

## Material Safety Data Sheet

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Version 1.11

Regulation (EC) No 1907/2006

## 1 - Product and Company Information

Product Name SODIUM DODECYL SULFATE  
 Product Number 71728

Company Sigma-Aldrich Pte Ltd  
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 Singapore 117528  
 Singapore

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## 2 - Hazards Identification

## SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Highly flammable. Harmful in contact with skin and if swallowed.  
 Irritating to eyes, respiratory system and skin.

## 3 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
SODIUM DODECYL SULFATE	151-21-3	205-788-1	None

Formula C12H25O4S.Na

Molecular Weight 288.38 AMU

Synonyms AI3-00356 \* Akyposal SDS \* Aquarex ME \* Aquarex methyl \* Avirol 101 \* Avirol 118 conc \* Berol 452 \* Carsonol SLS \* Carsonol SLS Paste B \* Carsonol SLS Special \* Conco sulfate WA \* Conco sulfate WA-1200 \* Conco sulfate WA-1245 \* Conco Sulfate WAG \* Conco Sulfate WAN \* Conco Sulfate WAS \* Conco sulfate WN \* CP 75424 \* Cycloryl 21 \* Cycloryl 31 \* Cycloryl 580 \* Cycloryl 585N \* Dehdag sulfate GL emulsion \* Dehdag sulphate GL emulsion \* Detergent 66 \* Dodecyl alcohol, hydrogen sulfate, sodium salt \* Dodecyl sodium sulfate \* Dodecyl sulfate sodium \* n-Dodecyl sulfate sodium \* Dodecyl sulfate, sodium salt \* Dreft \* Duponal \* Duponal WAQE \* Duponol \* Duponol C \* Duponol ME \* Duponol methyl \* Duponol QX \* Duponol WA \* Duponol WA Dry \* Duponol WAQ \* Duponol WAQA \* Duponol WAQE \* Duponol WAQM \* EMAL O \* EMAL 10 \* Emersal 6400 \* Empicol LPZ \* Empicol LS 30 \* Empicol LX 28 \* Emulsifier No. 104 \* Finasol osr(sub 2) \* Gardinol \* Hexamol SLS \* Incronol SLS \* Irium \* Jordanol SL-300 \* Lanette wax-S \* Laurylsiran sodny (Czech) \* Lauryl sodium sulfate \* Lauryl

## 4 - First Aid Measures

#### AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

#### AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

#### AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

#### AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

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### 5 - Fire Fighting Measures

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#### EXPLOSION DATA

Dust Potential: This material, like most materials in powder form, is capable of creating a dust explosion.

#### EXTINGUISHING MEDIA

Suitable: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

#### SPECIAL RISKS

Specific Hazard(s): Flammable solid. Emits toxic fumes under fire conditions.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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### 6 - Accidental Release Measures

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#### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

#### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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### 7 - Handling and Storage

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#### HANDLING

Directions for Safe Handling: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Conditions of Storage: Keep tightly closed. Keep away from heat, sparks, and open flame.

SPECIAL REQUIREMENTS: Hygroscopic.

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## 8 - Exposure Controls / Personal Protection

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### ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

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## 9 - Physical and Chemical Properties

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Appearance	Physical State: Solid Color: White Form: Powder	
Property	Value	At Temperature or Pressure
pH	7.2	
BP/BP Range	N/A	
MP/MP Range	204.0 - 207.0 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	0.37 g/cm <sup>3</sup>	
Partition Coefficient	Log Kow: 1.6	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water: clear, colorless Soluble. Solvent: Insoluble. Other Solvents: ISP.ALC, XYLE	

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## 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.  
Conditions to Avoid: Moisture.  
Materials to Avoid: Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Sulfur oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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11 - Toxicological Information

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RTECS NUMBER: WT1050000

ACUTE TOXICITY

LD50  
Skin  
Rat  
2,000 mg/kg  
100% MORTALITY  
LD50  
Skin  
Rabbit  
580 mg/kg  
LD50  
Skin  
Guinea pig  
> 1,200 mg/kg

LD50  
Oral  
Rat  
1288 mg/kg

LC50  
Inhalation  
Rat  
> 3,900 mg/m<sup>3</sup>  
1H

LD50  
Intraperitoneal  
Rat  
210 MG/KG

LD50  
Intravenous  
Rat  
118 MG/KG

LD50  
Intraperitoneal  
Mouse  
250 MG/KG  
Remarks: Behavioral:Change in motor activity (specific assay).  
Behavioral:Somnolence (general depressed activity).  
Vascular:Regional or general arteriolar or venous dilation.

