



## Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 1080

Date of review: June 30, 2015

### 1 Identification of substance and company

**Product name:** **Lithium hydroxide, monohydrate**  
**Product code:** 15627, 90278, C2039  
**Relevant use and restrictions on use:** Research and product development  
**Manufacturer/Supplier:** Noah Technologies Corporation  
1 Noah Park  
San Antonio, Texas 78249-3419  
Phone: 210-691-2000  
Fax: 210-691-2600  
Web site: www.noahtech.com  
**Emergency information:** CHEMTREC  
800-424-9300

### 2 Hazards identification

**Emergency Overview:**



**Signal word(s):** Danger  
**Pictogram(s):** Corrosion, exclamation mark  
**Hazard statements:** H302 Harmful if swallowed  
H314 Causes severe skin burns and eye damage  
H402 Harmful to aquatic life  
**Precautionary statements:** P260 Do not breathe dust or mist  
P264 Wash skin thoroughly after handling  
P273 Avoid release to the environment  
P280 Wear protective gloves/protective clothing/eye protection/face protection  
P301+312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
P303+361+353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+340+310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.  
P305+351+338+310 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.  
P337/313 If eye irritation persists: Get medical advice/attention  
**Hazards not otherwise classified:** None  
**Ingredients of unknown acute toxicity:** None  
**GHS Classification:** Acute toxicity, oral - 4  
Skin corrosion - 1B  
Serious eye damage - 1  
Acute aquatic toxicity - 3  
**HMIS ratings (scale 0-4):** Health hazard: 3  
Flammability: 0  
Physical hazard: 0

### 3 Composition/Information on ingredients

**Chemical name:** Lithium hydroxide, monohydrate  
**Designation:**  
**CAS number:** 1310-66-3  
**EC number:** 215-183-4  
**Formula:** LiOH.H<sub>2</sub>O  
**Synonyms:** Lithium hydrate  
**Ingredients of known acute toxicity:** Lithium hydroxide, monohydrate

### 4 First aid measures

**After inhalation:** Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.  
**After skin contact:** Wash off with soap and plenty of water. Consult a physician.  
**After eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

<b>After ingestion:</b>	Never give anything by mouth to an unconscious person. Rinse mouth out with water. Consult a physician.
<b>Information for doctor:</b>	Show this safety data sheet to the doctor in attendance
<b>Symptoms/effects; acute and delayed:</b>	Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Causes deep ulcerations and scarring. Destructive to mucous membranes, eyes and skin. Large amounts of lithium compounds may cause vomiting, diarrhea, ataxia, intestinal irritation, kidney injury, central nervous system depression and a drop in blood pressure. Central nervous system effects may include slurred speech, blurred vision, dizziness, sensory loss, convulsions and stupor. Chronic intake may cause neuromuscular effects such as tremor, ataxia, weakness, clonus and hyperactive reflexes.
<b>Immediate medical attention and special treatment needed:</b>	See above

#### 5 Fire-fighting measures

<b>Suitable and unsuitable extinguishing agents:</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide
<b>Special hazards caused by the material, its products of combustion or resulting gases:</b>	Oxides of lithium
<b>Special fire fighting procedures:</b>	Wear self-contained breathing apparatus (SCBA) and fully protective fire fighting equipment/clothing
<b>Unusual fire and explosion hazard:</b>	None

#### 6 Accidental release measures

<b>Person-related safety precautions:</b>	Use personal protective equipment. Avoid dust formation. Avoid breathing dust.
<b>Measures for environmental protection:</b>	Do not let product enter drains. Discharge into the environment must be avoided.
<b>Measures for cleaning/collecting:</b>	Sweep or scoop up and remove. Place in a suitable container for proper disposal.
<b>Additional information:</b>	See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal See Section 15 for regulatory information

#### 7 Handling and storage

<b>Information for safe handling:</b>	Avoid contact with skin and eyes. Avoid formation of dust. Use with adequate ventilation.
<b>Information about protection against explosions and fires:</b>	Normal measures for preventive fire protection.
<b>Storage requirements to be met by storerooms and containers:</b>	Keep container tightly closed in dry and well-ventilated place. Absorbs carbon dioxide from air.
<b>Incompatibility (avoid contact with):</b>	Strong acids and oxidizers, aluminum, zinc
<b>Further information about storage conditions:</b>	No further information available

#### 8 Exposure controls/personal protection

<b>Ventilation requirements:</b>	Use with adequate ventilation
<b>Components with exposure limits that require monitoring:</b>	ACGIH TLV: CL 2 mg/m3
<b>Additional information:</b>	No further information available
<b>General protective and hygienic measures:</b>	The usual precautionary measures for handling chemicals should be adhered to Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin
<b>Personal protective equipment:</b>	
<b>Respiratory protection:</b> (Use only NIOSH or CEN approved Equipment)	Filter-dust, fume, mist respirator
<b>Hand protection:</b>	Impervious gloves
<b>Eye protection:</b>	Safety glasses with side-shields and face shield
<b>Skin protection:</b>	Protective work clothing
<b>Additional protective equipment:</b>	Sufficient to prevent contact. Emergency eyewash and safety shower.
<b>Precautionary labeling:</b>	Wash thoroughly after handling Do not get in eyes, on skin or on clothing Do not breathe dust, vapor, mist, or gas

