

# LITHIUM

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## 1. Product Identification

**Synonyms:** None

**CAS No.:** 7439-93-2

**Molecular Weight:** 6.941

**Chemical Formula:** Li

**Product Codes:** CHEM-059 and others

## 2. Composition/Information on Ingredients

**Toxicological Data on Ingredients:** Lithium LD50: Not available. LC50: Not available.

Ingredient	CAS No	Percent	Hazardous
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Lithium	7439-93-2	100	Yes
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## 3. Hazards Identification

**SAF-T-DATA<sup>(tm)</sup> Ratings**

Health Rating: 3 - Severe (Poison)

Flammability Rating: 4 - Extreme

Reactivity Rating: 2 - Moderate (Water Reactive)

Contact Rating: 2 - Moderate

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code: Red Stripe

### **Potential Acute Health Effects:**

Extremely hazardous in case of skin contact (corrosive, irritant, sensitizer), of eye contact (irritant), of ingestion, of inhalation. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

### **Potential Chronic Health Effects:**

Extremely hazardous in case of skin contact (corrosive, irritant, sensitizer), of eye contact (irritant), of ingestion, of inhalation.

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

**DEVELOPMENTAL TOXICITY:** Not available. The substance is toxic to lungs, the nervous system, mucous membranes.

Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

## 4. First Aid Measures

**Eye Contact:** Check for and remove any contact lenses. Do not use an eye ointment. Seek medical attention.

**Skin Contact:**

If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical got on the victim's exposed skin, such as the hands : Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

**Serious Skin Contact:**

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

**Inhalation:** Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

**Serious Inhalation:**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**Ingestion:**

Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

**Serious Ingestion:** Not available.

## 5. Fire Fighting Measures

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** 179°C (354.2°F)

**Flash Points:** Not available.

**Flammable Limits:** Not available.

**Products of Combustion:** Some metallic oxides.

**Fire Hazards in Presence of Various Substances:** Not available.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:**

Flammable solid. **SMALL FIRE:** Use DRY chemical powder. **LARGE FIRE:** Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

## 6. Accidental Release Measures

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill:**

Corrosive solid. Flammable solid that, in contact with water, emits flammable gases. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Cover with dry earth, sand or other non-combustible material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

## 7. Handling and Storage

**Precautions:**

Keep container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If patient feels unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, moisture.

**Storage:**

Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. Keep container dry. Keep in a cool place.

## 8. Exposure Controls/Personal Protection

**Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:**

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.

**Exposure Limits:** Not available.

## 9. Physical and Chemical Properties

**Physical state and appearance:** Solid. (Metal solid.)

**Odor:** Not available.

**Taste:** Not available.

**Molecular Weight:** 6.94 g/mole

**Color:** Silver-white (when freshly cut)

**pH (1% soln/water):** Not available.

**Boiling Point:** 1336.5°C (2437.7°F)

**Melting Point:** 180.5°C (356.9°F)

**Critical Temperature:** Not available.

**Specific Gravity:** 0.534 (Water = 1)

**Vapor Pressure:** Not applicable.  
**Vapor Density:** Not available.  
**Volatility:** Not available.  
**Odor Threshold:** Not available.  
**Water/Oil Dist. Coeff.:** Not available.  
**Ionicity (in Water):** Not available.  
**Dispersion Properties:** Not available.  
**Solubility:** Not available.

## 10. Stability and Reactivity

**Stability:** The product is stable.  
**Instability Temperature:** Not available.  
**Conditions of Instability:** Not available.  
**Incompatibility with various substances:**  
Extremely reactive or incompatible with oxidizing agents, acids, moisture. The product reacts violently with water to emit flammable but non toxic gases.  
**Corrosivity:** Non-corrosive in presence of glass.  
**Special Remarks on Reactivity:** Evolves hydrogen on contact with water.  
**Special Remarks on Corrosivity:** Not available.  
**Polymerization:** No.

## 11. Toxicological Information

**Routes of Entry:** Eye contact. Inhalation. Ingestion.  
**Toxicity to Animals:**  
LD50: Not available. LC50: Not available.  
**Chronic Effects on Humans:** The substance is toxic to lungs, the nervous system, mucous membranes.  
**Other Toxic Effects on Humans:** Extremely hazardous in case of skin contact (corrosive, irritant, sensitizer), of ingestion, of inhalation.  
**Special Remarks on Toxicity to Animals:** Not available.  
**Special Remarks on Chronic Effects on Humans:** Not available.  
**Special Remarks on other Toxic Effects on Humans:** Not available.

## 12. Ecological Information

**Ecotoxicity:** Not available.  
**BOD5 and COD:** Not available.  
**Products of Biodegradation:**  
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.  
**Toxicity of the Products of Biodegradation:** The products of degradation are more toxic.  
**Special Remarks on the Products of Biodegradation:** Not available.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

**DOT Classification:** CLASS 4.3: Material that emits flammable gases on contact with water.

**Identification:** : Lithium : UN1415 PG: I

**Special Provisions for Transport:** Not available.

## 15. Regulatory Information

**Federal and State Regulations:**

Pennsylvania RTK: Lithium Massachusetts RTK: Lithium TSCA 8(b) inventory: Lithium

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications:**

**WHMIS (Canada):**

CLASS B-6: Reactive and very flammable material. CLASS E: Corrosive solid.

**DSCL (EEC):**

R14- Reacts violently with water. R35- Causes severe burns. R43- May cause sensitization by skin contact.

**HMIS (U.S.A.):**

**Health Hazard:** 3

**Fire Hazard:** 4

**Reactivity:** 2

**Personal Protection:** j

**National Fire Protection Association (U.S.A.):**

**Health:** 3

**Flammability:** 4

**Reactivity:** 2

**Specific hazard:**

**Protective Equipment:**

Gloves. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

## 16. Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

**Product Use:**

Laboratory Reagent and Consumer Hobby

**Revision Information:**

No Changes.

**Disclaimer:**

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