



SAFETY DATA SHEET

LITHIUM HYDROXIDE, MONOHYDRATE

1. Identification of the Substance/Mixture and of the Company/Undertaking:

- 1.1 Product Identifier:** Lithium Hydroxide, Monohydrate
- 1.1.1 Substances** Not applicable
- Alternate names and trade name** Lectro[®] Lyte 900 salt
- 1.1.2 Mixture name:** Lithium Hydroxide, Monohydrate
- 1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:**
Formulation and chemical synthesis in industrial manufacturing operations;
Additive for preparations and articles for industrial and consumer use.
Raw material in manufacture of lithium greases.
Do not use for private purposes (household).
- 1.3 Details of the Supplier of the Safety Data Sheet**
- | North America | Europe | Asia Pacific |
|--|--|---|
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Charlotte, NC 28208
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Jinke Road
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- 1.4 Emergency Telephone Number:**
- | North America | Europe | Asia Pacific |
|--|---|-------------------------|
| CHEMTREC: +1.800.424.9300
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Plant: +1.704.629.5361
Medical: +1.303.595.9048 | 24 hr Specialist advice number:
CHEMTREC: +44 870 8200418 | Phone: +86.21.2067.5888 |

2. Hazards Identification

- 2.1 Classification of the Substance or mixture:**
- 2.1.1 GHS Classification [EC Regulation No 1272/2008 and US OSHA regulations]**
Skin Corrosion Category 1B
Eye damage; Category 1
Acute Toxicity Category 4
- 2.2.2 EC: Classification according to 67/548/EEC or 1999/45/EC [DSD/DPD]**
C, R34; Xn, R22

2.2 Label Elements:

2.2.3 Hazard Pictograms(s):



2.2.4 Signal Word:

Hazard Statement(s):

Danger
Causes severe skin burns and eye damage.
Harmful if swallowed.

H314
H302

Precautionary Statement(s):

Wear protective gloves/protective clothing/eye protection/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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.

P280
P305 + P351 + P338

P301 + P330 + P331
P310
P303 + P361 + P353

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P304 + P340

2.3 **Other Hazards**
None.

3. Composition / Information on Ingredients

3.1 **Substances** Not applicable. Lithium hydroxide monohydrate is considered to be a mixture of anhydrous in water

3.2 **Mixtures**

3.2.1 GHS Classification [EC: Regulation No 1272/2008; US: OSHA regulations]

Chemical Name	CAS #	EC No	EC Index No	REACH Reg No	Wt.%	Classification, Hazard Statement Codes
Lithium hydroxide, anhydrous	1310-65-2	215-183-4	not avail.	01-2119560576-31-0000	57	Skin Corr. 1B Acute Tox. 4 H314 H302
Water	7732-18-5	None	None	None	43	None

3.2.2 EC: Classification according to 67/548/EEC or 1999/45/EC [DSD/DPD]

Chemical Name	CAS #	EC No	Wt.%	Symbols	R-phrases
Lithium hydroxide, anhydrous	1310-65-2	215-183-4 (anhyd. form)	57	C Xn	R34 R22
Water	7732-18-5	None	43	None	None

(see Section 16 for R-phrases text)

4. First Aid Measures

4.1 **Description of First Aid Measures**

- EYES:** Immediately flush with water for at least 15 minutes, lifting the upper and lower eyelids intermittently. See a medical doctor or ophthalmologist immediately.
- SKIN:** Immediately flush with plenty of water while removing contaminated clothing and/or shoes, and thoroughly wash with soap and water. Obtain immediate medical attention. Contact a medical doctor if necessary.
- INGESTION:** Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.
- INHALATION:** Remove to fresh air. If breathing discomfort occurs and persists, see a medical doctor. If breathing has stopped, give artificial respiration and see a medical doctor immediately.

4.2 **Most Important Symptoms and effects, both acute and delayed**

This product is corrosive.

