



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Lithium hydroxide monohydrate

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1. Product and Company Identification

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Trade Name: Lithium hydroxide monohydrate  
Chemical Formula:  $\text{LiOH}\cdot\text{H}_2\text{O}$   
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: H301+H331: Toxic if swallowed or if inhaled  
H314: Causes severe skin burns and eye damage.  
H402: Harmful to aquatic life.

Precautionary Statements: P260: Do not breathe dust/fume/gas/mist/vapors/spray  
P264: Wash skin thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P301+P312: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353: IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
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.  
P363: Wash contaminated clothing before reuse.  
P405: Store locked up.  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):  
Health: 3  
Flammability: 0  
Physical: 1

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### 3. Composition

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Chemical Family: Inorganic Compound  
Additional Names: N/A

Lithium hydroxide monohydrate (LiOH·H<sub>2</sub>O):

Percentage: 100 wt%  
CAS #: 1310-66-3  
EC #: 603-454-3

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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. Keep patient warm. Seek immediate medical attention.

Ingestion: Seek immediate medical attention.

Skin: Immediately 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: Non-flammable

Extinguishing Media: Do not use water for fires— use sand, carbon dioxide or powdered 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. Keep unprotected persons away. Isolate spill area and provide ventilation. Use neutralizing agent. 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:	Handle under dry protective gas. Avoid contact with skin and eyes. Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store under dry inert gas. Store away from oxidizing agents, air, water/moisture. Do not store together with acids. This product is hygroscopic and air sensitive. Protect from humidity and water. 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:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Respiratory Protection:	Dust Respirator
Protective Gloves:	Nitrile rubber gloves with minimum thickness of 0.11 mm
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	White
Form:	Powder, Crystalline
Odor:	N/A
Water Solubility:	223 g/l – Soluble
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	1.51 g/cc
Molecular weight:	41.96 g/mol

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents, air, acids
Incompatible Conditions:	Water/moisture
Hazardous Decomposition Products:	Metal oxide fume, lithium oxides

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## 11. Toxicological Information

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Potential Health Effects:	
Eyes:	Causes serious eye damage
Skin:	Causes severe skin burns
Ingestion:	Toxic if swallowed. Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.
Inhalation:	Toxic if inhaled
Chronic:	N/A
Signs & Symptoms:	Large doses of lithium ion have caused dizziness and prostration and can cause kidney damage if sodium intake is limited. Dehydration, weight loss, dermatological effects, and thyroid disturbances have been reported. Central nervous system effects that include slurred speech, blurred vision, sensory loss, ataxia, and convulsions may occur. Diarrhea, vomiting, and neuromuscular effects such as tremor, clonus, and hyperactive reflexes may occur as a result of repeated exposure to lithium ion. Cyanosis and t-wave inversion have occurred in the breast-fed infants of women receiving lithium carbonate therapy. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
Aggravated Medical Conditions:	Lithium and its compounds are possible teratogens by analogy to lithium carbonate which has equivocal human teratogenic data and positive animal teratogenic data.
Median Lethal Dose:	210 mg/kg for rat by mouth
Carcinogen:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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## 12. Ecological Information

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Aquatic Toxicity:	Toxicity to fish: static test LC50 - Danio rerio (zebra fish) - 109 mg/l - 96 h (OECD Test Guideline 203) Toxicity to daphnia and other aquatic invertebrates: static test EC50 - Daphnia magna (Water flea) - ca. 33.5 mg/l - 48 h (OECD Test Guideline 202) Toxicity to algae: static test EC50 - Pseudokirchneriella subcapitata (algae) - 41.62 mg/l - 72 h (OECD Test Guideline 201) Toxicity to bacteria: Respiration inhibition EC50 - Sludge Treatment - ca. 316.8 mg/l - 3 h (OECD Test Guideline 209)
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 undiluted product or large quantities to reach ground water, water course or sewage system.  
Avoid transfer into the environment.

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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: 8 Corrosive substances  
Packing Group: II  
UN Number: UN2680  
Proper Shipping Name: Lithium hydroxide

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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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