Material Safety Data Sheet
Lithium Hydroxide Monohydrate

ACC# 00865

Section 1 - Chemical Product and Company Identification

**MSDS Name:** Lithium Hydroxide Monohydrate

**Catalog Numbers:** AC413320000, AC413320250, AC413325000, L127-500

**Synonyms:** Lithium Hydroxide Hydrate; Lithium Hydroxide Hydrated.

**Company Identification:**
- Fisher Scientific
- 1 Reagent Lane
- Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1310-66-3</td>
<td>Lithium Hydroxide Monohydrate</td>
<td>&gt;99</td>
<td>unlisted</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: white crystalline powder.

**Danger!** Causes burns by all exposure routes. Harmful if inhaled or swallowed. May cause central nervous system effects. May cause kidney damage. Air sensitive. Hygroscopic (absorbs moisture from the air).

**Target Organs:** Kidneys, central nervous system, respiratory system, eyes, skin.

**Potential Health Effects**

**Eye:** Causes severe eye burns. May cause chemical conjunctivitis and corneal damage.

**Skin:** Causes severe burns with delayed tissue destruction.

**Ingestion:** Harmful if swallowed. Causes gastrointestinal tract burns. May cause kidney damage. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract. May cause tremors and convulsions. May cause nausea and vomiting. May cause burning sensations, coughing, wheezing, laryngitis, shortness of breath and headache.

**Inhalation:** Harmful if inhaled. Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. May cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache,
nausea, and vomiting.

**Chronic:** Repeated exposure may cause central nervous system damage. Effects may be delayed. Chronic ingestion may cause dizziness, ringing in the ears, visual disturbances, tremors, and mental confusion. Prolonged absorption may affect electrolyte balance and impair kidney function. Dehydration, weight loss, skin effects, and thyroid disturbances have been reported. May cause kidney damage.

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**Section 4 - First Aid Measures**

**Eyes:** Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:** Treat symptomatically and supportively.

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**Section 5 - Fire Fighting Measures**

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products.

**Extinguishing Media:** In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

**Flash Point:** Not available.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; Flammability: 0; Instability: 1

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**Section 6 - Accidental Release Measures**

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

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**Section 7 - Handling and Storage**
Handling: Wash thoroughly after handling. Wash thoroughly after handling. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Use with adequate ventilation. Discard contaminated shoes.


Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Hydroxide Monohydrate</td>
<td>none listed</td>
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<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: Lithium Hydroxide Monohydrate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to minimize contact with skin.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder
Appearance: white
Odor: none reported
pH: 14 @ 1N solution.
Vapor Pressure: Not applicable.
Vapor Density: Not available.
Evaporation Rate: Not applicable.
Viscosity: Not applicable.
Boiling Point: 920 deg C
Freezing/Melting Point: 462 deg C
Decomposition Temperature: Not available.
Solubility: 10.7 % (20 C)
Specific Gravity/Density: 1.51
Molecular Formula: LiOH.H2O
Molecular Weight: 41.97

Section 10 - Stability and Reactivity
**Chemical Stability:** Absorbs carbon dioxide from the air. Air sensitive. Hygroscopic: absorbs moisture or water from the air.

**Conditions to Avoid:** Dust generation, exposure to moist air or water, heat.

**Incompatibilities with Other Materials:** Moisture, strong acids, strong oxidizing agents, carbon dioxide, aluminum, zinc.

**Hazardous Decomposition Products:** Oxides of lithium.

**Hazardous Polymerization:** Has not been reported.

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**Section 11 - Toxicological Information**

**RTECS#:**

**CAS#** 1310-66-3 unlisted.

**LD50/LC50:**
Not available.

**Carcinogenicity:**
CAS# 1310-66-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** No information found

**Neurotoxicity:** No information found

**Other Studies:**

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**Section 12 - Ecological Information**

No information available.

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**Section 13 - Disposal Considerations**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

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**Section 14 - Transport Information**

<table>
<thead>
<tr>
<th></th>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shipping Name:</strong></td>
<td>LITHIUM HYDROXIDE</td>
<td>LITHIUM HYDROXIDE</td>
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<tr>
<td><strong>Hazard Class:</strong></td>
<td>8</td>
<td>8</td>
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<tr>
<td><strong>UN Number:</strong></td>
<td>UN2680</td>
<td>UN2680</td>
</tr>
</tbody>
</table>

http://fscimage.fishersci.com/msds/00865.htm
Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 1310-66-3 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.

SARA Codes
CAS # 1310-66-3: immediate, delayed.

Section 313
No chemicals are reportable under Section 313.

Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 1310-66-3 can be found on the following state right to know lists: New Jersey, Minnesota.

California Prop 65
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:
C

Risk Phrases:
R 20/22 Harmful by inhalation and if swallowed.
R 35 Causes severe burns.

Safety Phrases:
S 22 Do not breathe dust.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**WGK (Water Danger/Protection)**

CAS# 1310-66-3: 1

**Canada - DSL/NDSL**

None of the chemicals in this product are listed on the DSL or NDSL list.

**Canada - WHMIS**

This product has a WHMIS classification of E, D1B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

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Section 16 - Additional Information

**MSDS Creation Date:** 7/06/1999

**Revision #6 Date:** 9/15/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.