



MATERIAL SAFETY DATA SHEETS

449

O,O-Diethyl S-ethylthiomethyl phosphorothioate

1. CHEMICAL IDENTITY

Chemical Name : O,O-Diethyl S-ethylthiomethyl phosphorothioate

Chemical Classification: Toxic

Trade Name :

Synonyms: Phoratoxon, Phorate oxygen analog, Phosphorothioic acid, O,O-diethyl S-(ethylthio)methyl ester, Diethyl S-ethylthiomethyl thiophosphate

Formula : C₇H₁₇O₃PS₂

CAS No: 2600-69-3

UN No: 3018

Regulated Identification

Shipping Name : Organophosphorus Pesticide.

Hazchem Code : 2X

Codes / Label : Class 6.1, Toxic

Hazardous Waste ID No : 15

HAZARDOUS INGREDIENTS	C.A.S. No.	HAZARDOUS INGREDIENTS	C.A.S. No.
1 O,O-Diethyl S-ethylthiomethyl phosphorothioate	2600-69-3	3	
2		4	

2. PHYSICAL / CHEMICAL DATA

Boiling Pt. °C: 123-128

Physical State: Liquid

Appearance: Yellow oil

Melting Pt °C:

Vapour Pressure @ 35°C mmHg: 3.32E-04 mm Hg @ 25 deg C

Odour: Mercaptan

Vapour Density(Air =1):

Solubility in water at 30°C g/100ml: 434 mg/L at 25 deg C

Others: Soluble in most organic solvents.

Specific Gravity (Water =1): 1.119

pH :

3. FIRE / EXPLOSION HAZARD DATA

Flammability : No

LEL:

Flash Point °C in OC:

TDG Flammability:

UEL:

Flash Point °C in CC:

Autoignition Temperature °C :

Explosion sensitivity to impact:

Explosion sensitivity to static Electricity:

Hazardous Combustion Products : When heated to decomposition, toxic gases and vapours (PO_x.SO_x) are liberated.

Hazardous Polymerization :

Combustible Liquid: Yes

Explosive Material: No

Corrosive Material No

Flammable Material: No

Oxidiser : No

Others:

Pyrophoric Material: No

Organic Peroxide : No

4. REACTIVITY DATA

Chemical Stability : Stable

Incompatibility with other material : Strong oxidisers

Reactivity : Reacts with strong oxidisers

Hazardous : POx, Sox

Reaction Products

5. HEALTH HAZARD DATA

Routes of entry: Inhalation, skin, eyes & ingestion

Effects of Exposure / Symptoms:

The chemical is an organophosphate which is readily absorbed through inhalation, ingestion and skin contact and causes inhibition of blood cholinesterase. The initial symptoms are giddiness, headache and nausea. Subsequently, cold sweating, vomiting, abdominal cramp, diarrhoea, blurred vision, twitching in the eyelids may occur. In severe cases, laboured breathing, wheezing, excessive sweating, salivation, mental confusion, convulsion, progressive cardiac and respiratory failure and coma manifested.

Emergency Treatment :

Inhalation: Move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. If there is breathing difficulty, give oxygen and keep the person warm and at rest.

Skin: Flood the affected body with water and remove the contaminated clothing. Wash the affected skin thoroughly with soap and water.

Eyes: Flush and irrigate eyes with copious quantities of water for at least 15 mins.

Ingestion: If the person is not unconscious, give him a glass or two of water and induce vomiting. Seek immediate medical aid.

LD50 (oral-rat) mg/kg: 250 ug/kg
(0.25mg/kg)

STEL:

LC50 (rat) mg/kg:

Odour Threshold:

Permissible Exposure Limit:

TLV (ACGIH) :

NFPA Hazard	Health	Flammability	Reactivity	Special
Signals		1	0	

6. PREVENTIVE MEASURES

Personal Protective Equipment : Neoprene-coated gloves, impervious clothing, face-shields, splash-proof goggles

Handling :

Storage : Store in a cool, dry, well-ventilated location. Separate from strong oxidisers.

Precautions :

7. EMERGENCY / FIRST AID MEASURES

FIRE:

Fire Extinguishing Media :

Special Procedure : Use water to keep the fire-exposed containers cool.

Unusual Hazards :

EXPOSURE: First Aid Measures:

Inhalation: Move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. If there is breathing difficulty, give oxygen and keep the person warm and at rest.

Skin: Flood the affected body with water and remove the contaminated clothing. Wash

the affected skin thoroughly with soap and water.

Eyes: Flush and irrigate eyes with copious quantities of water for at least 15 mins.

Ingestion: If the person is not unconscious, give him a glass or two of water and induce vomiting. Seek immediate medical aid.

Antidotes / Dosages: See "Additional Information"

SPILLS :

Steps To Be Taken : Ventilate the area of spillage. Absorb in vermiculite or dry sand and collect in a container. Wash surfaces with detergent and water.

Waste Disposal Method: The spilled material may be disposed of by incineration in a combustion chamber.

8. ADDITIONAL INFORMATION / REFERENCES

Antidotes/Dosages : (1) Atrophine sulphate (intravenous injection of a dose of 2 - 4 mg to be repeated every 5-10 mins. until adequate atropinisation.) (2) Atropine sulphate solution (0.15-1%) for instilling in the eyes (3) Cholinesterase reactivators : 2PAM (1-2 gm I.M. or I.V. injection). TMB-4, Toxogonin (250 mg injection) (4) Diazepam (5-10 mg I.M. injection)

9. MANUFACTURERS / SUPPLIERS DATA

NAME OF FIRM :

Contact person

MAILING ADDRESS :

in Emergency :

TELEPHONE / TELEX NOS :

Local Bodies involved :

TELEGRAPHIC ADDRESS :

Standard Packing :

OTHERS :

Trem Card Details / Ref :

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