



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Phosphorus Sulfide

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1. Product and Company Identification

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Trade Name: Phosphorus Sulfide  
Chemical Formula: P<sub>2</sub>S<sub>5</sub>  
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: Danger



Hazard Statements: H228: Flammable solid.  
H260: In contact with water releases flammable gases which may ignite spontaneously.  
H302 + H332: Harmful if swallowed or if inhaled.  
H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements: P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P223: Keep away from any possible contact with water, because of violent reaction and possible flash fire.  
P231 + P232: Handle under inert gas. Protect from moisture.  
P240: Ground/bond container and receiving equipment.  
P241: Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264: Wash skin thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P271: Use only outdoors or in a well-ventilated area.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/ eye protection/ face protection.  
P301 + P312 + P330: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.  
P304 + P340 + P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  
P335 + P334: Brush off loose particles from skin. Immerse in cool water/ wrap in wet bandages.  
P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
P391: Collect spillage.

P402 + P404: Store in a dry place. Store in a closed container.  
P501: Dispose of contents/ container to an approved waste disposal plant.

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

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### 3. Composition

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Chemical Family: Ceramic  
Additional Names: Phosphorus pentasulfide

Phosphorus sulfide (P<sub>2</sub>S<sub>5</sub>):  
Percentage: 100 wt%  
CAS #: 1314-80-3  
EC #: 215-242-4

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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: None

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

Ingestion: Do NOT induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical attention.

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

Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention.

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### 5. Firefighting Measures

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Flammability: Flammable

Extinguishing Media: Dry 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.

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## 7. Handling and Storage

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Handling Conditions:	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Wash thoroughly after handling. Never allow product to get in contact with water during storage.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Keep in a dry place. 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:	1 mg/m <sup>3</sup> as P <sub>2</sub> S <sub>5</sub> , long-term value.
Threshold Limit Value:	1 mg/m <sup>3</sup> as P <sub>2</sub> S <sub>5</sub> , long-term value.
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	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	Yellow
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Stench
Water Solubility:	Insoluble
Boiling Point:	514
Melting Point:	280-284 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	2.09 g/cc
Molecular weight:	222.2676 g/mol

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents, water
Incompatible Conditions:	Strong oxidizing agents, acids, alcohols, water/moisture
Hazardous Decomposition Products:	Sulfur oxides, Phosphorus oxides, Metal oxide fume

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## 11. Toxicological Information

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### Potential Health Effects:

Eyes:	May cause irritation, sufficient data not available
Skin:	May cause irritation, sufficient data not available
Ingestion:	Harmful if swallowed.
Inhalation:	Harmful if inhaled.
Chronic:	N/A

### Signs & Symptoms:

Cough, shortness of breath, headache, nausea, vomiting, pulmonary edema. Effects may be delayed. Prolonged exposure (250 ppm) may cause pulmonary edema. May cause stomach irregularities.

### Aggravated Medical Conditions:

N/A

### Median Lethal Dose:

389 mg/kg for rat by mouth

### 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:

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life.

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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 for transportation



### Hazard Class:

4.3 Dangerous when wet materials

### Secondary Hazard Class:

4.1 Flammable solids

### Packing Group:

PG II

### UN Number:

UN1340

### Proper Shipping Name:

Phosphorus Pentasulfide, free from yellow or white phosphorus

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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:

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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