

SAFETY DATA SHEET (SDS)

in accordance with Regulation (EC) No 1907/2006 (REACH), Annex II — Regulation (EU) 2020/878

Date: 03.09.2026 | Version: 1 | EN

sodium lauryl sulfate

sodium dodecyl sulfate

CAS 151-21-3

 $C_{12}H_{25}NaO_4S$

EC 205-788-1

MOLAR MASS
288.38LOGP
1.60
(estymacja
LLM)

HAZARD CLASSIFICATION (GHS / CLP)



Danger

H302 H311 H315 H318 H400

Non-harmonised classification (no entry in Annex VI to CLP) — assigned from aggregated ECHA C&L notifications; the H-statements require verification against the official source (ECHA C&L / manufacturer's data sheet).

1. Identification of the substance/mixture and of the company/undertaking

1.1 Substance name	sodium lauryl sulfate
1.1 IUPAC name	sodium dodecyl sulfate
1.1 CAS number	151-21-3
1.1 EC number	205-788-1
1.1 PubChem CID	3423265
1.1 InChIKey	DBMJMQXJHONAFJ-UHFFFAOYSA-M
1.1 SMILES	CCCCCCCCCCCCOS(=O)(=O)[O-].[Na+]
1.1 Molecular formula	$C_{12}H_{25}NaO_4S$ ^[7]
1.1 Molar mass	288.38 g/mol ^[7]
1.1 Exact mass	288.1371 Da ^[7]

1.2 Uses

For laboratory and research purposes. Not for use in the production of food, medicines or cosmetics without appropriate authorisation.

1.3 Details of the supplier

REFERENCE COPY — NO
SUPPLIER DETAILS — NOT FOR
DISTRIBUTION

Supplier details are not included in this reference copy. The supplier placing the substance on the market must complete this section and remains responsible for the sheet under REACH. MolGod.org prepares documentation and is not the supplier of this substance.

1.4 Emergency telephone number

Emergency telephone

112 (EU-wide emergency number)

The number above is the Polish poison centre (CIT, Lodz, 24/7). It is NOT the poison centre designated for your country. Under Article 45 of Regulation (EC) No 1272/2008 the competent body is the centre designated in the country of placing on the market — consult it before use.

2. Hazards identification



Danger

Hazard statements (H) ^{[3][4]}

H302	Harmful if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H318	Causes serious eye damage
H400	Very toxic to aquatic life

Precautionary statements (P) ^{[3][4]}

P261	Avoid breathing dust/fume/gas/mist/vapours/spray
P264	Wash thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P302+P352	IF ON SKIN: Wash with plenty of 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
P310	Immediately call a POISON CENTER or doctor/physician
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P321	Specific treatment
P330	Rinse mouth
P332+P313	If skin irritation occurs: Get medical advice/attention
P337+P313	If eye irritation persists: Get medical advice/attention
P362	Take off contaminated clothing
P391	Collect spillage
P405	Store locked up
P501	Dispose of contents/container to an approved waste collection point

3. Composition/information on ingredients

Substance type	pure substance
CAS Number	151-21-3
EC number	205-788-1
Molecular formula	C ₁₂ H ₂₅ NaO ₄ S
Concentration	≥99% (typical reagent-grade purity — to be confirmed by the supplier's specification)

4. First aid measures



Inhalation

Move the affected person to fresh air. Keep at rest. If not breathing: artificial respiration (qualified personnel only). ^{[1][2][10]}

Skin contact

Remove contaminated clothing. Rinse skin with soap and water (min. 15 minutes). Call a physician immediately. ^{[1][2][10]}

Eye contact

Rinse eyes with running water (min. 15 minutes). Remove contact lenses if possible. Call an ophthalmologist immediately. ^{[1][2][10]}

Ingestion

Do NOT induce vomiting (unless directed by a physician). Rinse mouth with water. Never give anything by mouth to an unconscious person. Poison Centre Łódź: +48 42 631 47 24 (24/7). Emergency number: 112. ^{[1][2][10]}

Symptoms and effects

nausea, vomiting, diarrhoea; skin redness and irritation; eye irritation and watering. ^[3]

