

## **MATERIAL DATA SAFETY SHEET** **(MSDS)**

### **ZINC PHOSPHIDE**

**CAS No: 1314-84-7**       $\text{Zn}_3\text{P}_2$   
**RTECS No: ZH4900000**      Molecular mass: 258.1  
**UN No: 1714**  
**EC No: 015-006-00-9**

TYPES OF HAZARD / EXPOSURE	ACUTE HAZARDS / SYMPTOMS	PREVENTION	FIRST AID / FIRE FIGHTING
<b>FIRE</b>	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.
<b>EXPLOSION</b>			In case of fire: keep drums, etc., cool by spraying with water but NO direct contact with water.
<b>EXPOSURE</b>		<b>PREVENT DISPERSION OF DUST! STRICT HYGIENE!</b>	
<b>Inhalation</b>	Cough. Headache. Fatigue. Nausea. Diarrhoea. Vomiting.	Local exhaust or breathing protection.	Fresh air, rest. Half-upright position. Refer for medical attention.
<b>Skin</b>	Burning sensation.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
<b>Eyes</b>	Pain. Photophobia.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Ingestion</b>	Abdominal pain. Nausea. Ataxia. Fatigue. Vomiting. Cough. Diarrhoea. Dizziness. Headache.	Do not eat, drink, or smoke during work. Wash hands before	Give a slurry of activated charcoal in water to drink. Induce vomiting (ONLY IN

	Laboured breathing. Unconsciousness.	eating.	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	E Symbol T+ Symbol
IMPORTANT DATA	
<p><b>Physical State; Appearance</b> DARK GREY CRYSTALS, POWDER OR PASTE, WITH CHARACTERISTIC ODOUR.</p> <p><b>Chemical dangers</b> 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.</p> <p><b>Occupational exposure limits</b> TLV not established.</p>	<p><b>Routes of exposure</b> The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion.</p> <p><b>Inhalation risk</b> Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly especially if powdered.</p> <p><b>Effects of short-term exposure</b> 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).</p> <p><b>Effects of long-term or repeated exposure</b> The substance may have effects on the nervous system.</p>

EMERGENCY RESPONSE	STORAGE
Transport Emergency Card: TEC (R)-43G15 NFPA Code: H 3; F 3; R 1	Separated from strong oxidants, acids, water. Dry. Cool. Keep in a well-ventilated room.

PHYSICAL PROPERTIES	ENVIRONMENTAL DATA
Boiling point: 1100°C Melting point: 420°C Density: 4.6 g/cm <sup>3</sup> Solubility in water: none, slowly decomposes	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 indicated. 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 spray, 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.

#### Disclaimer:

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