

ZINC PHOSPHIDE**0602**

March 2001

CAS No: 1314-84-7
 RTECS No: ZH4900000
 UN No: 1714
 EC No: 015-006-00-9

Trizinc diphosphide
 Zn_3P_2
 Molecular mass: 258.1

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Not combustible but forms flammable gas on contact with water or damp air.	NO contact with acid(s), water or oxidants.	In case of fire in the surroundings: powder, NO water, NO carbon dioxide.
EXPLOSION			In case of fire: keep drums, etc., cool by spraying with water but NO direct contact with water.

EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE!	
Inhalation	Cough. Headache. Fatigue. Nausea. Diarrhoea. Vomiting.	Local exhaust or breathing protection.	Fresh air, rest. Half-upright position. Refer for medical attention.
Skin	Burning sensation.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Pain. Photophobia.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Abdominal pain. Nausea. Ataxia. Fatigue. Vomiting. Cough. Diarrhoea. Dizziness. Headache. Laboured breathing. Unconsciousness.	Do not eat, drink, or smoke during work. Wash hands before eating.	Give a slurry of activated charcoal in water to drink. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). See Notes. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! Sweep spilled substance into dry containers. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment. Personal protection: complete protective clothing including self-contained breathing apparatus.	F Symbol T+ Symbol N Symbol R: 15/29-28-32-50/53 S: (1/2-)3/9/14-30-36/37-45-60-61 UN Hazard Class: 4.3 UN Subsidiary Risks: 6.1 UN Pack Group: I

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-43GWT2-I NFPA Code: H 3; F 3; R 1	Separated from strong oxidants, acids, water. Dry. Cool. Keep in a well-ventilated room.

IMPORTANT DATA

Physical State; Appearance

DARK GREY CRYSTALS, POWDER OR PASTE, WITH CHARACTERISTIC ODOUR.

Chemical dangers

The substance decomposes on heating and on contact with acids, and slowly with water producing toxic and flammable fumes of phosphorous oxides and zinc oxides, and phosphine. Reacts violently with strong oxidants causing fire hazard.

Occupational exposure limits

TLV not established.

Routes of exposure

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

Inhalation risk

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

Effects of short-term exposure

The substance is irritating to the respiratory tract. The substance may cause effects on the liver, kidneys, heart and nervous system. Exposure at high levels may result in death. Inhalation of phosphine liberated from zinc phosphide may cause lung oedema (see Notes).

Effects of long-term or repeated exposure

The substance may have effects on the nervous system.

PHYSICAL PROPERTIES

Boiling point: 1100°C
Melting point: 420°C

Density: 4.6 g/cm³
Solubility in water: none, slowly decomposes

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. This substance may be hazardous to the environment; special attention should be given to birds and mammals.

NOTES

Reacts violently with fire extinguishing agents such as water and carbon dioxide.
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 are therefore essential.
Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.
If a patient is made to vomit after ingestion, collect the vomitus in a plastic bag to prevent emission of phosphine.
Blue-ox, Gopha-rid, Kilrat, Mous-Con, Phosvin, Ratol, Rumetan and Zinc-Tox are trade names.
Also consult ICSC 0694 Phosphine.
Card has been partly updated in October 2004. See sections Occupational Exposure Limits, EU classification, Emergency Response.

ADDITIONAL INFORMATION

LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible