



Super Conductor Materials, Inc.

391 Spook Rock Industrial Park, Suffern, NY 10901 · 845.368.0240 · www.scm-inc.com

Chemtrec: (800) 424-9300

Poison Center: (800) 562-8236

Revision Date: January 8th, 2019

SAFETY DATA SHEET

Identity: Zinc Phosphite

Formula: Zn₃P₂

SECTION I - GENERAL INFORMATION

Manufacturer: Super Conductor Materials, Inc.

The information below is believed to be accurate and represents the best information available to Super Conductor Materials, Inc. However, SCM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 258.10

CAS #	OSHA PEL	ACGIH TLV	%
1314-84-7	NE	NE	0.0 -100.0 %

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 1100°C

Vapor Pressure (vs. air or mmHg): N/A

Melting Point: 420°C

Specific Gravity (Water=1): 4.55 g/cm³

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Decomposes

Appearance and odor: Gray powder and pieces; faint phosphorus or garlic-like odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Unknown

Explosive Limits: LEL: N/A

UEL: N/A

Extinguishing Media: Use suitable extinguishing agent for surrounding material and type of fire

Special Fire Fighting Procedures: Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Fire and Explosion Hazards:

–DANGEROUS WHEN WET

–When heated to decomposition, zinc phosphide may emit toxic fumes of zinc oxide, phosphine gas and oxides of phosphorus.

–Flammable when exposed to heat or flame.

–Decomposes slowly in moist air.



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–May react with water, steam, acids or acid fumes to produce toxic and flammable phosphine gas.

–May have a violent reaction with concentrated sulfuric acid, nitric acid and oxidizing agents.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (instability): Stable when kept dry

Incompatibility (Materials to avoid): Water; moisture; steam; acid; acid fumes; sulfuric acid; nitric acid; and oxidizing agents

Hazardous Decomposition or Byproducts: Zinc oxide, phosphine gas and oxides of phosphorus

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

Routes of entry: Inhalation? Yes Ingestion? Yes Eyes? No Skin? Yes Other? No

Zinc compounds have variable toxicity, but generally are of low toxicity. Zinc is not inherently a toxic element. However, when heated, it evolves a fume of zinc oxide which, when inhaled fresh, can cause a disease known as "brass founders" "ague," or "brass chills". Zinc oxide dust which is not freshly formed is virtually innocuous. There is no cumulative effect from the inhalation of zinc fumes. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Signs and Symptoms of Overexposure:

Inhalation: May cause a sweet taste, throat dryness, coughing, weakness, generalized aches, chills, fever, nausea and vomiting.

Ingestion: May cause nausea, vomiting, abdominal pain, chills, coughing, shortness of breath and sweating.

Skin: May cause redness and itching.

Eye: No acute or chronic health effects recorded.

Health Hazards (Acute and Chronic):

Inhalation:

Acute: May cause irritation to the respiratory tract and brass chills.

Chronic: May cause central nervous system depression and respiratory tract irritation with nasopharyngitis and laryngitis.

Ingestion:

Acute: Poison by ingestion. May cause coughing, shortness of breath and sweating.

Chronic: No chronic health effects recorded.

Skin:

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

Eye:

Acute: No acute health effects recorded.

Chronic: No chronic health effects recorded

Target Organs: May affect the central nervous system.



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Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No
Medical Conditions Aggravated by Exposure: Pre-existing respiratory disorder

Emergency and First Aid Procedures:

Inhalation: Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention
Ingestion: Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person
Skin: Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist
Eye: Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled:

Wear appropriate respiratory and protective equipment specified in section VIII. Isolate spill area, provide ventilation and extinguish sources of ignition. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

Waste disposal method:

Dispose of in accordance with state, local, and federal regulations.

Hazard Label Information:

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

Precautions: Zinc phosphide is dangerous when wet. Handle and store in an inert gas such as argon.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.

Ventilation:

Local Exhaust: Local exhaust ventilation may be necessary to control any air contaminants to within their PELs or TLVs during the use of this product.

Special: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Mechanical (General): Not recommended

Other: Handle in an inert gas such as argon

Work/Hygienic/Maintenance Practices:

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established