

Material Safety Data Sheet

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Version 1.3

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	DIETHYLDITHIOCARBAMIC ACID SODIUM TRIHYDRATE CRYSTALLINE
Product Number	D3506
Company	Sigma-Aldrich Pty. Ltd. 12 Anella Avenue Castle Hill NSW 2154 Australia
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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
DIETHYLDITHIOCARBAMIC ACID SODIUM TRIHYDRATE CRYSTALLINE	20624-25-3	205-710-6	None

Formula	C5H10NNaS2 · 3H2O
Molecular Weight	225.31 AMU
Synonyms	Diethyldithiocarbamate sodium trihydrate * Diethyldithiocarbamic acid sodium salt trihydrate * Diethyldithiokarbaman sodny trihydrat (Czech) * Dithiocarb trihydrate * Sodium diethyldithiocarbamate trihydrate

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Harmful if swallowed. Irritating to skin. Risk of serious damage to eyes.

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 skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

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.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): 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.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, 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.

7 - Handling and Storage

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. Store in a cool dry place. Store under inert gas.
Store at -20°C

SPECIAL REQUIREMENTS: Hygroscopic. Store under inert gas.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Mechanical exhaust required. Safety shower and eye bath. Ground all equipment, vessels, tables, and other metallic objects that may come into contact with the product.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.
Hand Protection: Compatible chemical-resistant gloves.
Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	95.0 - 98.5 °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	1.1 g/cm3	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	5.9 g/l	
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:Soluble.	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Moisture.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

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

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: EZ6550000

ACUTE TOXICITY

LD50

Oral

Rat

1500 mg/kg

LD50

Intraperitoneal

Rat

1500 MG/KG

LD50

Oral
Mouse
1500 mg/kg

LD50
Intraperitoneal
Mouse
952 MG/KG

LD50
Intravenous
Mouse
1700 MG/KG

LD50
Subcutaneous
Rabbit
500 MG/KG

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Some dithiocarbamates have been reported to have teratogenic and/or carcinogenic potential. (1974 Evaluations of Some Pesticide Residues in Food. Who Pesticide Residue Series, no. 4, 261 to 263. Geneva, 1975; IARC vol 7, 1974, vol 12, 1976) and to affect male reproductive capacity (target organ toxicity center reproductive information file). Exposure to thiocarbamates or thiurams and the intake of even small amounts of ethyl alcohol results in flushing, breathing difficulty, nausea, vomiting, and low blood pressure. Sensitization to alcohol may last as long as 6 to 14 days after exposure to these compounds. A serious toxic interaction has been observed in rats fed tetraethylthiuram and then exposed to vapors of 1,2-dibromoethane. (NIOSH Current Intelligence Bulletin 23, US Dept. Hew April 11, 1978). NIOSH stated that similar toxic interactions may occur between chemicals structurally related to tetraethylthiuram and other halogenated hydrocarbons.

ROUTE OF EXPOSURE

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

CHRONIC EXPOSURE - MUTAGEN

Rat
5100 UMOL/L
Cell Type: liver
DNA damage

Rat
1 MG/L
Cell Type: lymphocyte
DNA inhibition

Hamster
10 UMOL/L
Cell Type: ovary

12 - Ecological Information

No data available.

13 - Disposal Considerations

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.

14 - Transport Information

RID/ADR

Non-hazardous for road transport.

IMDG

Non-hazardous for sea transport.

IATA

Non-hazardous for air transport.

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: Xn

Harmful.

R-PHRASES: 22-38-41

Harmful if swallowed. Irritating to skin. Risk of serious damage to eyes.

S-PHRASES: 26-39

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection.

SWITZERLAND

SWISS POISON CLASS: 4

16 - Other Information

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 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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