ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

DODECYLBENZENESULFONIC ACID

Revision Date:2025-07-05 Revision Number:1

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

Product identifier

Product name	: DODECYLBENZENESULFONIC ACID
CBnumber	: CB2310468
CAS	: 85536-14-7
EINECS Number	: 287-494-3
Synonyms	: 4-Dodecylbenzenesulfonic acid,DDBSA

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

Relevant identified uses	: For R&D use only. Not for medicinal, household or other use.
Uses advised against	: none

Company Identification

Company	: Chemicalbook
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone	: 010-86108875

SECTION 2: Hazards identification

Classification of the substance or mixture

Acute toxicity - Category 4, Oral

Skin corrosion, Sub-category 1C

Serious eye damage, Category 1

Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 3

Label elements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage

H412 Harmful to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P273 Avoid release to the environment.

Response

P301+P317 IF SWALLOWED: Get medical help.

P330 Rinse mouth.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P316 Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P317 Get medical help.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards

no data available

SECTION 3: Composition/information on ingredients

Substance

Product name	: DODECYLBENZENESULFONIC ACID
Synonyms	: 4-Dodecylbenzenesulfonic acid,DDBSA
CAS	: 85536-14-7
EC number	: 287-494-3
MF	: C18H30O3S
MW	: 326.49

SECTION 4: First aid measures

Description of first aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Give one or two glasses of water to drink. Refer for medical attention .

Most important symptoms and effects, both acute and delayed

EYES AND SKIN: A 0.5% to 1% concentration in water caused significant irritation. The technical grade is corrosive and may cause irreversible damage to eyes and skin. INGESTION: Irritation of the mouth, esophagus and stomach. Diarrhea, intestinal distention and occasional vomiting. (USCG, 1999)

Indication of any immediate medical attention and special treatment needed

Absorption, Distribution and Excretion

Linear alkylbenzenesulfonic acid is absorbed through the gills and body surface of fish (carp), distributed via blood to the various tissues and organs, transported to the hepatopancreas (liver for goldfish and others), and subsequently, via bile, eliminated with the feces. Linear alkylbenzenesulfonic acid

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SECTION 5: Firefighting measures

Extinguishing media

If material is on fire or involved in a fire: Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, carbon dioxide, or dry chemical. Use water spray to knock-down vapors.

Specific Hazards Arising from the Chemical

Special Hazards of Combustion Products: May give off SO_3 , SO_2 and H_2S (USCG, 1999)

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours.Avoid contacting with skin and eye. Use personal protective equipment.Wear chemical impermeable gloves. Ensure adequate ventilation.Remove all sources of ignition. Evacuate personnel to safe areas.Keep people away from and upwind of spill/leak.

Environmental precautions

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable non-metallic containers. Cautiously neutralize remainder with sodium bicarbonate.

Methods and materials for containment and cleaning up

Water spill: Neutralize with agricultural lime (calcium oxide), crushed limestone (calcium carbonate), or sodium bicarbonate. If dissolved, apply activated carbon at ten times the spilled amount in region of 10 ppm or greater concn. Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates.

SECTION 7: Handling and storage

Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Separated from bases and oxidants.Do not store in carbon steel or aluminum. Storage temp: Ambient; Venting: Open.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

Exposure controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures

Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Physical state	Viscous Liquid

Colour	Brown
Odour	no data available
Melting point/freezing point	6.35°C.
Boiling point or initial boiling point and boiling range	189.05°C. Atm. press.:102.1 kPa.
Flammability	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit	no data available
Flash point	85 °F
Auto-ignition temperature	410 °C. Atm. press.:102.9 kPa.
Decomposition temperature	>204.5°C
pH	no data available
Kinematic viscosity	dynamic viscosity (in mPa s) = 1 716. Temperature:20°C.
Solubility	water, alcohols, glycol ethers, glycols, esters, ketones, aromatic and aliphatic hydrocarbons: soluble
Partition coefficient n-octanol/water	log Pow = 3.32. Remarks:Temperature and pH not relevant to method.
Vapour pressure	2.89 10-8 Pa. Temperature:25 °C.
Density and/or relative density	1.05. Temperature:20 °C.
Relative vapour density	no data available
Particle characteristics	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes above 205°C . This produces toxic fumes including sulfur oxides and hydrogen sulfide. Reacts with bases and oxidants. This produces sulfur oxides. This generates toxic hazard. Attacks metals.

Chemical stability

no data available

Possibility of hazardous reactions

DODECYLBENZENESULFONIC ACID is corrosive. When heated to decomposition or on contact with strong acids produces highly toxic fumes of oxides of sulfur. The toxicity and hazards of individual alkylbenzene sulfonic acids must be assessed individually [Kirk-Othmer, 3rd ed., Vol. 22, 1978, p. 45].

Conditions to avoid

no data available

Incompatible materials

On contact with acid or acid fumes, they emit highly toxic fumes of SO(x). Sulfonates

Hazardous decomposition products

Poisonous gases may be produced in fire. May give off SO3, SO2, and hydrogen sulfide.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (male/female) - ca. 1 470 mg/kg bw.
- Inhalation: no data available
- Dermal: LD50 - rat - > 2 000 mg/kg bw.

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 - Lepomis macrochirus - 1.67 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 2.9 mg/L - 48 h.

Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - 29 mg/L - 96 h.

Toxicity to microorganisms: no data available

Persistence and degradability

The biodegradation of linear sodium alkylbenzenesulfonic acid ... by marine bacteria ... was degraded by some (unspecified) species of marine bacteria when it was present as a sole carbon source, but only when massive aeration was employed ... Linear sodium alkylbenzenesulfonic acid

Bioaccumulative potential

no data available

Mobility in soil

Sesquioxides such as ferric oxide, and aluminum oxide are important in the sorption of linear alkylbenzenesulfonic acid. Linear alkylbenzenesulfonic acid

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Not Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

PICCS

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/