

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
Issued: 2024-01-29
Replaces SDS: 2023-06-29



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

1.1. Product identifier

Trade name

SDS (Sodium dodecyl sulfate)

CAS number

151-21-3

EC number

205-788-1

Synonyms

Dodecylsulfate, Sodium salt

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

Relevant identified uses

Research and development.

Not suitable for use in

Not suitable for human consumption or veterinary purposes.

1.3. Details of the supplier of the safety data sheet

Supplier

Molekula Group

Address

Molekula Ltd, Lingfield Way, Darlington,
DL1 4XX Darlington
United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

Contact person

Kevin Banks

Email

+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
Issued: 2024-01-29
Replaces SDS: 2023-06-29



SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Serious eye damage, hazard category 1
Hazardous to the aquatic environment — Chronic hazard category 3
Skin irritation, hazard category 2
Acute toxicity, oral, hazard category 4
Acute toxicity, inhalation, hazard category 4
Specific Target Organ Toxicity — Single exposure, hazard category 3
Flammable solids, hazard category 2

Hazard statements

H228, H302 + H332, H315, H318, H335, H412

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



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.
H412 Harmful to aquatic life with long lasting effects.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

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Precautionary statements

P261 Avoid breathing dust.
 P264 Wash skin thoroughly after handling.
 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.
 P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 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 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER/doctor.
 P312 Call a POISON CENTER/doctor if you feel unwell.
 P330 Rinse mouth.
 P332 + P313 If skin irritation occurs: Get medical advice/attention.
 P362 + P364 Take off contaminated clothing and wash it before reuse.
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.
 P501 Dispose of contents/container to local regulations.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrases M factor acute M factor chronic	Note
SDS (Sodium dodecyl sulfate)	151-21-3 205-788-1 - -	100%	Flam. Sol. 1, Acute Tox. 4 - oral, Acute Tox. 4 - inhalation, Skin Irrit. 2, Eye Dam. 1, Aquatic Chronic 3, STOT SE 3	H228, H302 + H332, H315, H318, H335, H412 - -	-

Molecular weight

288.38

Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
 Issued: 2024-01-29
 Replaces SDS: 2023-06-29



SECTION 4: First aid measures

4.1. Description of first aid measures

IF exposed or concerned: Get medical advice/attention. First aiders/ medical personnel need to protect themselves. Show this Safety Data Sheet (SDS) to medical personnel.

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing stops, provide artificial respiration. For breathing difficulties oxygen may be necessary.

Skin contact

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Immediately call a POISON CENTER/doctor.

Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

Ingestion

IF SWALLOWED: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only if the persons are fully conscious and awake). Administer activated charcoal (20 - 40g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

Information for doctors

No data available.

4.2. Most important symptoms and effects, both acute and delayed

The severity of the symptoms described will vary dependant of the concentration and the length of exposure. Causes burns by all exposure routes.

See section 11 for more detailed information on health effects and symptoms.

Inhalation

Single exposure may cause the following adverse effects: Causes severe burns. Difficulty in breathing. Coughing.

Skin contact

Single exposure may cause the following adverse effects: Causes severe burns. Blistering may occur. May be absorbed in the body and cause dizziness, nausea and vomiting.

Eye contact

Single exposure may cause the following adverse effects: Causes serious eye damage. Profuse watering of the eyes. Redness.

Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. May cause severe internal injury. Nausea, vomiting.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
 Issued: 2024-01-29
 Replaces SDS: 2023-06-29



4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Immediately call a POISON CENTER/doctor.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards: Combustible. Toxic.

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Carbon monoxide (CO). Carbon dioxide (CO₂).

Sulphurous gases (SO_x).

sodium oxides

Heating will generate vapours which may form explosive vapour/air mixtures.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Prevent skin contact by maintaining a safe distance and by wearing suitable protective equipment/ clothing. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Avoid contact with skin and eyes.

