

## SAFETY DATA SHEET

Preparation Date: 06/05/2015

Revision Date: 06/05/2015

Revision Number: G1

### 1. IDENTIFICATION

**Product identifier**

**Product code:** L1121  
**Product Name:** LITHIUM HYDROXIDE, ANHYDROUS, POWDER

**Other means of identification**

**Synonyms:** Lithium hydroxide (Li(OH)) (9CI)  
**CAS #:** 1310-65-2  
**RTECS #** OJ6307070  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** In lubricating oils and greases. In breathing gas purification systems to removed CO2 from exhaled gas by producing lithium carbonate. In electric batteries.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

**Label elements**

## Danger

### Hazard statements

Toxic if swallowed

Toxic if inhaled

Causes severe skin burns and eye damage



### Hazards not otherwise classified (HNOC)

Not Applicable

### Other hazards

Not available

### Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

Wear protective gloves/protective clothing/eye protection/face protection

### Precautionary Statements - Response

*Specific treatment (see .? on this label)*

*Immediately call a POISON CENTER or doctor/physician*

*Specific treatment (see .? on this label)*

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Rinse mouth

Do NOT induce vomiting

### Precautionary Statements - Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

### Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Lithium Hydroxide, Anhydrous 1310-65-2	1310-65-2	100	*
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### 4. FIRST AID MEASURES

#### First aid measures

##### **General Advice:**

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Protection is needed for the first aider.

##### **Skin Contact:**

Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

##### **Eye Contact:**

Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

##### **Inhalation:**

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

##### **Ingestion:**

Toxic if swallowed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

#### **Most important symptoms and effects, both acute and delayed**

##### **Symptoms**

Severe skin irritation. Causes serious eye irritation. Causes skin and eye burns. Causes conjunctivitis. May cause corneal injury. Causes eye damage. May affect the liver. It may affect the kidneys. Central nervous system effects. Causes chemical burns to the respiratory tract. Toxic if swallowed. Toxic by inhalation. Burning sensation of the respiratory tract. Coughing and wheezing. May cause chemical pneumonitis. May cause pulmonary edema. May cause nausea, headache, vomiting. Dyspnea (Difficulty breathing and shortness of breath). Causes digestive (gastrointestinal) tract irritation. May cause gastrointestinal (digestive) tract burns. Thirst. Dehydration. May cause loss of appetite. Abdominal pain.

#### **Indication of any immediate medical attention and special treatment needed**

##### **Notes to Physician:**

Treat symptomatically

#### **Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

### 5. FIRE-FIGHTING MEASURES

#### **Extinguishing Media**

##### **Suitable Extinguishing Media:**

The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

##### **Unsuitable Extinguishing Media:**

No information available.

#### **Specific hazards arising from the chemical**

<b>Hazardous Combustion Products:</b>	If involved in a fire, the following may be released: Oxides of Lithium
<b>Specific hazards:</b>	No information available.
<b><u>Special Protective Actions for Firefighters</u></b>	
<b>Specific Methods:</b>	No information available.
<b>Special Protective Equipment for Firefighters:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### **Personal precautions, protective equipment and emergency procedures**

**Personal Precautions:** Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing dust. Avoid dust formation.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

### **Methods and material for containment and cleaning up**

**Methods for containment** Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up** Neutralize the residue with a dilute solution of acetic acid. Use appropriate tools to put the spilled solid in a suitable waste disposal container. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### **Precautions for safe handling**

**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

**Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not breathe vapours/dust. Do not ingest. Do not smoke. Keep away from heat and sources of ignition. Protect from moisture. Handle in accordance with good industrial hygiene and safety practice.

### **Conditions for safe storage, including any incompatibilities**

**Technical Measures/Storage Conditions:**

Hygroscopic. Protect from moisture. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store in a segregated and approved area. Store away from incompatible materials.

**Incompatible Materials:**

Aluminum. Oxidizing agents. Acids. Zinc.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### **Control parameters**

## National occupational exposure limits

### United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Lithium Hydroxide, Anhydrous 1310-65-2	None	None	None	= 1 mg/m <sup>3</sup> Ceiling

### Canada

Components	Alberta	British Columbia	Ontario	Quebec
Lithium Hydroxide, Anhydrous 1310-65-2	None	= 1 mg/m <sup>3</sup> Ceiling	1 mg/m <sup>3</sup> STEL	None

### Australia and Mexico

Components	Australia	Mexico
Lithium Hydroxide, Anhydrous 1310-65-2	None	None

## Appropriate engineering controls

### Engineering measures to reduce exposure:

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.

