



Health	3
Fire	0
Reactivity	0
Personal Protection	J

## Material Safety Data Sheet

### Lithium hydroxide MSDS

#### Section 1: Chemical Product and Company Identification

**Product Name:** Lithium hydroxide

**Catalog Codes:** SLL1276

**CAS#:** 1310-65-2

**RTECS:** OJ6307070

**TSCA:** TSCA 8(b) inventory: Lithium hydroxide

**CI#:** Not available.

**Synonym:**

**Chemical Name:** Lithium Hydroxide

**Chemical Formula:** LiOH

**Contact Information:**

**Sciencelab.com, Inc.**

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: [ScienceLab.com](http://ScienceLab.com)

**CHEMTREC (24HR Emergency Telephone), call:**

1-800-424-9300

**International CHEMTREC, call:** 1-703-527-3887

**For non-emergency assistance, call:** 1-281-441-4400

#### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS #	% by Weight
Lithium hydroxide	1310-65-2	100

**Toxicological Data on Ingredients:** Lithium hydroxide: ORAL (LD50): Acute: 210 mg/kg [Rat]. 363 mg/kg [Mouse]. DUST (LC50): Acute: 960 mg/m 4 hours [Rat].

#### Section 3: Hazards Identification

**Potential Acute Health Effects:**

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of eye contact (corrosive). Corrosive to eyes and skin. 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:**

Hazardous in case of ingestion, of inhalation. CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS). 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 exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

## Section 4: First Aid Measures

### **Eye Contact:**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

### **Skin Contact:**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

### **Serious Skin Contact:**

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

### **Inhalation:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

### **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 unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion:** Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Non-flammable.

**Auto-Ignition Temperature:** Not applicable.

**Flash Points:** Not applicable.

**Flammable Limits:** Not applicable.

**Products of Combustion:** Not available.

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

### **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:** Not applicable.

**Special Remarks on Fire Hazards:** Hazardous Products of Decomposition: Oxides of lithium

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

## Section 6: Accidental Release Measures

**Small Spill:**

Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid.

**Large Spill:**

Corrosive solid. Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

**Precautions:**

Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area. Air Sensitive Hygroscopic

## Section 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:**

STEL: 1 (mg/m<sup>3</sup>) [United Kingdom (UK)] CEIL: 1 from AIHA [United States] Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid. (Hygroscopic powder.)

**Odor:** Not available.

**Taste:** Not available.

**Molecular Weight:** 23.95 g/mole

**Color:** White.

**pH (1% soln/water):** 14 [Basic.]

**Boiling Point:** Not available.

**Melting Point:** 450°C (842°F)

**Critical Temperature:** Not available.

**Specific Gravity:** 2.54 (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:** See solubility in water, methanol.

**Solubility:**

Soluble in cold water. Partially soluble in methanol. Insoluble in diethyl ether.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:**

Exposure to moist air, water, heat, incompatible materials, heat, air. Air sensitive. Absorbs carbon dioxide from the air. Hygroscopic. Absorbs moisture or water from the air.

**Incompatibility with various substances:** Reactive with oxidizing agents, acids.

**Corrosivity:** Slightly corrosive in presence of glass.

**Special Remarks on Reactivity:**

Incompatible with aluminum, carbon dioxide, zinc, aluminum, moisture (hygroscopic). Air sensitive. Absorbs moisture from the air. Absorbs CO<sub>2</sub> from air. Hygroscopic; keep container tightly closed.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Inhalation. Ingestion.

**Toxicity to Animals:**

WARNING: THE LC<sub>50</sub> VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD<sub>50</sub>): 210 mg/kg [Rat]. Acute toxicity of the dust (LC<sub>50</sub>): 960 mg/m<sup>3</sup> 4 hours [Rat].

**Chronic Effects on Humans:**

May cause damage to the following organs: kidneys, gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS).

**Other Toxic Effects on Humans:**

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

**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:**

Acute Potential Health Effects: Skin: Corrosive. Causes severe skin irritation and burns. Eyes: Causes severe irritation and burns of the eyes. May cause chemical conjunctivitis, and corneal damage. 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 affect respiration (shortness of breath) and cause burning sensation, coughing, wheezing, laryngitis. May also cause nausea, vomiting, and headache. Ingestion: Harmful 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. Chronic Potential Health Effects: 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).

## Section 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 less toxic than the product itself.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14: Transport Information

**DOT Classification:** Class 8: Corrosive material

**Identification:** : Lithium hydroxide, solid UNNA: 2680 PG: II

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

## Section 15: Other Regulatory Information

**Federal and State Regulations:**

Minnesota: Lithium hydroxide TSCA 8(b) inventory: Lithium hydroxide

**Other Regulations:**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**Other Classifications:**

**WHMIS (Canada):** CLASS E: Corrosive solid.

**DSCL (EEC):**

R20/22- Harmful by inhalation and if swallowed. R35- Causes severe burns. S22- Do not breathe dust. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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

**Health Hazard:** 3

**Fire Hazard:** 0

**Reactivity:** 0

**Personal Protection:** j

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

**Health:** 3

**Flammability:** 0

**Reactivity:** 0

**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.

**Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

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