4.3 **Indication of any immediate medical attention and special treatment needed.**

Notes to medical doctor:

This product is corrosive to the skin, eyes and mucous membranes of the respiratory and gastrointestinal tracts. Consideration should be given to gastric lavage, with endotracheal tube in place. Treatment is controlled removal of exposure with symptomatic and supportive care.

5. Fire-Fighting Measures

5.1 **Extinguishing media** Dry chemical, CO₂, water spray or regular foam.

5.2 **Special hazards arising from the substance or mixture**

Hazardous combustion products Corrosive lithium hydroxide dust.

General Hazard None

Properties contributing to None

Flammability

Flashpoint Not applicable

Flammable limits in air Not applicable

Auto ignition temperature Not applicable

Sensitivity to static discharge Not applicable

Sensitivity to static impact Not applicable

5.3 Advice for fire-fighters

Wear full protective clothing and self-contained breathing apparatus (SCBA) approved for fire fighting. This is necessary to protect against the hazards of heat, products of combustion and oxygen deficiency. Do not breathe smoke, gases or vapors generated.

COMMENTS:

(See Section 10, Stability and Reactivity)

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Before cleanup measures begin, review the entire SDS with particular attention to Section 2, Hazards Identification; and Section 8, Exposure Controls/Personal Protection.

6.2 Environmental precautions

Do not wash into drains. Dispose of at qualified waste disposal facility.

6.3 Methods and material for containment and cleaning up

Sweep up and place in suitable transport container. Dispose of waste according to all local and Federal laws and regulations.

6.4 Reference to other sections

Before cleanup measures begin, review the entire SDS with particular attention to Section 2, Hazards Identification; and Section 8, Exposure Controls/Personal Protection.

6.5 Additional information

Not specified.

7. Handling and Storage

7.1 Precautions for safe handling

Do not get in eyes, on skin or clothing. Avoid breathing dust. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Keep container closed. Store away from acids and water.

7.3 Specific end use(s)

Defined in Exposure scenarios. Industrial and professional use only

8. Exposure Controls / Personal Protection

8.1 Control parameters

Lithium hydroxide, anhydrous

DNEL

Long-term exposure, systemic, inhalation 14.5 mg/m³
 Long-term exposure, systemic, dermal 41.4 mg/kg/day

PNEC

PNEC aqua (freshwater) 2.3 mg/l
 PNEC STP 80 mg/l

EXPOSURE LIMITS

Chemical Name	EU		EH40 (UK WEL)		USA (ACGIH)		USA (OSHA)	
	TWA	STEL	TWA	STEL	TWA	STEL/Ceiling	PEL	STEL/Ceiling
Lithium hydroxide, monohydrate	none*		none*		none*		none*	
Lithium hydroxide, anhydrous	none*		---	1 mg/m ³	none*		none*	

* No occupational exposure limit value

8.2 Exposure controls

Engineering controls:

Use local exhaust ventilation to keep airborne concentrations below exposure limits.

Personal protective equipment

<u>Eyes and Face:</u>	Safety glasses or goggles
<u>Respiratory:</u>	When engineering controls are not adequate, wear a respirator approved for protection against inorganic dusts. See Exposure Scenario for more details. US: NIOSH or MSHA approved Europe: CEN Class P type
<u>Protective Clothing:</u>	<u>Gloves:</u> Nitrile (Typical permeation breakthrough time >480 minutes) These glove recommendations should not be used as the absolute basis for glove selection. Actual in-use conditions may vary glove performance from the controlled conditions of laboratory tests. Factors such as concentration and temperature, glove thickness and glove reuse, may affect performance. Other glove requirements, such as length, dexterity, cut, abrasion, puncture and snag resistance, or glove grip need to be considered in making your final selection. <u>Other:</u> Not specified.