## Individual protection measures, such as personal protective equipment

### Personal Protective Equipment

- Eye protection:** Goggles.
- Skin and body protection:** Long sleeved clothing. Chemical resistant apron. Gloves.
- Respiratory protection:** Wear respirator with dust filter. Be sure to use an approved/certified respirator or equivalent..
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Physical state:</b> Solid.	<b>Appearance:</b> Granular powder. Powder.	<b>Color:</b> White.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 23.95
<b>Formula:</b> LiOH	<b>Flammability:</b> Non-flammable	<b>Flashpoint (°C/°F):</b> No information available.
<b>Flash point (°C):</b> No data available	<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> No information available
<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available	<b>pH:</b> 14
<b>Melting point/range(°C/°F):</b> 450-471°C/ 842-879°F	<b>Boiling point/range(°C/°F):</b> No information available	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> 1.46-1.5	<b>Specific gravity:</b> No information available
<b>Vapor pressure @ 20°C (kPa):</b> No information available	<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available
<b>VOC content (g/L):</b> No information available	<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available
<b>Viscosity:</b> No information available	<b>Miscibility:</b> No information available	<b>Solubility:</b> Partially soluble in methanol Insoluble in diethyl ether Easily soluble in water Solubility in Water: 1100 g/L at 20 deg. C

## 10. STABILITY AND REACTIVITY

### Reactivity

Incompatible with aluminum, carbon dioxide, zinc, aluminum, moisture (hygroscopic), oxidizing agents and acids

### Chemical stability

**Stability:** Hygroscopic. Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Incompatible materials. Exposure to moisture. Exposure to moist air.

**Incompatible Materials:** Aluminum. Oxidizing agents. Acids. Zinc.

**Hazardous decomposition products:** No information available

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Principal Routes of Exposure:

Ingestion. Inhalation. Skin. Eyes.

### Acute Toxicity

#### Component Information

*Lithium Hydroxide, Anhydrous - 1310-65-2*

**LD50/oral/rat** = 210 mg/kg Oral LD50 Rat

**LD50/oral/mouse** = 363 mg/kg

**LD50/dermal/rat** = No information available

**LD50/dermal/rabbit** = No information available

**LC50/inhalation/rat** = 960 mg/m<sup>3</sup> Inhalation LC50 Rat 4 h

**LC50/inhalation/mouse** = No information available

**Other LD50 or LC50 information** = No information available

#### Product Information

**LD50/oral/rat** =

**VALUE- Acute Tox Oral** = 210mg/kg

**LD50/oral/mouse** =

**Value - Acute Tox Oral** = 363mg/kg

**LD50/dermal/rabbit**

**VALUE-Acute Tox Dermal** = No information available

**LD50/dermal/rat**

**VALUE -Acute Tox Dermal** = No information available

**LC50/inhalation/rat**

**VALUE-Vapor** = No information available

**VALUE-Gas** = No information available

**VALUE-Dust/Mist** = 960mg/m<sup>3</sup>

**LC50/Inhalation/mouse**

**VALUE-Vapor** = No information available

**VALUE - Gas** = No information available

**VALUE - Dust/Mist** = No information available

### Symptoms

#### **Skin Contact:**

Corrosive. Causes severe irritation and burns.

#### **Eye Contact:**

Causes severe eye irritation and possible burns. Causes conjunctivitis. Causes corneal damage.

#### **Inhalation**

Toxic by inhalation. 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 affect respiration (shortness of breath) and cause burning sensation, coughing, wheezing, laryngitis. May also cause nausea, vomiting, and headache.

**Ingestion** Toxic if swallowed. Causes gastrointestinal tract burns. May cause abdominal pain, nausea, vomiting, diarrhea. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract. May affect behavior/central nervous system/nervous system (headache, somnolence, tremors, disorientation, confusion, irritability, impaired concentration, lethargy, confusion, drowsiness, muscle weakness, convulsions), metabolism (loss of appetite, weight loss). May cause kidney damage. May affect respiration (shortness of breath) and cause burning sensations, coughing, wheezing, laryngitis.

