



[Lithium Hydroxide Monohydrate](#)

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<b>Linear Formula</b>	LiOH • H <sub>2</sub> O
<b>Pubchem CID</b>	168937
<b>MDL Number</b>	MFCD00149772
<b>EC No.</b>	215-183-4
<b>IUPAC Name</b>	lithium hydroxide hydrate
<b>Beilstein/Reaxys No.</b>	N/A
<b>SMILES</b>	[Li+].[OH-].O
<b>Inchl Identifier</b>	InChI=1S/Li-C.2H2O/h;2*1H2/q+1;;/p-1
<b>Inchl Key</b>	GLXDVVHUTZTUQK-UHFFFAOYSA-M
<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H302-H314-H402
<b>Hazard Codes</b>	C
<b>Precautionary Statements</b>	P260-P264-P270-P273-P280-P301+P312-P301+P330+P331-P303+P361+P353-P304+P340-P305+P351+P338-P310-P321-P363-P405-P501
<b>Risk Codes</b>	22-35
<b>Safety Statements</b>	26-36/37/39-45
<b>RTECS Number</b>	N/A
<b>Transport Information</b>	UN 2680 8/PG 2
<b>WGK Germany</b>	2
<b>GHS Pictograms</b>	<a href="#">GHS05 Corrosive</a>  <a href="#">GHS07 Exclamation Point</a> 

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## SAFETY DATA SHEET

Date Accessed: 04/29/2024

Date Revised: 01/15/2022

### SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #1310-66-3

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:  
American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:

## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture  
GHS Classification in accordance with 29 CFR 1910  
(OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Skin corrosion (Category 1B), H314

Serious eye damage (Category 1), H318

Acute aquatic toxicity (Category 3), H402

GHS Label elements, including precautionary  
statements

Pictogram



Signal word Danger

Hazard statement(s)

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H402 Harmful to aquatic life.

Precautionary statement(s)

P260 Do not breathe dust or mist.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this  
product.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye  
protection/ face  
protection.

P301 + P312 IF SWALLOWED: Call a POISON  
CENTER/doctor if you feel unwell.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth.  
Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/  
Take off immediately all contaminated  
clothing. Rinse skin with water/ shower.

P304 + P340 IF INHALED: Remove victim to fresh air  
and keep at rest in a position  
comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously  
with water for several minutes. Remove  
contact lenses, if present and easy to do. Continue  
rinsing.

P310 Immediately call a POISON CENTER/doctor.

P321 Specific treatment (see supplemental first aid  
instructions on this label).

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/ container to an approved

waste disposal plant.  
Hazards not otherwise classified (HNOC) or not  
covered by GHS - none

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances  
Formula :  $\text{HLiO} \cdot \text{H}_2\text{O}$   
Molecular weight : 41.96 g/mol  
CAS-No. : 1310-66-3  
EC-No. : 215-183-4

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### **SECTION 4. FIRST AID MEASURES**

Description of first aid measures  
General advice  
Consult a physician. Show this safety data sheet to  
the doctor in attendance. Move out of dangerous area.  
If inhaled  
If breathed in, move person into fresh air. If not  
breathing, give artificial respiration. Consult a  
physician.  
In case of skin contact  
Take off contaminated clothing and shoes  
immediately. Wash off with soap and plenty of water.  
Consult a physician.  
In case of eye contact  
Rinse thoroughly with plenty of water for at least 15  
minutes and consult a physician. Continue rinsing  
eyes during transport to hospital.  
If swallowed  
Do NOT induce vomiting. Never give anything by  
mouth to an unconscious person. Rinse mouth with  
water. Consult a physician.  
Most important symptoms and effects, both acute and  
delayed  
The most important known symptoms and effects are  
described in the labelling (see section 2) and/or in  
section 11  
Indication of any immediate medical attention and  
special treatment needed  
No data available

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### **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media  
Suitable extinguishing media  
Use water spray, alcohol-resistant foam, dry chemical

or carbon dioxide.  
Special hazards arising from the substance or mixture  
Lithium oxides  
Advice for firefighters  
Wear self-contained breathing apparatus for  
firefighting if necessary.  
Further information  
No data available

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and  
emergency procedures  
Use personal protective equipment. Avoid dust  
formation. Avoid breathing vapours, mist or gas.  
Ensure adequate ventilation. Evacuate personnel to  
safe areas. Avoid breathing dust.  
For personal protection see section 8.  
Environmental precautions  
Prevent further leakage or spillage if safe to do so. Do  
not let product enter drains. Discharge into the  
environment must be avoided.  
Methods and materials for containment and cleaning  
up  
Pick up and arrange disposal without creating dust.  
Sweep up and shovel. Keep in suitable, closed  
containers for disposal.  
Reference to other sections  
For disposal see section 13.

