



MATERIAL SAFETY DATA SHEET

TETD TETRAETHYLTHIURAMDISULFIDE

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name : Tetraethylthiuram disulfide
Synonyms : Bis(diethylthiocarbamoyl) disulfide, Disulfiram, TETD

SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS# : 97-77-8
Chemical Name : Tetraethylthiuram disulfide
% : 98
EINECS# : 202-607-8

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Harmful if swallowed.

Harmful: danger of serious damage to health by prolonged exposure if swallowed. May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Chronic: Not available.

SECTION 4 - FIRST AID MEASURES

Symptoms and effects : Dust may be irritating to the respiratory tract and cause symptoms of bronchitis. May cause alcohol intolerance.

First aid

General : Do not drink alcohol after exposure.

Inhalation : Move to fresh air. If symptoms persist, seek medical advice.

Skin : Wash immediately with soap and water.

Eye : Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation develops.

Ingestion : Rinse mouth, give water to drink.

Advice to physician : No specific recommendations.



SECTION 5 - FIRE FIGHTING MEASURES

Extinguishing media: waterspray, water mist, foam, dry chemical powder.

Unsuitable extinguishing media: waterjet.

Special exposure hazards: none known.

Hazardous decomposition/combustion products:

Emits toxic fumes under fire conditions: hydrogen cyanide (HCN), sulphur dioxide (SO₂), nitrous gases (NO_x).

Protective equipment: Wear self contained breathing apparatus.

Other information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : For personal protection see Section 8. Avoid dust generation.

Environmental precautions : Do not flush into public water courses.

Methods for cleaning up : Collect as much as possible in a clean container for (preferable) reuse or disposal.

SECTION 7 - HANDLING AND STORAGE

Handling : Do not breathe dust. Avoid contact with skin.

Fire and explosion prevention : Avoid dust accumulation.
Dust/air mixtures may ignite violently upon exposure to sparks or sources of ignition.

Dust explosion class (VDI 2263) : St 1.

KSt : 150 bar.m/s.

Maximum rate of pressure rise : 552 bar/s.

Maximum corrected explosion pressure : 6,8 bar.

Storage requirements Store in a dry and cool place.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering controls: Avoid dust generation. Ensure good ventilation and local exhaustion of the working area.

Exposure limits

Name
Tetraethylthiuram disulfide OES-TWA 5.0 mg/m³ (Respirable dust)

Personal protection

Respiratory: Avoid breathing dust. In case of insufficient ventilation wear suitable respiratory equipment.

Hand: Wear protective gloves.

Eye: Wear safety goggles.

Skin and body: Wear suitable protective clothing.



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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Dedusted powder, powder, crystal powder, granules

Colour: white, light cream

Odour: slightly amine like

Boiling point/range: not relevant

Melting point/range: min. 64 °C

Flash point: not determined

Flammability: not determined

Autoignition temperature: 240 - 280 °C

Explosive properties: dust explosion hazard

Explosion limits: Lower Explosion Limit (LEL): 20 g/m³,

Minimum ignition energy: =< 10 mJ,

Limiting oxygen concentration (LOC) (V =< 1 m³): 7,4 Vol % O₂.

Oxidizing properties: not applicable

Vapour pressure: negligible (20 °C)

Densit : 1310 kg/m³ (20 °C)

Bulk density: 340-380 kg/m³

Solubility in water: Insoluble

Solubility in other solvents: CS₂, benzene

pH value: not determined

Partition coefficient

n-octanol/water

not determined

Relative vapour density (air=1): not applicable

Viscosity: not applicable

Molecular Formula: [(C₂H₅)₂NCS₂]₂

Molecular Weight: 296.51

Loss on Drying: 0.40% Max.

Ash: 0.30 Max.

Residues on 250um sieve: 0.50% Max.

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable under recommended storage and handling conditions (see section 7).

Conditions to avoid: No specific recommendations.

Materials to avoid: oxidizing agents, strong acid.

Hazardous decomposition products

No hazardous decomposition products known.

Other information: During the vulcanization process, traces of carcinogenic N-nitrosamines may be formed from decomposition products (amines) in the presence of nitrosating agents.



SECTION 11 - TOXICOLOGICAL INFORMATION

Name : Tetraethylthiuram disulfide
Acute toxicity
Oral LD50 rat : 1300-3400 mg/kg.
Irritation
Skin : Practically non-irritating.
Eye : Practically non-irritating.
Genotoxicity : Ames test: Not mutagenic.

SECTION 12 - ECOLOGICAL INFORMATION

Name : Tetraethylthiuram disulfide
Ecotoxicity
fish : 96h-LC50 (Poecilia reticulata): 0.19 - 0.32 mg/l.
96h-LC50 (Poecilia reticulata): 0.32 mg/l (Lit.).
daphnia : 48h-EC50 (Daphnia magna): 0.12 mg/l (Lit.).
algae : 96 h-EC50 (Chlorella pyrenoidosa): 1.8 mg/l (Lit.).
bacteria : 15min EC 50 (Photobacterium phosphoreum): 1.21 mg/l (Lit.).

SECTION 13 - DISPOSAL CONSIDERATIONS

Product: Avoid discharge into the environment.
Small quantities: According to local regulations.
Large quantities: Consult.
Contaminated packaging: According to local regulations.
Other information :Waste code number: Please refer to your specific industry in the European Waste Catalogue.

SECTION 14 - TRANSPORT INFORMATION

Sea transport (IMDG-code/ IMO)
IMO/IMDG: code not relevant
Packing group: not relevant
EMS: none
Marine pollutant: no
Proper Shipping Name: not relevant
Class: not restricted
UN number: none
Subsidiary Risk: none



SECTION 15 - REGULATORY INFORMATION

Chemical description : Tetraethylthiuram disulfide Labelling according to EC directives

EC-number : See section 2

Classification based on : Annex-1 to directive 67/548/EEC

Symbol(s) HARMFUL (Xn) DANGEROUS FOR THE
ENVIRONMENT (N)

SECTION 16 - ADDITIONAL INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.