



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Cadmium Phosphide

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1. Product and Company Identification

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Trade Name: Cadmium Phosphide  
Chemical Formula:  $Cd_3P_2$   
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.  
Street: 37 Ramland Road  
City: Orangeburg  
State: New York  
Zip Code: 10962  
Country: USA  
Tel #: 855-587-2436 / 855-lts-chem

24-Hour Emergency Contact: 800-424-9300 (US & Canada)  
+1-703-527-3887 (International)

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2. Hazards Identification

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Signal Word: Warning



Hazard Statements: H302+H312+H332: Harmful if swallowed, in contact with skin or if inhaled.  
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements: P261 Avoid breathing dust/fume/vapor  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
P312: Call a POISON CENTER or doctor/physician if you feel unwell  
P302+PP352: IF ON SKIN: Wash with soap and water  
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):  
Health: 3  
Flammability: 0  
Physical: 2

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### 3. Composition

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Chemical Family: Ceramic  
Additional Names: Tricadmium Diphosphide

Cadmium Phosphide ( $Cd_3P_2$ ):  
Percentage: 100 wt.%  
CAS #: 12014-28-7  
EC #: 234-595-5

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### 4. First Aid Procedures

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General Treatment: Seek medical attention if symptoms persist.  
Special Treatment: N/A  
Important Symptoms: N/A

Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult. Keep victim warm.  
Ingestion: Seek medical attention.  
Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.  
Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.

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### 5. Firefighting Measures

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Flammability: Non-flammable  
Extinguishing Media: Do not use water for metal fires – use  $CO_2$ , sand, extinguishing powder.  
Spec. 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.

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### 6. Accidental Release Measures

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If Material Is Released/Spilled: 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. Do not allow material to be released without proper governmental permits.

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### 7. Handling and Storage

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Handling Conditions: Wash thoroughly after handling.  
Storage Conditions: 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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## 8. Exposure Controls and Personal Protection

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Permissible Exposure Limits:	0.2 mg/m <sup>3</sup> as Cd (USA)
Threshold Limit Value:	0.002 mg/m <sup>3</sup> as Cd
Special Equipment:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Respiratory Protection:	Use suitable respirator when high concentrations are present. Refer 29CFR1910.1027 for regulations on respiratory protection required during exposure to cadmium and cadmium compounds.
Protective Gloves:	Impervious gloves. Check gloves prior to use for their proper condition.
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

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## 9. Physical and Chemical Characteristics

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Color	Green
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	N/A
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	700 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density at 20°C:	5.6 g/cc
Molecular weight:	399.19 g/mol

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	N/A
Incompatible Conditions:	N/A
Hazardous Decomposition Products:	Phosphorus oxides (e.g. P <sub>2</sub> O <sub>5</sub> )

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## 11. Toxicological Information

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Potential Health Effects:	
Eyes:	May cause irritation
Skin:	Harmful in contact with skin. Danger by skin resorption. (Acute)
Ingestion:	Harmful if swallowed. (Acute)
Inhalation:	Harmful if inhaled. (Acute)
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	N/A
Carcinogen:	IARC-1: Carcinogenic to human: sufficient evidence of carcinogenicity. NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals. EPA-B1: Probable human carcinogen, limited evidence of carcinogenicity from epidemiologic studies.

ACGIH A2: Suspected human carcinogen: Agent is carcinogenic in experimental animals at dose levels, by route of administration, at site, of histologic type, or by mechanism considered relevant to worker exposure. Available epidemiologic studies are conflicting or insufficient to confirm an increased risk of cancer in exposed humans.

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#### 12. Ecological Information

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Aquatic Toxicity:	Very toxic for fish.
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not allow material to be released to the environment without proper governmental permits. Do not allow material to reach ground water, water course or sewage system, even in small quantities. Danger to drinking water if even extremely small quantities leak into the ground. Also, poisonous for fish and plankton in water bodies. May cause long lasting harmful effects to aquatic life. Avoid transfer into the environment. Very toxic for aquatic organisms.

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#### 13. Disposal Considerations

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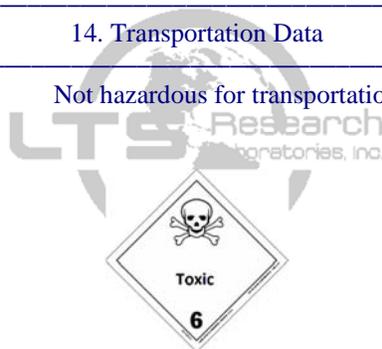
Dispose of in accordance with local, state, national, and international regulations.

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#### 14. Transportation Data

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Hazardous:	Not hazardous for transportation.
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Hazard Class:	6.1 (T5) Toxic substance
Packing Group:	I
UN Number:	UN2570
Proper Shipping Name:	Cadmium compounds (Cadmium Phosphide)

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#### 15. Regulatory Information

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Sec 302 Extremely Hazardous:	N/A
Sec 304 Reportable Quantities:	N/A
Sec 313 Toxic Chemicals:	Yes

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#### 16. Other Information

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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.

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