Notes for physician

Requires verification

Emergency numbers: CIT Łódź: +48 42 631 47 24 (24/7) | Emergency: 112

5. Firefighting measures

Suitable extinguishing media	Adapt extinguishing media to surroundings. CO ₂ , dry powder, foam.
Unsuitable extinguishing media	No specific restrictions.
Specific hazards	Thermal decomposition products: CO, CO ₂ , SO _x . ^[11]
Advice for firefighters	Use self-contained breathing apparatus (SCBA). Full protective suit.
Flash Point	250°C
Flash point note	naczynia zamknięte — proszek, ryzyko wybuchu pyłu [PL]

6. Accidental release measures

Personal precautions	Use personal protective equipment (see Section 8). Avoid breathing dust. ^{[1][2][10]}
Environmental precautions	Prevent entry into sewers, groundwater and surface water. ^{[1][2][10]}
Methods for containment and cleaning up	Collect mechanically into suitable containers. Absorption: sand, vermiculite, diatomaceous earth. Do not sweep dry (dust formation). ^{[1][2][10]}
Related sections	8; 13

7. Handling and storage

Precautions	Work in a fume hood or with adequate ventilation. No eating, drinking or smoking in the work area. [1][2][10]
Storage temperature	Store at temperature below 40°C. [1][2][10]
Humidity	Store in a dry place (<60% RH). [1][2][10]
Light	Protect from direct sunlight. [1][2][10]
Higroskopijny — przechowywać w suchym, zamkniętym opakowaniu. Unikać pylenia.	
OSTRZEŻENIE: SLS intensywnie się pieni przy kontakcie z wodą. Przy awarii (rozlanie) używać absorpcji suchej (piasek, vermiculit). Nie używać strumienia wody pod ciśnieniem.	
Incompatible materials	Strong oxidizers. [11]

8. Exposure controls/personal protection

8.1 Control parameters

OEL — NDS (Poland)	No NDS (OEL) value in the available working list — verify in the current MRPiPS regulation before use; do not assume the absence of a limit value.
OEL (EU)	The EU OEL value has not been verified against the available dataset — check the IOELV/BOELV directives; do not assume the absence of a value.
DNEL	No data available.
PNEC	No data available.

8.2 Personal protective equipment (PPE) [5][6][12]

 Chemical-resistant protective gloves EN ISO 374-1:2016+A1:2018 nitrile (min. 0.11 mm)	 Closed safety spectacles or goggles EN ISO 16321-1:2022 / EN 166:2001	 Face shield (splash risk) EN ISO 16321-1:2022	 Chemical-resistant protective clothing EN 13034:2005+A1:2009 (typ 6) / EN 14126:2003 (bio)	 Closed safety footwear with toe protection EN ISO 20345:2022 (S2/S3)
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9. Physical and chemical properties

Property (item 9.1)	Value	Source
Physical state	ciało stałe (biały proszek lub kryształowy) [PL]	
Colour	biały [PL]	
Odour	prawie bezwonny	
pH (1% aqueous solution)	9.4	
Melting point	205.2297°C (z rozkładem — nie wrzenie przed rozkładem) [PL] [7]	
Boiling point	Rozkład termiczny przed wrzeniem (~450°C) [PL]	
Flash point	naczynia zamknięte — proszek, ryzyko wybuchu pyłu [PL]	
Flammability	No data available.	

Property (item 9.1)	Value	Source
Lower and upper explosion limit	Not applicable (REACH 9.1(g))	
Density (20°C)	1.05 g/cm ³	
Bulk density	300 kg/m ³	
Vapour pressure	0.0001 kPa	
Relative vapour density	Not applicable (REACH 9.1(q))	
Kinematic viscosity	Not applicable (REACH 9.1(l))	
Auto-ignition temperature	No data available.	
Decomposition temperature	Not applicable	
Rozpuszcz. w wodzie	150 [7]	
Particle characteristics	The particle size distribution has not been determined for this commercial form – required under Annex II 9.1(r); to be completed from the supplier's specification.	
CMC (punkt pianienia)	2.37 g/L	
log Kow (XLogP3)	1.6 [7]	
Molar mass	288.38 g/mol [7]	
Molecular formula	C ₁₂ H ₂₅ NaO ₄ S [7]	
Lipinski rule (RO5)	PASS	

Where a property above reads "No data available", no measured value was found in the public sources consulted for this substance. The property has not been determined by MolGod.org and no value is inferred. "Not applicable" means the property has no meaning for this substance in the form supplied.