LD50  
Intravenous  
Mouse

IRRITATION DATA

Skin  
Human  
250 mg  
24H  
Remarks: Mild irritation effect

Skin  
Human  
25 mg  
24H  
Remarks: Mild irritation effect

Skin  
Mouse  
25 mg  
24H  
Remarks: Moderate irritation effect

Skin  
Dog  
25 mg  
24H  
Remarks: Mild irritation effect

Skin  
Rabbit  
50 mg  
24H  
Remarks: Severe irritation effect

Skin  
Rabbit  
25 mg  
24H  
Remarks: Moderate irritation effect

Skin  
Rabbit  
250 mg  
24H  
Remarks: Moderate irritation effect

Skin  
Rabbit  
10 mg  
24H

Skin  
Rabbit  
50 mg  
24H  
Remarks: Mild irritation effect

Eyes  
Rabbit  
100 mg  
24H  
Remarks: Moderate irritation effect

Eyes  
Rabbit  
0.25 mg  
Remarks: Mild irritation effect

Eyes  
Rabbit  
2 mg

Eyes  
Rabbit  
10 mg  
Remarks: Moderate irritation effect

Skin  
Pig  
25 mg  
24H  
Remarks: Mild irritation effect

Skin  
Guinea pig  
25 mg  
24H  
Remarks: Mild irritation effect

#### SENSITIZATION

Sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

#### SIGNS AND SYMPTOMS OF EXPOSURE

The sodium salt of dodecyl sulfate has been reported to cause pulmonary sensitization resulting in hyperactive airway dysfunction and pulmonary allergy accompanied by fatigue, malaise, and aching. Significant symptoms of exposure can persist for more than two years and can be activated by a variety of nonspecific environmental stimuli such as automobile exhaust, perfumes, and passive smoking. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.  
Skin Absorption: Harmful if absorbed through skin.  
Eye Contact: Causes eye irritation.  
Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.  
Ingestion: Harmful if swallowed.

#### TARGET ORGAN INFORMATION

Lungs.

#### CONDITIONS AGGRAVATED BY EXPOSURE

Causes sneezing. Do not inhale.

#### CHRONIC EXPOSURE - MUTAGEN

Result: Laboratory experiments have shown mutagenic effects.

Human  
100 MG/L  
Cell Type: lymphocyte

DNA inhibition

Rat  
243 UMOL/L  
Cell Type: liver  
DNA damage

Guinea pig  
60 UMOL/L  
Cell Type: kidney  
DNA inhibition

CHRONIC EXPOSURE - TERATOGEN

Result: Laboratory experiments have shown teratogenic effects.

Species: Mouse  
Dose: 480 MG/KG  
Route of Application: Skin  
Exposure Time: (6-13D PREG)  
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

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12 - Ecological Information

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N/A

ECOTOXICOLOGICAL EFFECTS

Test Type: LC50 Fish  
Species: Onchorhynchus mykiss (Rainbow trout)  
Time: 96 h  
Value: 3.6 mg/l

ADDITIONAL ECOLOGICAL INFORMATION

BOD: 95.9 %  
COD: 95.1 %

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13 - Disposal Considerations

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SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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14 - Transport Information

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RID/ADR

UN#: 2926  
Class: 4.1  
PG: II  
Subrisk: 6.1  
Proper Shipping Name: Flammable solid, toxic, organic, n.o.s.

IMDG

UN#: 2926  
Class: 4.1  
PG: II  
Subrisk: 6.1  
Proper Shipping Name: FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.

Marine Pollutant: No  
Severe Marine Pollutant: No  
Technical Name: Required

IATA

UN#: 2926  
Class: 4.1  
PG: II  
Subrisk: 6.1  
Proper Shipping Name: Flammable solid, toxic, organic,  
n.o.s.  
Inhalation Packing Group I: No  
Technical Name: Required

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15 - Regulatory Information

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CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: F-Xn  
Highly Flammable. Harmful.  
R-PHRASES: 11-21/22-36/37/38  
Highly flammable. Harmful in contact with skin and if  
swallowed. Irritating to eyes, respiratory system and skin.  
S-PHRASES: 26-36/37  
In case of contact with eyes, rinse immediately with plenty of  
water and seek medical advice. Wear suitable protective  
clothing and gloves.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 2  
ID-Number: 664  
KBwS-Decision

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16 - Other Information

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WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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