#### 9 Physical and chemical properties

<b>Physical state:</b>	Powder
<b>Color:</b>	White
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	No data available
<b>Molecular Weight (Calculated):</b>	41.96
<b>pH</b>	12 @ 0.4 g/L
<b>Melting point/freezing point/range:</b>	462 C
<b>Boiling point/range:</b>	924 C
<b>Sublimation temperature/start:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Flammability (solid, gas):</b>	Non-flammable
<b>Flash point:</b>	No data available
<b>Autoignition temperature:</b>	> 400 C
<b>Danger of explosion:</b>	No data available
<b>Flammable limits:</b>	No data available

Lower:	No data available
Upper:	No data available
Evaporation Rate:	No data available
Vapor pressure (mm Hg):	No data available
Vapor density:	No data available
Specific gravity:	1.51
Bulk density:	No data available
Solubility in/Miscibility with water:	233 g/L @ 10 C
Partition coefficient n-octanol/water:	No data available
Viscosity:	No data available

#### 10 Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable
Possibility of hazardous reactions:	No data available
Conditions to be avoided:	Excessive heat See section 7 for information on proper handling and storage
Materials to be avoided:	Strong acids and oxidizers, aluminum, zinc
Dangerous reactions:	No data available
Hazardous decomposition products: (thermal and other)	Oxides of lithium

#### 11 Toxicological information

LD/LC50 values that are relevant for classification:	oral-rat LD <sub>50</sub> : 368 mg/kg
Irritation or corrosion of skin:	No data available
Irritation or corrosion of eyes:	No data available
Primary irritant or corrosive effect: on the skin:	No data available
on the eye:	No data available
Sensitization:	No data available
Potential health effects:	
Inhalation:	See below
Ingestion:	See below
Skin:	See below
Eyes:	See below
Signs and symptoms of exposure:	Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Causes deep ulcerations and scarring. Destructive to mucous membranes, eyes and skin. Large amounts of lithium compounds may cause vomiting, diarrhea, ataxia, intestinal irritation, kidney injury, central nervous system depression and a drop in blood pressure. Central nervous system effects may include slurred speech, blurred vision, dizziness, sensory loss, convulsions and stupor. Chronic intake may cause neuromuscular effects such as tremor, ataxia, weakness, clonus and hyperactive reflexes. To the best of our knowledge the acute and chronic toxicity of this substance is not fully known
Carcinogenicity:	Not listed as a carcinogen with IARC, ACGTIH, NTP or OSHA
Additional information:	No additional information available

#### 12 Ecotoxicological information

Toxicity:	
Toxicity to fish:	Zebra fish LC <sub>50</sub> : 109 mg/L:96H
Toxicity to daphnia and other aquatic invertebrates:	Daphnia magna EC <sub>50</sub> : 33.5 mg/L:48H
Toxicity to algae:	Selenastrum capricornutum EC <sub>50</sub> : 41.62 mg/L:72H
Persistence and degradability:	
Biodegradability:	No data available
Bioaccumulative potential:	
Bioaccumulation:	No data available
Mobility in soil:	No data available
Other adverse effects:	Harmful to aquatic life

#### 13 Disposal considerations

Recommendation:	Consult state, local or national regulation for proper disposal Allow professional disposal company to handle waste Must be specially treated under adherence to official regulations
Unclean packagings recommendation:	Disposal must be made according to official regulations

## 14 Transport information

### Land transport DOT



**Proper shipping name:** Lithium hydroxide  
**DOT Hazard Class:** 8  
**UN Identification number:** UN2680  
**Label(s):** Corrosive  
**Packing group:** II  
**North American Emergency Response Guidebook No.:** 154

### Air transport ICAO-TI and IATA-DGR:



**Proper shipping name:** Lithium hydroxide  
**DOT Hazard Class:** 8  
**UN Identification number:** UN2680  
**Label(s):** Corrosive  
**Packing group:** II  
**North American Emergency Response Guidebook No.:** 154

### UPS Ground / FedEx Ground



**Proper shipping name:** Lithium hydroxide  
**DOT Hazard Class:** 8  
**UN Identification number:** UN2680  
**Label(s):** Corrosive  
**Packing group:** II  
**North American Emergency Response Guidebook No.:** 154

### UPS Air



**Proper shipping name:** Lithium hydroxide  
**DOT Hazard Class:** 8  
**UN Identification number:** UN2680  
**Label(s):** Corrosive  
**Packing group:** II  
**North American Emergency Response Guidebook No.:** 154

## 15 Regulatory information

**SARA Section 302 Extremely Hazardous components and corresponding TPQs:** Not subject  
**SARA Section 311 / 312 hazards:** Acute Health Hazard, Chronic Health Hazard  
**SARA Section 313 components:** Not subject  
**California Proposition 65 components:** Not subject  
**TSCA:** Material is listed on TSCA Inventory

## 16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.