<u>Work Hygienic Practices:</u>	Quick-drench eyewash and safety shower.
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9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

<u>Appearance:</u>	White crystals
<u>Odor:</u>	Odorless
<u>Odor threshold:</u>	Not applicable
<u>pH:</u>	(1% solution) @ 25°C: >13
<u>Melting point:</u>	470°C (878°F)
<u>Boiling point:</u>	Not applicable
<u>Flash point:</u>	Not applicable
<u>Evaporation rate(butyl acetate = 1):</u>	Not applicable
<u>Flammability:</u>	Not flammable
<u>Flammable limits:</u>	Not applicable
<u>Vapor pressure:</u>	Not applicable
<u>Vapor density (air = 1):</u>	Not applicable
<u>Specific gravity:</u>	1.5 g/cc
<u>Solubility in water:</u>	% by wt. @ 25°C (77°F): 10
<u>Partition coefficient n-octanol/ water:</u>	Not applicable
<u>Autoignition temperature:</u>	Not applicable
<u>Decomposition temperature:</u>	Not available
<u>Viscosity:</u>	Not applicable
<u>Explosive properties:</u>	Not explosive
<u>Oxidizing properties:</u>	Not an oxidizer

9.2 Other information

<u>Self-reactive properties</u>	Does not meet classification criteria.
<u>Pyrophoric properties</u>	Does not meet classification criteria.
<u>Self-heating properties</u>	Does not meet classification criteria.
<u>Water reactive properties</u>	Does not meet classification criteria.
<u>Corrosive to metals</u>	Does not meet classification criteria.
<u>Molecular weight:</u>	41.96

10. Stability and Reactivity

10.1 <u>Reactivity</u>	Reacts with acids.
10.2 <u>Chemical stability</u>	Stabile
10.3 <u>Possibility of hazardous reaction</u>	Hazardous polymerization will not occur
10.4 <u>Conditions to avoid</u>	Contact with acids, aluminium or zinc.
10.5 <u>Incompatible materials</u>	Acids, aluminum, zinc
10.6 <u>Hazardous decomposition products</u>	None

11. Toxicological Information

11.1 Information on toxicological effects

None

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EUROPEAN UNION:

German Wassergefährdungsklasse (water hazard class)

lithium hydroxide, anhydrous 2

UNITED STATES:

Section 311 Hazard Category (40 CFR 370):

Immediate (Acute) Health Hazard

Section 313 Reportable Ingredients (40 CFR 372):

This product does not contain a toxic chemical subject to the reporting requirements of Section 313 of Emergency Planning and Community Right-To-Know Act of 1986.

Section 302 Extremely Hazardous Substances (40 CFR 355):

Not listed

CERCLA Hazardous Substance (40 CFR 302.4):

Not listed

TSCA Sec 12b Export Notification:

This product is not subject to TSCA 12 (b) Export Notification Requirements.

NFPA Rating:

Health: 3 Flammability: 0 Reactivity: 1 Special: None

INTERNATIONAL INVENTORY STATUS:

Inventory/Country

Product Status

EINECS (EU)

Lithium hydroxide is listed; the hydrated form is not required to be listed.

TSCA (US)

Lithium hydroxide is listed; the hydrated form is not required to be listed.

ECL (Korea)

Lithium hydroxide is listed; the hydrated form is not required to be listed.

DSL (Canada)

Lithium hydroxide is listed; the hydrated form is not required to be listed.

15.2 Chemical Safety Assessment

The Chemical Safety Assessment has been completed for lithium hydroxide anhydrous.

16. Other Information

European Union:

R Phrases:

R22 Harmful if swallowed.

R34 Causes burns

List of Abbreviations used in this SDS:

PBT Persistent, Bioaccumulative and Toxic

vPvB very Persistent, very Bioaccumulative

PEC Predicted environmental concentration

PNEC Predicted no effect concentration

DNEL Derived no effect level

Specific uses identified for Exposure Scenarios

ES1 Formulation

ES2 Chemical processing

ES3 Professional use of products

REVISION SUMMARY: Revision # 2. REACH details added, including data from CSR. Exposure scenarios added. Regular review completed.

This SDS has been prepared to meet European Regulation (EC) No 1907/2006 [and No 1272/2008] requirements. type 7a

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