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

For personal protection, see section 8.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Collect with absorbent, non-combustible material into suitable containers. Avoid dust formation.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
Issued: 2024-01-29
Replaces SDS: 2023-06-29



SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

Work under hood Do not inhale substance/mixture Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges.

General hygiene

Immediately change contaminated clothes. Wash skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Store in a dry place. Store in a closed container.

Store at ambient temperature.

Keep away from heat. No smoking.

Hygroscopic.

For precautions see section 2.2.

Handle and store contents under inert gas.

7.3. Specific end use(s)

No specific usage precautions noted.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
SDS (Sodium dodecyl sulfate) (151-21-3/205-788-1)	DNEL	Chronic (long term) Inhalation	285 mg/m ³	Workers	Systemic
SDS (Sodium dodecyl sulfate) (205-788-1151-21-3/205-788-1)	DNEL	Chronic (long term) Inhalation	85 mg/m ³	Consumers	Systemic

PNEC/PEC

Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
SDS (Sodium dodecyl sulfate) (151-21-3/205-788-1)	PNEC	Freshwater	0.137 mg/l
SDS (Sodium dodecyl sulfate) (151-21-3/205-788-1)	PNEC	Sea Water	0.0137 mg/l
SDS (Sodium dodecyl sulfate)	PNEC	Intermittent releases	0.055 mg/l

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
 Issued: 2024-01-29
 Replaces SDS: 2023-06-29



Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
(151-21-3/205-788-1)			
SDS (Sodium dodecyl sulfate) (151-21-3/205-788-1)	PNEC	Sewage Treatment Plant	1084 mg/l
SDS (Sodium dodecyl sulfate) (151-21-3/205-788-1)	PNEC	Sediment (freshwater)	4.82 mg/kg
SDS (Sodium dodecyl sulfate) (151-21-3/205-788-1)	PNEC	Sediment (marine water)	0.482 mg/kg
SDS (Sodium dodecyl sulfate) (151-21-3/205-788-1)	PNEC	Soil	0.882 mg/kg

8.2. Exposure controls

Personal Protective Equipment Symbols



Eye / face protection

Wear eye protection.

Hand protection

Wear protective gloves. Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 480 minutes

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

Wash contaminated skin thoroughly after handling.

Other skin protection

Wash skin thoroughly after handling. Wear fire resistant or flame retardant clothing.

Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

Environmental exposure controls

Avoid discharge into drains.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
 Issued: 2024-01-29
 Replaces SDS: 2023-06-29



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Solid

Colour

White / off-white.

Odour

Odourless.

Melting point / freezing point

204 - 207 °C

Boiling point or initial boiling point and boiling range

No data available

Flammability

Flammable solid.

Lower and upper explosion limit

No data available

Flash point

150 °C

Auto-ignition temperature

310.05 °C

Decomposition temperature

No data available

pH

9.1-10g/l

Kinematic viscosity

No data available

Solubility

Soluble in water.

Water solubility

Water-soluble.

Partition coefficient n-octanol/water

No data available

Vapour pressure

<0.0000001 kPa

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
 Issued: 2024-01-29
 Replaces SDS: 2023-06-29



Density and/or relative density

0.63g/ml

Relative vapour density

No data available

Particle characteristics

No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Forms explosive mixtures with air on intense heating.

15 (approx) Kelvin below the flash point is to be rated as critical.

10.2. Chemical stability

Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidising agents.

10.4. Conditions to avoid

strong heating

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

See section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Duration of exposure	Test animals
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	Acute Toxicity (Oral LD50):	977 mg/kg	-	Rat
SDS (Sodium dodecyl	ATE (Inhalation)	1.51 mg/l (dust/mist)	4 hours	-

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
Issued: 2024-01-29
Replaces SDS: 2023-06-29



Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Duration of exposure	Test animals
sulfate) 151-21-3 / 205-788-1				
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	Acute Toxicity (Dermal LD50):	2000 mg/kg	-	Rat

Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result	Duration of exposure	Species
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	Irritating.	24 hours	Rabbit

Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result	Species
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	Irreversible effects on the eye	Rabbit

Germ cell mutagenicity

Product / Substance name CAS / EC no.	Result	Exposure route	Metabolic activation / Exposure	Species	Method / Guideline
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	Negative.	-	with and without metabolic exposure	Escherichia coli/Salmonella typhimurium	Ames test
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	Negative.	-	with and without metabolic activation	Mouse lymphoma test	In vitro mammalian cell gene mutation test.
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	Negative.	Oral	-	Mouse	dominant lethal test

STOT-single exposure

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
Issued: 2024-01-29
Replaces SDS: 2023-06-29



Product / Substance name CAS / EC no.	Exposure route	Result
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	Inhalation	May cause respiratory irritation.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	LC50	29 mg/l	96 hours	Pimephales promelas (Fat-head Minnow)

Acute algae toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	ErC50	>120 mg/l	72 hours	Desmodesmus subspicatus (green algae)

Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	EC50	5.55 mg/l	48 hours	Ceriodaphnia dubia water flea

Micro-/macro organism toxicity

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
Issued: 2024-01-29
Replaces SDS: 2023-06-29



Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	EC50	135 mg/l	3 hours	Activated sludge.

Chronical toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	NOEC	0.88 mg/l	7 days	Ceriodaphnia dubia water flea
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	NOEC	1.36 mg/l	42 days	Pimephales promelas (Fat-head Minnow)

12.2. Persistence and degradability

Persistence and degradability

Product / Substance name CAS / EC no.	Type of test	Duration	Result	Degradation
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	aerobic	28 days	95%	The substance is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential

Product / Substance name CAS / EC no.	Bioconcentration factor (BCF)	Duration of exposure	Species
SDS (Sodium dodecyl sulfate) 151-21-3 / 205-788-1	3.9-5.3	72 hours	Cyprinus carpio (Common carp)

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
 Issued: 2024-01-29
 Replaces SDS: 2023-06-29



12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

14.1. UN number

1325

14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

FLAMMABLE SOLID, ORGANIC, N.O.S. (SDS (Sodium dodecyl sulfate) Ultrapure)

IMDG proper shipping name

FLAMMABLE SOLID, ORGANIC, N.O.S. (SDS (Sodium dodecyl sulfate) Ultrapure)

IATA proper shipping name

Flammable solid, organic, n.o.s. (SDS (Sodium dodecyl sulfate) Ultrapure)

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
 Issued: 2024-01-29
 Replaces SDS: 2023-06-29



14.3. Transport hazard class(es)

Label

ADR/RID/ADN



4.1

IMDG



4.1

IATA



4.1

ADR / RID Class

4.1

ADR / RID Classification code

F1

ADR / RID hazard identification number

40

IMDG Class

4.1

IATA Class

4.1

ADN Class

4. 1

ADN Class Code

F1

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

SDS (Sodium dodecyl sulfate)

Version number: 4.1
 Issued: 2024-01-29
 Replaces SDS: 2023-06-29



14.4. Packing group

ADR / RID / ADN: III
 IMDG: III
 IATA: III

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Special precautions for user

Tunnel restriction code: E
 Transport category: 3

IMDG EmS

F-G, S-G

14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC08

SECTION 15: Regulatory information

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

EU regulations

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National regulations

No data available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Phrase meaning

Eye Dam. 1 - Serious eye damage, hazard category 1
 Aquatic Chronic 3 - Hazardous to the aquatic environment — Chronic hazard category 3
 Skin Irrit. 2 - Skin irritation, hazard category 2
 Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4
 Acute Tox. 4 - inhalation - Acute toxicity, inhalation, hazard category 4
 STOT SE 3 - Specific Target Organ Toxicity — Single exposure, hazard category 3
 Flam. Sol. 2 - Flammable solids, hazard category 2
 Flam. Sol. 1 - Flammable solids, hazard category 1
 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.
 H412 Harmful to aquatic life with long lasting effects.