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## **SECTION 7. HANDLING AND STORAGE**

Precautions for safe handling  
Avoid contact with skin and eyes. Avoid formation of  
dust and aerosols. Further processing of solid  
materials may result in the formation of combu  
formation should be taken into consideration before  
additional processing  
Provide appropriate exhaust ventilation at places  
where dust is formed.  
For precautions see section 2.  
Conditions for safe storage, including any  
incompatibilities  
Keep container tightly closed in a dry and well-  
ventilated place.  
Store under inert gas. Air sensitive.  
Specific end use(s)  
Apart from the uses mentioned in section 1 no other  
specific uses are stipulated

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If th full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

Appearance Form: crystalline

Colour: white

Odour No data available

Odour Threshold No data available

pH 12 at 0.4 g/l

Melting point/freezing point

No data available

Initial boiling point and boiling range

100 °C (212 °F) at 1013 hPa  
Flash point ( ) Not applicable  
Evaporation rate No data available  
Flammability (solid, gas) The product is not flammable.  
Upper/lower flammability or explosive limits  
No data available  
Vapour pressure No data available  
Vapour density No data available  
Relative density 1.510 g/cm<sup>3</sup>  
Water solubility 216 g/l at 20 °C (68 °F)  
Partition coefficient: octanol/water  
No data available  
Auto-ignition temperature  
No data available  
Decomposition temperature  
No data available  
Viscosity No data available  
Explosive properties No data available  
Oxidizing properties No data available  
Other safety information  
No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity  
No data available  
Chemical stability  
Stable under recommended storage conditions.  
Possibility of hazardous reactions  
No data available  
Conditions to avoid  
No data available  
Incompatible materials  
Strong oxidizing agents, Acids, Aluminum, Zinc  
Hazardous decomposition products  
Hazardous decomposition products formed under fire conditions. - Lithium oxides  
Other decomposition products - No data available  
In the event of fire: see section 5

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects  
Acute toxicity  
LD<sub>50</sub> Oral - Rat - female - 368 mg/kg(Lithium hydroxide monohydrate)  
LC<sub>50</sub> Inhalation - Rat - male and female - 4 h - > 6.15 mg/l(Lithium hydroxide monohydrate)  
(OECD Test Guideline 403)

Dermal: No data available(Lithium hydroxide monohydrate)  
No data available(Lithium hydroxide monohydrate)  
Skin corrosion/irritation  
Skin - in vitro assay(Lithium hydroxide monohydrate)  
Result: Corrosive  
(In Vitro Membrane Barrier Test Method for Skin Corrosion - CORROSITEX)  
Serious eye damage/eye irritation  
No data available(Lithium hydroxide monohydrate)  
Respiratory or skin sensitisation  
No data available(Lithium hydroxide monohydrate)  
Germ cell mutagenicity  
Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Not mutagenic in Ames Test(Lithium hydroxide monohydrate)  
Mouse lymphocyte  
Result: negative  
Carcinogenicity  
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.  
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.  
Reproductive toxicity  
Lithium and its compounds are possible teratogens by analogy to lithium carbonate positive animal teratogenic data.(Lithium hydroxide monohydrate)  
No data available(Lithium hydroxide monohydrate)  
Specific target organ toxicity - single exposure  
No data available(Lithium hydroxide monohydrate)  
Specific target organ toxicity - repeated exposure  
No data available  
Aspiration hazard  
No data available(Lithium hydroxide monohydrate)  
Additional Information  
RTECS: Not available  
Large doses of lithium ion have caused dizziness and prostration, and can Dehydration, weight loss, dermatological effects, and thyroid disturbance include slurred speech, blurred vision, sensory loss, ataxia, and convuls effects such as tremor, clonus, and hyperactive reflexes may occur as a r, Cyanosis and t-wave inversion have occurred in the breast-fed infants of women receiving lithium carbonate therapy., Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath(Lithium hydroxide monohydrate)

Stomach - Irregularities - Based on Human Evidence  
Stomach - Irregularities - Based on Human  
Evidence(Lithium hydroxide monohydrate)

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## **SECTION 12. ECOLOGICAL INFORMATION**

### Toxicity

Toxicity to fish static test LC50 - Danio rerio (zebra fish) - 109 mg/l - 96 h(Lithium hydroxide monohydrate)

(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - ca. 33.5 mg/l - 48 h(Lithium hydroxide monohydrate)

(OECD Test Guideline 202)

Toxicity to algae static test EC50 -

Pseudokirchneriella subcapitata (algae) - 41.62 mg/l - 72h(Lithium hydroxide monohydrate)

(OECD Test Guideline 201)

Toxicity to bacteria Respiration inhibition EC50 -

Sludge Treatment - ca. 316.8 mg/l - 3 h(Lithium hydroxide monohydrate)

(OECD Test Guideline 209)

Persistence and degradability

No data available

Bioaccumulative potential

Does not bioaccumulate.

Mobility in soil

No data available(Lithium hydroxide monohydrate)

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

Contaminated packaging

Dispose of as unused product.



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## **SECTION 14. TRANSPORT INFORMATION**

DOT (US)

UN number: 2680 Class: 8 Packing group: II

Proper shipping name: Lithium hydroxide

Poison Inhalation Hazard: No

IMDG

UN number: 2680 Class: 8 Packing group: II EMS-No:

F-A, S-B

Proper shipping name: LITHIUM HYDROXIDE

IATA

UN number: 2680 Class: 8 Packing group: II

Proper shipping name: Lithium hydroxide

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## **SECTION 15. REGULATORY INFORMATION**

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Lithium hydroxide monohydrate 1310-66-3

New Jersey Right To Know Components

Lithium hydroxide monohydrate

CAS-No.

1310-66-3

Revision Date

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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## **16. OTHER INFORMATION**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the

product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.

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