



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Lithium Phosphorus Sulfur Chloride

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1. Product and Company Identification

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Trade Name: Lithium Phosphorus Sulfur Chloride  
Chemical Formula:  $\text{Li}_6\text{PS}_5\text{Cl}$   
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.  
Street: 2001 Oaks Pkwy  
City: Belmont  
State: North Carolina  
Zip Code: 28012  
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  
H301: Toxic if swallowed  
H314: Causes severe skin burns and eye damage  
H332: Harmful if inhaled  
H400: Very toxic to aquatic life

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/light/equipment  
P261: Avoid breathing dust/fume/vapor  
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/protective clothing/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  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for Several minutes. Remove contact lenses if present and easy to do – continue rinsing

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 alcoholresistant foam to extinguish  
P391: Collect spillage  
P402+P404: Store in a dry place. Store in a closed container  
P405: Store locked up  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

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:	None

Lithium Phosphorus Sulfur Chloride ( $\text{Li}_6\text{PS}_5\text{Cl}$ )

Percentage:	100 wt%
CAS #:	N/A
EC #:	N/A

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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. Keep victim warm. Seek medical attention.
Ingestion:	Do NOT induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person. 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
Extinguishing Media: Spec. Fire Fighting Procedure:	DO NOT use water. Use dry sand or dry extinguishing powder. 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. Remove all sources of ignition. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Avoid dust formation. Avoid breathing vapors, mist, or gas. Evacuate personnel to safety. Do not flush with water.
Environmental Precautions:	Isolate runoff to prevent environmental pollution. Do not let material enter drains. Avoid discharge into the environment.

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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. Handle under dry protective gas. Wash thoroughly after handling. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Keep away from sources of ignition – No smoking. Take measures to prevent the buildup of electrostatic charge.
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:	Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Protective Gloves:	Nitrile rubber gloves Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Eye Protection:	Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Body Protection:	Complete suit protecting against chemical and flame retardant antistatic protective clothing. Wear close-toed shoes and long sleeves/pants

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## 9. Physical and Chemical Characteristics

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Color	N/A
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	N/A
Water Solubility:	N/A
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	268.3978 g/mol

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Water, Oxidizing agents, Acids, Alcohols
Incompatible Conditions:	Water/ Moisture, Heat, Flames, Sparks
Hazardous Decomposition Products:	Metal oxide fume

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## 11. Toxicological Information

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### Potential Health Effects:

Eyes:	Causes eye damage
Skin:	Causes skin burns
Ingestion:	Toxic if swallowed
Inhalation:	Harmful if inhaled
Chronic:	N/A

### Signs & Symptoms:

Aggravated Medical Conditions:

N/A  
N/A

Median Lethal Dose:

N/A

Carcinogen:

N/A

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## 12. Ecological Information

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Aquatic Toxicity:	Very toxic to aquatic life
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

Secondary Hazard:

8 Corrosive

Packing Group:

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UN Number:

UN3131

Proper Shipping Name:

Water-reactive solid, toxic, n.o.s (Lithium Phosphorus Sulfur Chloride)

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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:

No

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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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