



MATERIAL SAFETY DATA SHEETS

499

Phosphonothioic acid, dimethyl-, S-(2-bis) ester

1. CHEMICAL IDENTITY

Chemical Name : Phosphonothioic acid, dimethyl-, S-(2-bis) ester

Chemical Classification: Toxic

Trade Name :

Synonyms: VX, Methylphosphonothioic acid S-[2-[bis(1-methylethyl)amino]ethyl] O-ethyl ester, O-Ethyl S-(2-diisopropylaminoethyl) methylphosphonothiolate

Formula : C₁₁H₂₆NO₂PS

CAS No: 50782-69-9

UN No: 2810

Regulated Identification

Shipping Name :

Hazchem Code : 2X

Codes / Label : Class 6.1, Toxic

Hazardous Waste ID No :

HAZARDOUS INGREDIENTS	C.A.S. No.	HAZARDOUS INGREDIENTS	C.A.S. No.
1 Phosphonothioic acid, dimethyl-, S-(2-bis) ester	50782-69-9	3	
2		4	

2. PHYSICAL / CHEMICAL DATA

Boiling Pt. °C: 298

Physical State: Liquid.

Appearance: Liquid.

Melting Pt °C: <-51

Vapour Pressure @ 35°C mmHg: 0.0007 mm Hg @ 25 deg C

Odour: Odourless.

Vapour Density(Air =1): 9.2

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

Others:

Specific Gravity (Water =1): 1.0083 g/ml @ 25 deg C

pH :

3. FIRE / EXPLOSION HAZARD DATA

Flammability :

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 : Fire may produce irritating, corrosive and/or toxic gases.

Hazardous Polymerization :

Combustible Liquid:

Explosive Material:

Corrosive Material

Flammable Material:

Oxidiser :

Others:

Pyrophoric Material:

Organic Peroxide :

4. REACTIVITY DATA

Chemical Stability : Stable

Incompatibility with other material :

Reactivity :

**Hazardous :
Reaction Products**

5. HEALTH HAZARD DATA

Routes of entry: Inhalation, Ingestion, Skin and Eyes

Effects of Exposure / Symptoms:

Inhalation & ingestion: Toxic; inhalation, ingestion, or skin contact with material may cause severe injury or death. Effects of contact or inhalation may be delayed. Skin : Sweating is a common muscarinic effect of nerve agent exposure. Eye : Constriction of the pupil, tearing, and blurred or dim vision are common clinical findings. Occasionally prolonged dilation of the pupils may occur in severe poisonings. Excessive salivation commonly occurs.

Emergency Treatment :

Inhalation: Monitor ecg and adequacy of respirations and ventilation; supplemental oxygenation, frequent suctioning of secretions, endotracheal intubation, and assisted ventilation may be required.

Skin: Remove and isolate contaminated clothing and shoes. Immediately flush with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin.

Eyes: Immediately flush with running water for at least 20 minutes.

Ingestion: Seek medical assistance.

LD50 (oral-rat) mg/kg:

STEL:

LC50 (rat) mg/kg:

Odour Threshold:

**Permissible
Exposure Limit:**

TLV (ACGIH) :

NFPA Hazard	Health	Flammability	Reactivity	Special
Signals		1	1	

6. PREVENTIVE MEASURES

Personal Protective : Wear appropriate protective gloves, clothing and goggles.

Equipment

Handling : All chemicals should be considered hazardous. Avoid direct physical contact. Use appropriate, approved safety equipment. Untrained individuals should not handle this chemical or its container. Handling should occur in a chemical fume hood.

Storage : Keep in a cool, dry, dark location in a tightly sealed container or cylinder. Keep away from incompatible materials, ignition sources and untrained individuals. Secure and label area. Protect containers/cylinders from physical damage.

Precautions :

7. EMERGENCY / FIRST AID MEASURES

FIRE:

Fire Extinguishing Media :

Special Procedure :

Unusual Hazards :

EXPOSURE: First Aid Measures:

Inhalation: Monitor ecg and adequacy of respirations and ventilation; supplemental oxygenation, frequent suctioning of secretions, endotracheal intubation, and assisted ventilation may be required.

Skin: Remove and isolate contaminated clothing and shoes. Immediately flush with

running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin.

Eyes: Immediately flush with running water for at least 20 minutes.

Ingestion: Seek medical assistance.

Antidotes / Dosages:

SPILLS :

Steps To Be Taken : Decontaminants include bleach slurry and hot soapy water.

Waste Disposal Method:

8. ADDITIONAL INFORMATION / REFERENCES

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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