10. Stability and reactivity

Reactivity	Stable under normal storage and handling conditions.
Chemical stability	Thermally stable under recommended conditions.
Hazardous reactions	No hazardous reactions known under normal conditions.
Conditions to avoid	High temperatures, direct sunlight, moisture.
Incompatible materials	Strong oxidizers.
Decomposition products	Thermal decomposition products: CO, CO ₂ , SO _x .

11. Toxicological information

LD50 (oral)	1288 mg/kg m.c. (szczur, doustna)
LD50 (dermal)	>2000 mg/kg m.c. (królik, skórna) [PL]
LC50 (inhalation)	No data available.
Skin irritation	Category 2 — skin irritation.
Eye irritation	Category 1 — serious eye damage.
Sensitisation	No data available.
Mutagenicity	No data available.
Carcinogenicity	No data available.
IARC classification (carcinogenicity)	No individual IARC monograph for this CAS — this is not confirmation of the absence of carcinogenicity (cf. CLP/GHS classification in section 2).
Reproductive toxicity	No data available.

STOT — single exposure	No data available.
STOT — repeated exposure	No data available.
Aspiration hazard	No data available.

12. Ecological information

Aquatic toxicity	LC ₅₀ (fish, 96h, OECD 203): 0.88 mg/L (Oncorhynchus mykiss (pstrąg tęczowy)). EC ₅₀ (Daphnia, 48h, OECD 202): 7.2 mg/L. IC ₅₀ (algae, 72h, OECD 201): 9 mg/L [PL]
Persistence / biodegradability	>90% w 28 dni (OECD 301B) — łatwo biodegradowalny [PL]
Bioaccumulative potential	log Kow = 1.6 ^[7] . Low bioaccumulation potential (log Kow < 4.5 — PBT/vPvB screening criterion per ECHA Guidance R.11). ^{[13][14]} BCF: <10 (nie bioakumuluje).
Mobility in soil	No data available.
PBT/vPvB assessment	Nie PBT — biodegradowalny (P=nie), BCF<10 (B=nie), ale akutnie bardzo toksyczny dla środowiska (T=tak, H400) [PL]
Endocrine disrupting properties	No information.

13. Disposal considerations

Disposal method	Hand over for disposal to licensed contractors in accordance with national and local regulations. Do not discharge into sewers.
Waste code (EWC)	16 05 06* — Laboratory and analytical chemicals (np. chemical reagents) zawierające substancje niebezpieczne. EWC code verification required. ^[9]
Packaging	Cleaned packaging may be recycled. Contaminated packaging must be treated as hazardous waste.

14. Transport information



Class 6.1 — Toxic substances

UN number	VERIFICATION REQUIRED — no verified UN assignment.
Transport hazard class	Suggested from GHS classification — VERIFICATION REQUIRED.
Environmental hazard	CLP classification (H400) indicates aquatic environmental hazard — marine pollutant marking may be required; confirm per ADR 2.2.9 / IMDG criteria ^[3]
Special precautions	Handle as dangerous goods according to the assigned class (ADR/IMDG/IATA); apply the precautions appropriate to that class.
CN/HS code	CN/HS code: verification required in the Eurostat Combined Nomenclature.
Notes	NOTE: the GHS classification indicates the substance may be subject to dangerous goods transport regulations (ADR/IMDG/IATA). Do NOT assume absence of restrictions — verify the UN number before shipping.
Environmentally hazardous (mark: fish and tree)	Yes

15. Regulatory information

SVHC status	SVHC status not verified against the available dataset — check the current ECHA Candidate List; do not assume absence. ^[1]
REACH Annex XIV	Not verified against the ECHA Authorisation List — check REACH Annex XIV. ^[1]

REACH Annex XVII	Not confirmed in the available Annex XVII dataset — verify against the current ECHA list before placing on the market; do not assume absence of restriction. ^[1]
REACH registration	Substance registered under REACH. Tonnage range: >1000 t/a.
EC number type	EINECS

16. Other information

Legal status of classification: supplier self-classification under Art. 4(3) CLP — no harmonised entry in Annex VI. Entries with an entry-into-force date after 03.09.2026 were omitted as future (not yet applicable).

