



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Titanium Phosphide

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1. Product and Company Identification

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Trade Name: Titanium Phosphide  
Chemical Formula: TiP  
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: H228: Flammable solid  
H302+H312+H332: Harmful if swallowed, in contact with skin or if inhaled  
H315: Causes skin irritation  
H319: Causes serious eye irritation  
H335: May cause respiratory irritation

Precautionary Statements: P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking  
P240: Ground/bond container and receiving equipment  
P241: Use explosion-proof electrical/ventilating/lighting/equipment  
P261: Avoid breathing dust/fume/gas/mist/vapors/spray  
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  
P302+P352: 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  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing  
P370+P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

HMIS Health Ratings (0-4):  
Health: 1  
Flammability: 2  
Physical: 2

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### 3. Composition

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Chemical Family: Inorganic Compound  
Additional Names: None

#### Titanium Phosphide (TiP)

Percentage: 100 wt%  
CAS #: 12037-65-9  
EC #: 243-862-6

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### 4. First Aid Procedures

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General Treatment: Seek medical attention if symptoms persist.  
Special Treatment: None  
Important Symptoms: N/A

Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek medical attention.

Ingestion: Rinse mouth with water. Do not induce vomiting. Seek medical attention.

Skin: Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical attention.

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:

Flammable  
Research  
Laboratories, Inc.

Extinguishing Media: Do not use water for metal fires. Use class D or other metal extinguishing agent.

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.

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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: N/A  
Threshold Limit Value: N/A  
Special Equipment: None

Respiratory Protection: Use a recommended dust respirator or mask. Only use equipment tested and approved under appropriate government standards.  
Protective Gloves: Nitrile or rubber gloves  
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: Metallic grey  
Form: Powder, Granules, Pellets, Sputtering target, Custom parts  
Odor: N/A  
Water Solubility: Insoluble  
Boiling Point: N/A  
Melting Point: 1900 °C  
Flash Point: N/A  
Autoignition Temperature: N/A  
Density: 3.95 gm/ml  
Molecular weight: 78.84 g/mol

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## 10. Reactivity

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Stability: Stable under recommended storage conditions  
Reacts With: Oxidizing agents, Water, Steam moisture, Acids and Acid fumes  
Incompatible Conditions: Heat, Flames, Sparks and other Ignition sources  
Hazardous Decomposition Products: Titanium oxides, Phosphorous oxides and Hydrogen Phosphide (Phosphine)

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## 11. Toxicological Information

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Potential Health Effects:  
Eyes: Causes serious irritation  
Skin: Harmful in contact  
Ingestion: Harmful if swallowed  
Inhalation: Harmful if inhaled  
Chronic: N/A

Signs & Symptoms: N/A  
Aggravated Medical Conditions: N/A  
Median Lethal Dose: N/A  
Carcinogen: N/A

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## 12. Ecological Information

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Aquatic Toxicity: N/A  
Persistent Bioaccumulation Toxicity: N/A  
Very Persistent, Very Bioaccumulative: N/A  
Notes: N/A

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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: Hazardous as powder only



Hazard Class: 4.1 Flammable Solids  
Packing Group: III  
UN Number: UN3178  
Proper Shipping Name: Flammable solid, inorganic, n.o.s. (Titanium Phosphide)

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#### 15. Regulatory Information

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

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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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