

## Chemical Safety Data Sheet MSDS / SDS

**DODECYLBENZENESULFONIC ACID**Revision Date:2024-12-21 Revision Number:1

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**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, DBSA

**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 : 400-158-6606

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**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

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## SECTION 3: Composition/information on ingredients

### **Substance**

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

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## 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<sub>3</sub> , SO<sub>2</sub> and H<sub>2</sub>S (USCG, 1999)

### **Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

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## 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.

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## 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.

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## 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/flammable 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

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Physical state

Viscous Liquid

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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 <sup>-8</sup> 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 SO<sub>3</sub>, SO<sub>2</sub>, 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

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## 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

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## 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.

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## 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

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## 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.

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## 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?pagelD=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pagelD=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/>

### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.