Data aggregated automatically from public reference databases (PubChem, ECHA, NIST and others).

Scientific citations (1)

Sodium Lauryl Sulfate.. DOI: 10.31003/fcc_f100564_03_01

Full text of H statements

H302	Harmful if swallowed
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H315	Causes skin irritation
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Full text of P statements

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Abbreviations

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging (Reg. (EC) 1272/2008)

CMR	Carcinogenic, Mutagenic, toxic to Reproduction
DNEL	Derived No-Effect Level
EC	European Community number
EPI	Personal protective equipment
GHS	Globally Harmonized System
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods Code
SDS	Safety Data Sheet
LC50	Lethal Concentration, 50%
LD50	Lethal Dose, 50%
NDS	Maximum admissible concentration (workplace, PL)
NDSCh	Short-term exposure limit (PL)
OEL	Occupational Exposure Limit
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (Reg. (EC) 1907/2006)
STOT	Specific Target Organ Toxicity
SVHC	Substance of Very High Concern
TPSA	Topological Polar Surface Area
vPvB	very Persistent and very Bioaccumulative

Version history

v1 (03.09.2026)	Based on supplier self-classification (ECHA C&L notifications; no harmonised entry in Annex VI).
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References

- [1] EP and Council. Reg.(EC) No 1907/2006 (REACH). Art.31, Annex II. OJ EU L 396/2006. URL: <https://eur-lex.europa.eu/eli/reg/2006/1907/oj> Accessed: 2026-09-03.
- [2] European Commission. Reg.(EU) 2020/878 — amending Annex II REACH. OJ EU L 203/2020. From 01.01.2023. URL: <https://eur-lex.europa.eu/eli/reg/2020/878/oj> Accessed: 2026-09-03.
- [3] EP and Council. Reg.(EC) 1272/2008 (CLP) + ATP 23. OJ EU L 353/2008. (2026-07-07) URL: <https://eur-lex.europa.eu/eli/reg/2008/1272/oj> Accessed: 2026-09-03.
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- [5] ISO. ISO 7010:2019 — Graphical symbols. Safety signs. URL: <https://www.iso.org/standard/72424.html> Accessed: 2026-09-03.
- [6] ISO. ISO 3864-1:2011 — Safety colours and safety signs. URL: <https://www.iso.org/standard/51021.html> Accessed: 2026-09-03.
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- [9] European Commission. Decision 2000/532/EC establishing a list of wastes (European Waste Catalogue). OJ EU L 226/3. URL: <https://eur-lex.europa.eu/eli/dec/2000/532/oj>
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- [12] CEN. Personal protective equipment standards (EN ISO 374-1, EN 166, EN 149, EN 14387, EN ISO 20345). Brussels: European Committee for Standardization.
- [13] ECHA. Guidance on Information Requirements and Chemical Safety Assessment, Chapter R.11: PBT/vPvB Assessment. Helsinki: European Chemicals Agency. URL: <https://echa.europa.eu/guidance-documents/guidance-on-information-requirements-and-chemical-safety-assessment>
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- [15] U.S. EPA. ECOTOX Knowledgebase. Washington, DC: U.S. Environmental Protection Agency. URL: <https://cfpub.epa.gov/ecotox/>
- [16] MRIPS Regulation of 12.06.2018 — NDS/NDN. Journal of Laws 2024 item 1017. URL: <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20240001017> Accessed: 2026-09-03.

External links

NIST: <https://webbook.nist.gov/cgi/cbook.cgi?ID=151-21-3>



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