

CAS No: 2104-64-5

RTECS No: TB1925000

UN No: 2783

EC No: 015-036-00-2

Phosphonothioic acid, phenyl-, O-ethyl O-(4-nitrophenyl) ester

O-Ethyl O-4-nitrophenyl phenyl phosphonothioate

C<sub>14</sub>H<sub>14</sub>NO<sub>4</sub>PS

Molecular mass: 323.3

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
<b>FIRE</b>	Combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames.	Powder, alcohol-resistant foam, water spray, carbon dioxide.
<b>EXPLOSION</b>			
<b>EXPOSURE</b>		<b>STRICT HYGIENE! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!</b>	<b>IN ALL CASES CONSULT A DOCTOR!</b>
<b>Inhalation</b>	Headache. Wheezing. Laboured breathing. Pupillary constriction, muscle cramp, excessive salivation. Sweating. Nausea. Dizziness. Convulsions. Unconsciousness. Symptoms may be delayed (see Notes).	Local exhaust or breathing protection.	Fresh air, rest. Artificial respiration if indicated. Refer for medical attention.
<b>Skin</b>	MAY BE ABSORBED! Burning sensation. (See Inhalation).	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
<b>Eyes</b>	Blurred vision.	Face shield, or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Ingestion</b>	Nausea. Abdominal cramps. Vomiting. Diarrhoea. Laboured breathing. (Further see Inhalation).	Do not eat, drink, or smoke during work. Wash hands before eating.	Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.

**SPILLAGE DISPOSAL**

Do NOT wash away into sewer. Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Chemical protection suit including self-contained breathing apparatus.

**PACKAGING & LABELLING**

**EU classification**  
T+ Symbol  
N Symbol  
R: 27/28-50/53  
S: (1/2-)22-36/37-45-60-61  
**UN classification**  
UN Hazard Class: 6.1  
UN Pack Group: I

Do not transport with food and feedstuffs. Severe marine pollutant.

**EMERGENCY RESPONSE**

Transport Emergency Card: TEC (R)-61G41a

**SAFE STORAGE**

Separated from food and feedstuffs. Well closed.

### IMPORTANT DATA

**Physical State; Appearance**

YELLOW TO BROWN CRYSTALLINE POWDER, WITH CHARACTERISTIC ODOUR.

**Chemical dangers**

The substance decomposes on heating producing toxic and corrosive fumes including nitrogen oxides, phosphorous oxides, sulfur oxides. Reacts with oxidants. The substance decomposes under influence of alkalies (hydrolysis) forming p-nitrophenol (see ICSC 0066).

**Occupational exposure limits**

TLV: (Inhalable fraction) 0.1 mg/m<sup>3</sup> as TWA (skin) A4 (not classifiable as a human carcinogen); BEI issued (ACGIH 2005).  
MAK: (Inhalable fraction) 0.5 mg/m<sup>3</sup> skin absorption (H); Peak limitation category: II(2) (DFG 2006).

**Routes of exposure**

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

**Inhalation risk**

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20/C; on spraying or dispersing, however, much faster.

**Effects of short-term exposure**

The substance may cause effects on the nervous system, resulting in convulsions, respiratory failure. Cholinesterase inhibitor. Exposure may result in unconsciousness or death. The effects may be delayed. Medical observation is indicated.

**Effects of long-term or repeated exposure**

Cholinesterase inhibitor; cumulative effect is possible: see acute hazards/symptoms.

### PHYSICAL PROPERTIES

Melting point: 36/C  
Density: 1.3 g/cm<sup>3</sup>  
Solubility in water: none

Vapour pressure, Pa at 25/C: < 0.01  
Octanol/water partition coefficient as log Pow: > 5.02

### ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. This substance may be hazardous to the environment; special attention should be given to honey bees. Avoid release to the environment in circumstances different to normal use.

### NOTES

Depending on the degree of exposure, periodic medical examination is indicated.  
The symptoms of acute intoxication do not become manifest until 30 minutes to 1-2 hours.  
Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available.  
If the substance is formulated with solvent(s) also consult the card(s) (ICSC) of the solvent(s).  
Carrier solvents used in commercial formulations may change physical and toxicological properties.  
Do NOT take working clothes home.  
Card has been partially updated in August 2007: see Occupational Exposure Limits.

### ADDITIONAL INFORMATION

**LEGAL NOTICE**

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information