Material Safety Data Sheet

Sodium Dodecyl Sulfate

1 . Product and company identification

Product name : Sodium Dodecyl Sulfate

Product code : 7960

Supplier : EMD Chemicals Inc.
480 S. Democrat Rd.
Gibbstown, NJ 08027
856-423-6300 Technical Service
Monday-Friday: 8:00 -5:00 PM

Synonym : None.

Material uses : Other non-specified industry: Analytical reagent.

Validation date : 3/17/2009.

In case of emergency : 800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

2 . Hazards identification

Emergency overview : WARNING!

FLAMMABLE SOLID.
HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED.
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: SKIN, EYES.

Keep away from heat, sparks and flame. Prevent dust accumulation. Do not breathe dust. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Physical state : Solid. [Powder.]

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Routes of entry : Inhalation. Ingestion.

Potential acute health effects

Inhalation : Toxic by inhalation. Irritating to respiratory system.

Ingestion : Toxic if swallowed.

Skin : Toxic in contact with skin. Irritating to skin.

Eyes : Irritating to eyes.

Potential chronic health effects

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : May cause damage to the following organs: skin, eyes.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

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3 . Composition/information on ingredients

Name	CAS number	% by weight
Sodium Dodecyl Sulfate	151-21-3	100

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5 . Fire-fighting measures

Flammability of the product : Flammable solid. Fine dust clouds may form explosive mixtures with air. Runoff to sewer may create fire or explosion hazard.

Extinguishing media : Use dry chemical powder.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special remarks on fire hazards : Thermal decomposition may release toxic and/or hazardous gases.

Special remarks on explosion hazards : Dust can combine with air to form an explosive mixture
Thermal decomposition may release toxic and/or hazardous gases.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Continued on next page

6 . Accidental release measures

Spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Handling : Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Fine dust clouds may form explosive mixtures with air. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container, protected from direct sunlight. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use.

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: nitrile rubber

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If operating conditions cause high dust concentrations to be produced, use dust goggles. Recommended: safety glasses with side-shields

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Recommended: lab coat

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8 . Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Solid. [Powder.]
Color : White.
Odor : Mild fatty
Molecular weight : 288.42 g/mole
Molecular formula : C12-H25-O4-S.Na
pH : 6 to 9 [Conc. (% w/w): 1%]
Boiling/condensation point : Decomposition temperature: 380°C (716°F)
Melting/freezing point : 204 to 207°C (399.2 to 404.6°F)
Relative density : Not available.
Vapor pressure : Not available.
Vapor density : Not available.
Odor threshold : Not available.
Evaporation rate : Not available.
Solubility : Soluble in the following materials: water

10 . Stability and reactivity

Chemical stability : The product is stable.
Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid : Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
Materials to avoid : Highly reactive or incompatible with the following materials: oxidizing materials and acids.
Avoid excessive heat. Avoid generating dust or vapors.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Conditions of reactivity : Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts.
Explosive in the presence of the following materials or conditions: shocks and mechanical impacts.
Dust can combine with air to form an explosive mixture
Thermal decomposition may release toxic and/or hazardous gases.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Test	Route	Species	Result
Sodium Dodecyl Sulfate	LD50	Intraperitoneal	Rat	210 mg/kg
	LD50	Intravenous	Rat	118 mg/kg
	LD50	Oral	Rat	1288 mg/kg

Carcinogenicity

No known significant effects or critical hazards.

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11 . Toxicological information

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

12 . Ecological information

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Sodium Dodecyl Sulfate	Acute EC50 104.8 mg/L	Algae	48 hours
	Acute EC50 31 mg/L	Daphnia	48 hours
	Acute EC50 6 mg/L	Daphnia	48 hours
	Acute EC50 1200 to 1400 ug/L Marine water	Fish - Atlantic silverside - Menidia menidia	96 hours
	Acute LC50 5100 to 6000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	Acute LC50 4900 ug/L Fresh water	Daphnia - Water flea - Daphnia pulex - Neonate - <24 hours	48 hours
	Acute LC50 4800 to 6500 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Acute LC50 4600 to 6400 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Acute LC50 3500 to 6700 ug/L Marine water	Crustaceans - American lobster - Homarus americanus - LARVAE	48 hours
	Acute LC50 3300 to 4300 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	Acute LC50 3000 to 5200 ug/L Marine water	Crustaceans - Calanoid copepod - Temora stylifera - Adult	48 hours
	Acute LC50 2640 to 3150 ug/L Marine water	Crustaceans - Calanoid copepod - Temora stylifera - Adult	48 hours
	Acute LC50 2600 to 3900 ug/L Marine water	Crustaceans - Calanoid copepod - Acartia lillgeborgi - Adult	48 hours
	Acute LC50 2570 to 2990 ug/L Marine water	Crustaceans - Calanoid copepod - Temora stylifera - Adult	48 hours
	Acute LC50 2310 to 2700 ug/L Marine water	Crustaceans - Calanoid copepod - Temora stylifera - Adult	48 hours
	Acute LC50 2100 to 2400 ug/L Marine water	Fish - Mummichog - Fundulus heteroclitus - Adult - 1.28 g	96 hours
	Acute LC50 1880 to 2110 ug/L Marine water	Fish - Topsmelt - Atherinops affinis - LARVAE - 22 days - 13.2 mm - 19.1 mg	96 hours
	Acute LC50 1800 to 2800 ug/L Marine water	Crustaceans - Calanoid copepod - Acartia lillgeborgi - Adult	48 hours
	Acute LC50 1800 to 2600 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Acute LC50 1530 ug/L Fresh water	Fish - Indian catfish - Mystus vittatus vittatus - 100 to 110 mm - 8.5 to 10 g	96 hours
	Acute LC50 1500 ug/L Marine water	Crustaceans - Brine shrimp - Artemia sp.	48 hours
	Acute LC50 1480 to 1630	Fish - Inland silverside -	96 hours

