

PHOSPHORUS (YELLOW)

0628
April 2004

CAS No: 12185-10-3
RTECS No: TH3500000
UN No: 1381
EC No: 015-001-00-1

White phosphorus
Phosphorus tetramer
P₄
Atomic mass: 123.88

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Highly flammable. See Notes. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking. NO contact with flammable substances. NO contact with air. NO contact with hot surfaces. NO contact with oxidants, halogens, sulfur and stong base(s).	Water spray, wet sand.
EXPLOSION			In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		PREVENT GENERATION OF MISTS! AVOID ALL CONTACT!	IN ALL CASES CONSULT A DOCTOR!
Inhalation	Burning sensation. Cough. Laboured breathing. Shortness of breath. Sore throat. Unconsciousness. Symptoms may be delayed (see Notes).	Local exhaust or breathing protection.	Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.
Skin	Redness. Skin burns. Pain. Blisters.	Protective gloves. Protective clothing.	First rinse with plenty of water, then remove contaminated clothes and rinse again. Refer for medical attention. Wear protective gloves when administering first aid. See Notes.
Eyes	Redness. Pain. Loss of vision. Severe deep burns.	Safety goggles face shield or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Abdominal pain. Burning sensation. Shock or collapse. Unconsciousness.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Rest. Wear protective gloves when inducing vomiting. Refer for medical attention.

SPILLAGE DISPOSAL

Evacuate danger area! Consult an expert! Cover the spilled material with wet sand or earth. Do NOT wash away into sewer. Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting then remove to safe place. Do NOT absorb in saw-dust or other combustible absorbents. Personal protection: complete protective clothing including self-contained breathing apparatus.

PACKAGING & LABELLING

EU classification
F Symbol
T+ Symbol
C Symbol
N Symbol
R: 17-26/28-35-50
S: (1/2-)5-26-38-45-61
UN classification
UN Hazard Class: 4.2
UN Subsidiary Risks: 6.1
UN Pack Group: I

Airtight. Unbreakable packaging; put breakable packaging into closed unbreakable container. Do not transport with food and feedstuffs.

EMERGENCY RESPONSE

Transport Emergency Card: TEC (R)-42S1381-w
NFPA Code: H 3; F 3; R 1

SAFE STORAGE

Fireproof. Separated from strong oxidants, food and feedstuffs. Keep under water.

IMPORTANT DATA

Physical State; Appearance

WHITE TO YELLOW TRANSPARENT CRYSTALLINE SOLID WITH WAXY APPEARANCE. TURNS DARK ON EXPOSURE TO LIGHT.

Chemical dangers

The substance may spontaneously ignite on contact with air producing toxic fumes (phosphorous oxides). Reacts violently with oxidants, halogens and sulfur, causing fire and explosion hazard. Reacts with strong bases to produce toxic gas (phosphine).

Occupational exposure limits

TLV: 0.1 ppm as TWA; (ACGIH 2005).
MAK: (Inhalable fraction) 0.05 mg/m³; Peak limitation category: II(2);
Pregnancy risk group: C; (DFG 2006).

Routes of exposure

The substance can be absorbed into the body by inhalation of its vapour and by ingestion.

Inhalation risk

Evaporation at 20/C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.

Effects of short-term exposure

The substance is corrosive to the eyes, the skin and the respiratory tract. Corrosive on ingestion. Inhalation of vapour may cause lung oedema (see Notes). The substance may cause effects on the kidneys, liver. Exposure may result in death. The effects may be delayed. Medical observation is indicated.

Effects of long-term or repeated exposure

The substance may have effects on the bone.

PHYSICAL PROPERTIES

Melting point: 44/C
Density: 1.83 g/cm³
Solubility in water, g/100 ml at 20/C: 0.0003
Vapour pressure, Pa at 20/C: 3.5

Relative vapour density (air = 1): 4.42
Flash point: < 20/C
Auto-ignition temperature: 30/C

ENVIRONMENTAL DATA

NOTES

May re-ignite itself after fire is extinguished.

Depending on the degree of exposure, periodic medical examination is suggested.

The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation is therefore essential.

Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.

Do NOT take working clothes home.

Rinse contaminated clothes (fire hazard) with plenty of water.

CAS No. for Phosphorus is 7723-14-0

Card has been partly updated in April 2005 & October 2006. See sections: Occupational Exposure Limits, EU classification, Emergency Response.

Card has been partially updated in August 2007: see Occupational Exposure Limits, Physical Properties.

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