TEMEPHOS

0199
April 2007

CAS No: 3383-96-8
RTECS No: TF6890000
UN No: 2783

O,O,O',O'-Tetramethyl O,O'-thiodi-p-phenylene bis(phosphorothioate)
O,O'-(Thiodi-4,1-phenylene) bis(O,O-dimethylphosphorothioate)
Phosphorothioic acid, O,O'-(thiodi-4,1-phenylene) O,O,O',O'-tetramethyl ester
$C_{16}H_{20}O_6P_2S_3$
Molecular mass: 466.5

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames.	Water spray, foam, powder, carbon dioxide.
EXPLOSION			In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		**PREVENT DISPERSION OF DUST! PREVENT GENERATION OF MISTS!**	
Inhalation	Dizziness. Nausea. Muscle twitching. Sweating. Pupillary constriction, muscle cramp, excessive salivation. Vomiting. Diarrhoea. Laboured breathing. Convulsions. Unconsciousness.	Ventilation (not if powder), local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin	MAY BE ABSORBED! (Further see Inhalation).	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer immediately for medical attention.
Eyes	Blurred vision.	Face shield or eye protection in combination with breathing protection.	Rinse with plenty of water (remove contact lenses if easily possible). Refer for medical attention.
Ingestion	Abdominal cramps. (see Inhalation).	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers: if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place.

PACKAGING & LABELLING

UN classification
UN Hazard Class: 6.1
UN Pack Group: III
GHS classification
Signal: Danger
Skull-Health haz-Enviro
Toxic in contact with skin
Harmful if swallowed
Harmful if inhaled
Causes damage to nervous system
Very toxic to aquatic life
Very toxic to aquatic life with long lasting effects

Do not transport with food and feedstuffs.
Marine pollutant.

EMERGENCY RESPONSE

Transport Emergency Card: TEC (R)-61GT7-III

SAFE STORAGE

Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs. Well closed. Store in an area without drain or sewer access.

IPCS
International Programme on Chemical Safety

Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission

SEE IMPORTANT INFORMATION ON THE BACK.

IMPORTANT DATA

Physical State; Appearance
COLOURLESS OR WHITE CRYSTALS OR LIQUID.

Chemical dangers
The substance decomposes on heating or on burning producing toxic fumes including phosphorus oxides and sulfur oxides.

Occupational exposure limits
TLV: (as TWA) 1 mg/m^3 Inhalable fraction and vapor (skin); A4 (not classifiable as a human carcinogen); BEI issued; (ACGIH 2006).
MAK not established.

Routes of exposure
The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

Inhalation risk
A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20/C

Effects of short-term exposure
Cholinesterase inhibition. The substance may cause effects on the nervous system, resulting in convulsions and respiratory depression. The effects may be delayed. Medical observation is indicated. Exposure far above the OEL may result in death.

Effects of long-term or repeated exposure
Cholinesterase inhibitor; cumulative effect is possible: see acute hazards/symptoms.

PHYSICAL PROPERTIES

Boiling point (decomposes): 120-125/C
Melting point: 30/C
Density: 1.3 g/cm^3
Solubility in water: none
Vapour pressure, Pa at 25/C: negligible
Octanol/water partition coefficient as log Pow: 5.96

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. This substance may be hazardous in the environment; special attention should be given to honey bees. Bioaccumulation of this chemical may occur. This substance does enter the environment under normal use. Great care, however, should be given to avoid any additional release, e.g. through inappropriate disposal.

NOTES

Depending on the degree of exposure, periodic medical examination is suggested.
Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available.
Carrier solvents used in commercial formulations may change physical and toxicological properties.
The technical grade (90-95%) is a brown, viscous liquid.
Abate, Abathion, Swebate, Nimitex and Biothion are trade names.

ADDITIONAL INFORMATION