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12 . Ecological information

ug/L Marine water	Menidia beryllina - LARVAE - 28 days - 13.9 mm - 26.6 mg	
Acute LC50 1400 to 2000 ug/L Marine water	Crustaceans - Calanoid copepod - Acartia lillgeborgi - Adult	48 hours
Acute LC50 1400 ug/L Fresh water	Daphnia - Water flea - Daphnia pulex - Neonate	48 hours
Acute LC50 1390 ug/L Fresh water	Fish - Indian catfish - Mystus vittatus vittatus - 100 to 110 mm - 8.5 to 10 g	96 hours
Acute LC50 1360 ug/L Fresh water	Fish - Carp, hawk fish - Cirrhinus mrigala - LARVAE - 2 days - 4.5 mm - 51 mg	96 hours
Acute LC50 1310 ug/L Fresh water	Fish - Cyprinus carpio - LARVAE - 8 mm	96 hours
Acute LC50 4.62 mg/L	Fish	96 hours
Acute LC50 620 ug/L Fresh water	Fish - Carp, hawk fish - Cirrhinus mrigala - LARVAE - 2 days - 4.5 mm - 51 mg	96 hours
Acute LC50 590 ug/L Fresh water	Fish - Carp, hawk fish - Cirrhinus mrigala - LARVAE - 2 days - 4.5 mm - 51 mg	96 hours
Acute LC50 4.5 mg/L	Fish	96 hours
Acute LC50 1.31 mg/L	Fish	96 hours
Acute LC50 5300 ug/L Fresh water	Daphnia - Water flea - Daphnia pulex - Neonate	48 hours
Acute LC50 5800 ug/L Marine water	Crustaceans - Spot shrimp - Pandalus platyceros	48 hours
Acute LC50 5600 to 8200 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
Acute LC50 5400 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours

Environmental effects : No known significant effects or critical hazards.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1325	FLAMMABLE SOLID, ORGANIC, N.O.S. (CONTAINS SODIUM DODECYL SULFATE)	4.1	III		-

PG* : Packing group

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15 . Regulatory information

United States

HCS Classification : Flammable solid
Toxic material
Irritating material
Target organ effects

U.S. Federal regulations : **United States inventory (TSCA 8b):** This material is listed or exempted.

TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Sodium Dodecyl Sulfate
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Sodium Dodecyl Sulfate: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

New Jersey Hazardous Substances : This material is listed.

Canada

WHMIS (Canada) : Class B-4: Flammable solid.
Class D-2B: Material causing other toxic effects (Toxic).

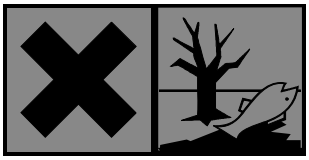
Canadian lists : **CEPA Toxic substances:** This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is not listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

CEPA DSL / CEPA NDSL : This material is listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

EU regulations

Hazard symbol or symbols :



Risk phrases : R22- Harmful if swallowed.
R50- Very toxic to aquatic organisms.

Safety phrases : S2- Keep out of the reach of children.
S29- Do not empty into drains.
S46- If swallowed, seek medical advice immediately and show this container or label.
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

International regulations

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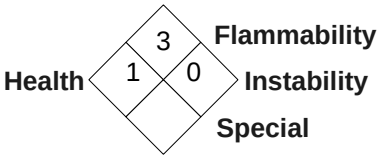
15 . Regulatory information

International lists : **Australia inventory (AICS):** This material is listed or exempted.
China inventory (IECSC): This material is listed or exempted.
Japan inventory (ENCS): This material is listed or exempted.
Japan inventory (ISHL): Not determined.
Korea inventory (KECI): This material is listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): This material is listed or exempted.
Philippines inventory (PICCS): This material is listed or exempted.

16 . Other information

National Fire Protection Association (U.S.A.) :



Notice to reader

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