SODIUM DIETHYL DITHIOCARBAMATE
CAS NO 20624-25-3

MATERIAL SAFETY DATA SHEET
SDS/MSDS

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

1.1  Product identifiers
Product name : Sodium Diethyl Dithiocarbamate
CAS-No. : 20624-25-3

1.2  Relevant identified uses of the substance or mixture and uses advised against
Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3  Details of the supplier of the safety data sheet
Company : Central Drug House (P) Ltd
7/28 Varadaan House
New Delhi -110002
INDIA
Telephone : +91 11 49404040
Email : care@cdhfinechemical.com

1.4  Emergency telephone number
Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1  Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Acute toxicity, Oral (Category 4), H302
Acute aquatic toxicity (Category 1), H400

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2  Label elements
Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word : Warning
Hazard statement(s)
H302   Harmful if swallowed.
H400   Very toxic to aquatic life.

Precautionary statement(s)
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.

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2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients
3.1 Substances
Synonyms: Diethylthiocarbamic acidsodium salt
Cupral

Formula: \( C_5H_{10}NNaS_2 \cdot 3H_2O \)
Molecular weight: 225.30 g/mol
CAS-No.: 20624-25-3
EC-No.: 205-710-6

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium diethylthiocarbamate trihydrate</td>
<td>Acute Tox. 4; Aquatic Acute 1;</td>
<td>( \leq 100 % )</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>H302, H400</td>
<td></td>
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<tr>
<td>EC-No.</td>
<td>M-Factor - Aquatic Acute: 1</td>
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<tr>
<td>20624-25-3</td>
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<tr>
<td>205-710-6</td>
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</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures
4.1 Description of first aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures
5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Sodium oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. hygroscopic Store under inert gas.
Storage class (TRGS 510): Non Combustible Solids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle r (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| A | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t |
| Appearance | Odour | Odour Threshold | pH | Melting point/freezing point | Initial boiling point and boiling range | Flash point | Evaporation rate | Flammability (solid, gas) | Upper/lower flammability or explosive limits | Vapour pressure | Vapour density | Relative density | Water solubility | Partition coefficient: n-octanol/water | Auto-ignition temperature | Decomposition temperature | Viscosity | Explosive properties | Oxidizing properties | |
| Form: solid | Colour: white, off-white | | | Melting point/range: 95 - 98.5 °C - lit. | No data available | No data available | No data available | No data available | No data available | No data available | 5.9 | 1.100 g/cm³ | soluble | log Pow: -1.43 | No data available | No data available | No data available | No data available | No data available |

9.2 Other safety information

Relative vapour density 5.9

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
Strong oxidizing agents
10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Sodium oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 1,500 mg/kg(Sodium diethyldithiocarbamate trihydrate)

Skin corrosion/irritation
No data available(Sodium diethyldithiocarbamate trihydrate)

Serious eye damage/eye irritation
No data available(Sodium diethyldithiocarbamate trihydrate)

Respiratory or skin sensitisation
No data available(Sodium diethyldithiocarbamate trihydrate)

Germ cell mutagenicity
Rat(Sodium diethyldithiocarbamate trihydrate)
Liver
DNA damage
Rat(Sodium diethyldithiocarbamate trihydrate)
Lymphocyte
DNA inhibition
Hamster(Sodium diethyldithiocarbamate trihydrate)
ovary
Cyto genetic analysis

Carcinogenicity
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Sodium diethyldithiocarbamate trihydrate)

Reproductive toxicity
No data available(Sodium diethyldithiocarbamate trihydrate)

Specific target organ toxicity - single exposure
No data available(Sodium diethyldithiocarbamate trihydrate)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available(Sodium diethyldithiocarbamate trihydrate)

Additional Information
RTECS: EZ6550000

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 capacity. Exposure to thiocarbamates or thiram and the intake of even s sodium thiocarbamate or thiram and the intake of even s breathing difficulty, nausea, vomiting, and low blood pressure. Sensitization exposure to these compounds. A serious toxic interaction has been observed in 1,2-dibromoethane. NIOSH stated that similar toxic interactions may occur with other halogenated hydrocarbons. (Sodium diethyldithiocarbamate trihydrate)

SECTION 12: Ecological information

12.1 Toxicity
Toxicity to fish
LC50 - Poecilia reticulata (guppy) - 5.5 - 8.5 mg/l - 96 h(Sodium diethyldithiocarbamate trihydrate)
Toxicity to daphnia and other aquatic invertebrates  
EC50 - Daphnia magna (Water flea) - 0.71 - 1.06 mg/l - 48 h(Sodium diethylthiocarbamate trihydrate)

Toxicity to algae  
IC50 - Chlorella pyrenoidosa (algae) - 1.4 mg/l - 96 h(Sodium diethylthiocarbamate trihydrate)

12.2 Persistence and degradability
Biodegradability  
Biochemical oxygen demand - Exposure time 14 d(Sodium diethylthiocarbamate trihydrate)  
Result: 67.6 % - Readily biodegradable  
(OECD Test Guideline 301D)

12.3 Bioaccumulative potential
Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

12.4 Mobility in soil
No data available(Sodium diethylthiocarbamate trihydrate)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Very toxic to aquatic life.
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 3077  
IMDG: 3077  
IATA: 3077

14.2 UN proper shipping name
ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Sodium diethylthiocarbamate trihydrate)
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Sodium diethylthiocarbamate trihydrate)
IATA: Environmentally hazardous substance, solid, n.o.s. (Sodium diethylthiocarbamate trihydrate)

14.3 Transport hazard class(es)
ADR/RID: 9  
IMDG: 9  
IATA: 9

14.4 Packaging group
ADR/RID: III  
IMDG: III  
IATA: III

14.5 Environmental hazards
ADR/RID: yes  
IMDG Marine pollutant: no  
IATA: yes

14.6 Special precautions for user

Further information
EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.
SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H302 Harmful if swallowed.
H400 Very toxic to aquatic life.

Further information
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. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.