

**ZINC PHOSPHIDE**  
**SAFETY DATA SHEET**  
**DATE OF LAST REVISION: 07/07/15**

**Section 1: Identification**

**Product Name:** Zinc Phosphide  
**CAS Number:** 215-244-5 / **EC Number:** 215-244-5  
**Company:** Angstrom Sciences, Inc.  
40 South Linden Street  
Duquesne, PA 15110  
For more information call: 412-469-8466  
(Monday - Friday 9:00 AM -5:00 PM EST)

**Section 2: HAZARD IDENTIFICATION**

**Signal Word:** Danger



**Hazard Statements:** H260: In contact with water releases flammable gases which may ignite spontaneously  
H300: Fatal if swallowed

**Precautionary Statements:** P231 + P232: Handle under inert gas. Protect from moisture  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P233: Keep container tightly closed  
P301 + P310: If Swallowed: Immediately call a Poison Center or doctor/physician  
P405: Store locked up  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

**HMIS Health Ratings (0-4):**

Health: 3  
Flammability: 2  
Physical: 3

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**Section 3: Composition/Information on Ingredients**

**Chemical characterization:** Ceramic  
**Additional Names:** Trizinc diphosphide  
**CAS# Description:** 1314-84-7  
**Percentage:** 100 wt%  
**EC number:** 215-244-5

**Section 4: FIRST AID MEASURES**

**General Treatment:** Seek medical attention if symptoms persist.

**Special Treatment:** None

**Important Symptoms:** None

**Eye Contact:** Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

**Skin Contact:** Wash affected area with mild soap and water. Remove any contaminated clothing.

**Inhalation:** Remove to fresh air. If required, give artificial respiration. Seek medical advice.

**Ingestion:** Seek medical attention.

**Section 5: FIRE FIGHTING MEASURES**

**Suitable extinguishing Media:** Do not use water for metal fires - use CO<sub>2</sub>, sand, extinguishing powder

**Flammability:** Flammable

**Special Fire Fighting Procedure:** Use full-face, self contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.

**Environmental Precautions:** Isolate runoff to prevent environmental pollution.

**Section 7: HANDLING AND STORAGE**

**Handling Precautions for safe handling:** Wash thoroughly after handling.

**Conditions for safe storage, including any incompatibilities** Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in Section 10.

**Work/Hygienic Maintenance:** Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.

**Ventilation:** Provide sufficient ventilation to maintain concentration at or below threshold limit.

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**Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION**

<b>Permissible Exposure Limits:</b>	N/A
<b>Threshold Limit Value:</b>	N/A
<b>Special Equipment:</b>	None
<b>Respiratory Protection:</b>	Dust Respirator
<b>Protective Gloves:</b>	Rubber Gloves
<b>Eye Protection:</b>	Safety glasses or goggles
<b>Body Protection:</b>	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Form:</b>	Powder, Granules, Pellets, Sputtering target, Custom parts
<b>Color:</b>	Black
<b>Odor:</b>	Odorless
<b>Water Solubility:</b>	Contact with water releases flammable and toxic gases
<b>Boiling Point:</b>	1100°C
<b>Melting Point:</b>	420°C
<b>Flash Point:</b>	N/A
<b>Autoignition Temperature:</b>	N/A
<b>Density:</b>	4.55 g/cc
<b>Molecular Weight:</b>	258.12 g/mol

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Water, Acids, Oxidizing agents
<b>Chemical Stability:</b>	Stable under recommended storage conditions
<b>Incompatible Conditions:</b>	Water/moisture, Acids
<b>Hazardous Decomposition Products:</b>	Hydrogen phosphide (Phosphine), Phosphorous oxides, Metal Oxide Fume

**Section 11: TOXICOLOGICAL INFORMATION**

<b>Potential Health Effects:</b>	
<b>Eyes:</b>	Causes irritation
<b>Skin:</b>	Causes irritation
<b>Ingestion:</b>	Fatal
<b>Inhalation:</b>	May cause irritation

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**Chronic:** Inorganic phosphorus compounds may cause irritation and hemorrhages in the stomach as well as liver and kidney damage. Bone structure may be attacked, especially the jaw and teeth. Zinc containing fumes may cause metal fume fever. Effects include dry throat, metallic taste, chest pain, dyspnea, rales, and dry cough. Several hours later, chills may occur with lassitude, malaise, fatigue, headache, back pain, Muscle cramps, blurred vision, nausea, fever, perspiration, vomiting and leukocytosis. Phosphine, if generated, is a very toxic, flammable gas. The chief effects are central nervous system depression and lung irritation. Inhalation can cause coma and convulsions leading to death within 48 hours.

<b>Signs &amp; Symptoms:</b>	N/A
<b>Aggravated Medical Conditions:</b>	N/A
<b>Median Lethal Dose:</b>	12 mg/kg for rat by mouth
<b>Carcinogen:</b>	N/A

**Section 12: ECOLOGICAL INFORMATION**

**Aquatic Toxicity:** High

**Persistent Bioaccumulation Toxicity:** No

**Very Persistent, Very Bioaccumulative:** No

**Notes:** Toxic to aquatic life.

May cause long lasting harmful effect on aquatic life.

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach any water sources.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.

Avoid transfer into the environment.

**Section 13: DISPOSAL CONSIDERATIONS**

Dispose of in accordance with local, state, national, and international regulations

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**Section 14: TRANSPORT INFORMATION**

**Hazardous:** Hazardous for transportation



**Hazard Class:** 4.3 Substances which, in contact with water, emit flammable gases  
**Secondary Class:** 6.1 Toxic substances  
**Packing Group:** I  
**UN Number:** UN1714  
**Proper Shipping Name:** Zinc Phosphide

**Section 15: REGULATORY INFORMATION**

**Sec 302 Extremely Hazardous:** No  
**Sec 304 Reportable Quantities:** N/A  
**Sec 313 Toxic Chemicals:** Yes

**Section 16: OTHER INFORMATION**

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.