4 g/mol
CAS No	151-21-3

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower. In case of skin irritation, consult a physician.

Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes hold-
ing eyelids apart and consult an ophthalmologist.

Following ingestion

Rinse mouth with water (only if the person is conscious). Call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

After eye contact: Risk of serious damage to eyes, Risk of blindness,
Following skin contact: Localised redness, oedema, pruritis and/or pain,
Following ingestion: Gastrointestinal complaints, Vomiting,
Following inhalation: Cough, pain, choking, and breathing difficulties

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings
water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate $\geq 95\%$

article number: 5136

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible.

Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO₂), Sulphur oxides (SO_x)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains. Take up mechanically.

Advice on how to clean up a spill

Take up mechanically. Control of dust.

Other information relating to spills and releases

Place in appropriate containers for disposal.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of sufficient ventilation. Avoid dust formation.

Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place. Keep container tightly closed.

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate ≥95 %

article number: 5136

Incompatible substances or mixtures

Observe hints for combined storage.

Protect against external exposure, such as

heat, high temperatures

Consideration of other advice:

Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	285 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	4,060 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Environmental values

Relevant PNECs and other threshold levels				
End-point	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.176 mg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	0.018 mg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	1.35 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	6.97 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	0.697 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
PNEC	1.29 mg/kg	terrestrial organisms	soil	short-term (single instance)

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate $\geq 95\%$

article number: 5136

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• type of material

NBR (Nitrile rubber)

• material thickness

>0,11 mm

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

Environmental exposure controls

Keep away from drains, surface and ground water.

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate $\geq 95\%$

article number: 5136

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	solid
Colour	white
Odour	odourless
Melting point/freezing point	205 °C (ECHA)
Boiling point or initial boiling point and boiling range	216 °C at 1,022 mbar (ECHA)
Flammability	flammable solid in accordance with GHS criteria
Lower and upper explosion limit	not determined
Flash point	170 °C (ECHA)
Auto-ignition temperature	310.5 °C (ECHA) (relative self-ignition temperature for solids)
Decomposition temperature	>216 °C at 1,022 mbar (ECHA)
pH (value)	9.1 (in aqueous solution: 1 wt%) (ECHA)
Kinematic viscosity	not relevant
<u>Solubility(ies)</u>	
Water solubility	>130 g/l at 20 °C (ECHA)
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	≤ -2.03 (20 °C) (ECHA)
Soil organic carbon/water (log KOC)	2.5 – 2.65 (ECHA)
Vapour pressure	≤ 0.18 Pa at 20 °C
Density	not determined
Relative vapour density	information on this property is not available
Bulk density	$\sim 200 - 600$ kg/m ³
Oxidising properties	none

9.2 Other information

Information with regard to physical hazard classes:	There is no additional information.
Other safety characteristics:	
Surface tension	25.2 mN/m (23 °C) (ECHA)

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate ≥95 %

article number: 5136

SECTION 10: Stability and reactivity

10.1 Reactivity

It's a reactive substance. Risk of ignition. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

If heated

Risk of ignition.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from heat. Decomposition takes place from temperatures above: >216 °C at 1,022 mbar.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Harmful if swallowed. Harmful if inhaled.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	1,200 mg/kg	rat		ECHA
dermal	LD50	>2,000 mg/kg	rat		ECHA

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate ≥95 %

article number: 5136

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

vomiting, nausea

• If in eyes

Causes serious eye damage, risk of blindness

• If inhaled

cough, pain, choking, and breathing difficulties, Irritation to respiratory tract

• If on skin

causes skin irritation, localised redness, pruritis

• Other information

none

11.2 Endocrine disrupting properties

Not listed.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (acute)			
Endpoint	Value	Species	Exposure time
LC50	29 mg/l	fish	96 h
ErC50	>120 mg/l	algae	72 h

Aquatic toxicity (chronic)			
Endpoint	Value	Species	Exposure time
EC50	135 mg/l	microorganisms	3 h

Biodegradation

Data are not available.

12.2 Process of degradability

Theoretical Oxygen Demand: 1.97 mg/mg
Theoretical Carbon Dioxide: 1.831 mg/mg

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate ≥95 %

article number: 5136

Process of degradability		
Process	Degradation rate	Time
biotic/abiotic	90 %	28 d
carbon dioxide generation	95 %	28 d

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	≤-2.03 (20 °C) (ECHA)
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12.4 Mobility in soil

Henry's law constant	0.019 Pa m ³ /mol at 25 °C (ECHA)
The Organic Carbon normalised adsorption coefficient	2.5 – 2.65 (ECHA)

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Not listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

Relevant provisions relating to waste(Basel Convention)

Properties of waste which render it hazardous

H4.1 Flammable solids
H11 Toxic (Delayed or chronic)

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate ≥95 %

article number: 5136

SECTION 14: Transport information

14.1 UN number

UN RTDG	UN 1325
IMDG-Code	UN 1325
ICAO-TI	UN 1325

14.2 UN proper shipping name

UN RTDG	FLAMMABLE SOLID, ORGANIC, N.O.S.
IMDG-Code	FLAMMABLE SOLID, ORGANIC, N.O.S.
ICAO-TI	Flammable solid, organic, n.o.s.
Technical name	Sodium dodecyl sulphate

14.3 Transport hazard class(es)

UN RTDG	4.1
IMDG-Code	4.1
ICAO-TI	4.1

14.4 Packing group

UN RTDG	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport information National regulations Additional information (UN RTDG)

UN number	1325
Class	4.1
Packing group	III
Danger label(s)	4.1



Special provisions (SP) 223, 274
UN RTDG

Excepted quantities (EQ) E1
UN RTDG

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate ≥95 %

article number: 5136

Limited quantities (LQ)

5 kg
UN RTDG

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name FLAMMABLE SOLID, ORGANIC, N.O.S.
Particulars in the shipper's declaration UN1325, FLAMMABLE SOLID, ORGANIC, N.O.S., (Sodium dodecyl sulphate), 4.1, III
Marine pollutant -
Danger label(s) 4.1



Special provisions (SP) 223, 274
Excepted quantities (EQ) E1
Limited quantities (LQ) 5 kg
EmS F-A, S-G
Stowage category B

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name Flammable solid, organic, n.o.s.
Particulars in the shipper's declaration UN1325, Flammable solid, organic, n.o.s., (Sodium dodecyl sulphate), 4.1, III
Danger label(s) 4.1



Special provisions (SP) A3
Excepted quantities (EQ) E1
Limited quantities (LQ) 10 kg

SECTION 15: Regulatory information

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

There is no additional information.

National regulations(Australia)

Australian Inventory of Chemical Substances(AICS)

Substance is listed.

National inventories

Country	Inventory	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate ≥95 %

article number: 5136

Country	Inventory	Status
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

Legend

AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Alignment to regulation: Globally Harmonized System of Classification and Labelling of Chemicals ("Purple book").

Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.2	Labelling of packages where the contents do not exceed 125 ml: Signal word: Danger		yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.3	Other hazards: There is no additional information.	Other hazards	yes

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate $\geq 95\%$

article number: 5136

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.3		Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	\equiv EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Sodium dodecyl sulphate $\geq 95\%$

article number: 5136

List of relevant phrases (code and full text as stated in chapter 2 and 3)

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

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.