**Aspiration hazard** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** Ingestion: Lithium's toxicity is due to its cumulative effects. It causes poor appetite, weight loss, weakness, fatigue, dehydration, thirst, dryness of mouth. Finer tremors of the hands, lips, or jaw may be apparent signs of involvement of the nervous system/central nervous system, together with loss of coordination, mental confusion, dizziness, slurred speech, blurred vision, drowsiness, and hyperactivity of the nervous system, including twitching and seizures, as well as coma. May also cause goiter/thyroid disturbances, skin effects (various types of dermatitis such as psoriasis, cutaneous ulcers, follicular papules, exfoliate dermatitis, xerosis cutis, acne, anesthesia of the skin), ringing in the ears, and affect liver (liver function tests impaired), kidneys (kidney damage), and blood (pigmented or nucleated red blood cells)..

**Sensitization:** No information available

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Lithium Hydroxide, Anhydrous	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available

**STOT - repeated exposure** No information available

**Target Organs:** Kidneys. Gastrointestinal tract. Respiratory system. Skin. Eyes. Central nervous system.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**



## 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects:** No data available.

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available

**Mobility:** No information available

## 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

#### **Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

#### **Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Lithium Hydroxide, Anhydrous	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** UN2680  
**Proper Shipping Name:** Lithium hydroxide  
**Hazard Class:** 8  
**Subsidiary Risk:**  
**Packing Group:** II  
**ERG No:** 154  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available

### Symbol(s):

### TDG (Canada)

**UN-No:** UN2680  
**Proper Shipping Name:** Lithium hydroxide  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** No information available

### ADR

**UN-No:** UN2680  
**Proper Shipping Name:** Lithium hydroxide  
**Hazard Class:** 8  
**Packing Group:** II  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

## 14. TRANSPORT INFORMATION

### IMO / IMDG

**UN-No:** UN2680  
**Proper Shipping Name:** Lithium hydroxide  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant:** No information available  
**EMS:** F-A  
**MFAG:** No information available  
**Maximum Quantity:** No information available

### RID

**UN-No:** UN2680  
**Proper Shipping Name:** Lithium hydroxide  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**UN-No:** UN2680  
**Proper Shipping Name:** Lithium hydroxide  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** No information available

### IATA

**UN-No:** UN2680  
**Proper Shipping Name:** Lithium hydroxide  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**ERG Code:** 8L  
**Description:** No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Lithium Hydroxide, Anhydrous</i>	Present	Present KE-22570	Present	Present (1)-712	Present	Present	Present 215-183-4

### U.S. Regulations

*Lithium Hydroxide, Anhydrous*

**Minnesota - Hazardous Substance List:** Present

### California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

#### **Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Product code:** L1121

**Product name:** LITHIUM HYDROXIDE,  
ANHYDROUS, POWDER

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**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Lithium Hydroxide, Anhydrous	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
<i>Lithium Hydroxide, Anhydrous</i>	None	None	None	None	None

**U.S. TSCA**

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>Lithium Hydroxide, Anhydrous</i>	Not Applicable	Not Applicable

**Canada****WHMIS hazard class:**

E Corrosive material

**Lithium Hydroxide, Anhydrous**

E

**Canada Controlled Products Regulation:**

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Lithium Hydroxide, Anhydrous	1 %

**Inventory**

Components	Canada (DSL)	Canada (NDSL)
Lithium Hydroxide, Anhydrous	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Lithium Hydroxide, Anhydrous	Not listed	Not listed

**EU Classification****R-phrases(s)**

R34 - Causes burns.

R20/22 - Harmful by inhalation and if swallowed.

**S -phrase(s)**

S22 - Do not breathe dust.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

Components	Classification	Concentration Limits:	Safety Phrases
Lithium Hydroxide, Anhydrous		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**

Xn - Harmful.

Xn

**16. OTHER INFORMATION**

## 16. OTHER INFORMATION

**Preparation Date:** 06/05/2015  
**Revision Date:** 06/05/2015  
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**