

Material Safety Data Sheet

Lithium Hydroxide Monohydrate, 56% LiOH

ACC# 00866

Section 1 - Chemical Product and Company Identification

MSDS Name: Lithium Hydroxide Monohydrate, 56% LiOH

Catalog Numbers: AC199540000, AC199540010, AC199540250, AC199542500

Synonyms: Lithium Hydroxide Hydrate; Lithium Hydroxide Hydrated.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
1310-66-3	Lithium Hydroxide Monohydrate	100	unlisted

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white solid.

Danger! Corrosive. Causes burns by all exposure routes. Harmful if inhaled or swallowed. May cause central nervous system effects. May cause kidney damage. Air sensitive. Hygroscopic (absorbs moisture from the air).

Target Organs: Kidneys, central nervous system, respiratory system, eyes, skin.

Potential Health Effects

Eye: Causes severe eye burns. May cause chemical conjunctivitis and corneal damage.

Skin: Causes severe burns with delayed tissue destruction.

Ingestion: Harmful if swallowed. Causes gastrointestinal tract burns. May cause kidney damage. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract. May cause tremors and convulsions. May cause nausea and vomiting. May cause burning sensations, coughing, wheezing, laryngitis, shortness of breath and headache.

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 cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Chronic: Repeated exposure may cause central nervous system damage. Effects may be delayed. Chronic ingestion may cause dizziness, ringing in the ears, visual disturbances, tremors, and mental confusion. Prolonged absorption may affect electrolyte balance and impair kidney function. Dehydration, weight loss, skin effects, and thyroid disturbances have been reported. May cause kidney damage.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products.

Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 1

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Use with adequate ventilation. Discard contaminated shoes.

Storage: Keep container closed when not in use. Keep under a nitrogen blanket. Corrosives area. Store protected from moisture.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Lithium Hydroxide Monohydrate	none listed	none listed	none listed

OSHA Vacated PELs: Lithium Hydroxide Monohydrate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: white

Odor: none reported

pH: 14 @ 1N solution.

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Evaporation Rate:Not applicable.

Viscosity: Not applicable.

Boiling Point: Not applicable.

Freezing/Melting Point:Not available.

Decomposition Temperature:Not available.

Solubility: 10.7 % (20 C)

Specific Gravity/Density: 1.51

Molecular Formula:LiOH.H₂O

Molecular Weight:41.97

Section 10 - Stability and Reactivity

Chemical Stability: Absorbs carbon dioxide from the air. Air sensitive. Hygroscopic: absorbs moisture or water from the air.

Conditions to Avoid: Dust generation, exposure to moist air or water, heat.

Incompatibilities with Other Materials: Moisture, strong acids, strong oxidizing agents, carbon dioxide, aluminum, zinc.

Hazardous Decomposition Products: Oxides of lithium.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 1310-66-3 unlisted.

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 1310-66-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	LITHIUM HYDROXIDE, MONOHYDRATE	LITHIUM HYDROXIDE, SOLID
Hazard Class:	8	8
UN Number:	UN2680	UN2680
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 1310-66-3 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 1310-66-3: immediate, delayed.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 1310-66-3 can be found on the following state right to know lists: New Jersey, Minnesota.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

C

Risk Phrases:

R 20/22 Harmful by inhalation and if swallowed.

R 35 Causes severe burns.

Safety Phrases:

S 22 Do not breathe dust.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 1310-66-3: 1

Canada - DSL/NDSL

None of the chemicals in this product are listed on the DSL or NDSL list.

Canada - WHMIS

This product has a WHMIS classification of E.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 7/06/1999

Revision #4 Date: 9/22/2004

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.