


HANDLING GUIDE FOR LITHIUM HYDROXIDE

2018



RESPONSIBLE CARE

Livent supports the principles of the American Chemistry Council (ACC) Responsible Care® program by working with our employees, suppliers, customers, contractors, and commercial partners to promote responsible management of products and processes.




DNV BUSINESS ASSURANCE MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 147045-2013-AHSO-USA-ANAB
This is to certify that
FMC Corporation
at
2801 Yorkmont Road, Charlotte, NC 28208 USA

has been found to conform to the Management System Standard:
**American Chemistry Council's
Responsible Care Management System® (RCMS®)
Technical Specification (RC101.03)**

This Certificate is valid for the following product or service ranges:
Lithium Division Headquarters



DET NORSKE VERITAS MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 92626-2011-AQ-USA-ANAB
This is to certify that
FMC Corporation
at
1735 Market Street, Philadelphia, PA USA
Additional Locations:

Site Name	Site Address	Site City	Site State	Site Main Activities
FMC Corp.	2801 Yorkmont Road	Charlotte	NC	Marketing, Sales, Supply Chain
FMC Corp.	Westvaco Raod	Green River	WY	Manufacturing
FMC Corp.	Highway 161	Bessemer City	NC	Manufacturing
FMC Corp.	Highway 31E	Middleport	NY	Formulation

has been found to conform to the Management System Standard:
**American Chemistry Council's
Responsible Care Management System® (RCMS®)
Technical Specification (RC101.03)**

This Certificate is valid for the following product or service ranges:
Corporate and business management, health, safety, environment, security, product stewardship and distribution located at 1735 Market Street, Philadelphia, PA, USA.

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PHYSICAL PROPERTIES

PHYSICAL PROPERTIES

Appearance	White Crystals
Molecular Formula	LiOH
Molecular Weight	41.96
Available lithium hydroxide	57.4 typical 56.5 minimum
Bulk Density	Loose 0.9 g/cm ³ Tap 1.0 g/cm ³
Typical particle size	> 20 mesh less than 3%
Water Solubility	10.7% LiOH at 0°C 10.9% LiOH at 20°C 14.8% LiOH at 100°C



LITHIUM HYDROXIDE MONOHYDRATE

Transport classification :

8, Corrosive, Packing Group II

Storage:

Keep containers sealed and closed. Store away from acids and water.

Typical Shipping containers (Net package):

100 kg in a polyethylene lined fiber drum

25 kg bags, 40 per pallet (1 MT per pallet)

50 lb bags, 40 per pallet (2,000 lb per pallet)





HAZARDS

PHYSICAL HAZARDS

Corrosive lithium hydroxide dust

Incompatible materials – Acids, aluminum & zinc

Not an Oxidizer

Noncombustible

Does not polymerize

Does not auto-ignite

Not sensitive to static discharge

Does not biodegrade

STABILITY

Lithium Hydroxide Monohydrate is stable under normal storage and temperature conditions.

Lithium Hydroxide Monohydrate is incompatible with acids, aluminum and zinc

HEALTH HAZARDS

Corrosive to the eyes (may cause blindness), skin, nose and throat.

Continuous inhalation exposure may cause lung damage.

Use local exhaust ventilation to reduce airborne concentrations.

TOXICOLOGICAL INFORMATION

Eye and Skin Contact: corrosive

Skin Absorption: corrosive

Ingestion: Oral LD₅₀ = 210 mg/kg (rat) (LiOH, anhydrous)

Inhalation: LC₅₀ > 2.0 mg/L (rat) (LiOH, monohydrate)

Acute Effects: Corrosive to the eyes (may cause blindness), skin, upper respiratory track

Chronic Effects: Continuous inhalation exposure may cause lung damage

Carcinogenicity: Not considered a carcinogen under OSHA

Mutagenicity/Reproductive Toxicity: Not mutagenic or genotoxic

ENVIRONMENTAL HAZARDS

Ecotoxicological toxicity testing has not been carried out.
The hydroxyl ion may affect the pH of water.

Lithium Hydroxide exists as the inorganic ions lithium and hydroxide in aqueous solutions.

Lithium Hydroxide is NOT:

- biograded
- bioaccumulated
- photodegraded



HANDLING

HANDLING

Avoid contamination with incompatible materials

Product should be kept cool and dry

5 year shelf life if stored properly

Avoid spills

PERSONAL PROTECTIVE EQUIPMENT

Eyes and Face:

Safety goggles

Respiratory:

When adequate ventilation is not available, wear a NIOSH/MSHA respirator approved for protection against inorganic dust.

Protective Clothing:

Rubber gloves and apron

Work Hygienic Practices:

Quick-drench eyewash and safety shower

STORAGE

Store in a cool, dry location

Keep containers closed and sealed

Do not storage close to acids or water

TRANSFERRING, REPACKING, BLENDING, PROCESSING OR MIXING MATERIAL

Process Hazards Review on product use is required.

Compatible materials of construction for equipment in contact with product, or a diluted or dissolved mixture.

Contamination sources:

- Need to be identified
- Protected against

Lithium Hydroxide Monohydrate dust :

- Corrosive to the eyes (may cause blindness), skin, nose, and throat.
- Exposure may cause breathing difficulty and continuous inhalation exposure may cause lung damage.
- Use local exhaust ventilation to reduce airborne concentrations

TRANSPORTATION

Proper Shipping Name	Lithium hydroxide
Classification	8, Corrosive
UN Number	UN2680
Packing Group	II
Marine Pollutant	No
Post	Not acceptable
Parcel, Air	Restricted Quantities
Sea	Class 8 (IMDG)
Road, Rail	Class 8.41b (RID/ADR)



For shipments within Europe labeling for supply requirements are
C Corrosive
R&S phrases see SDS

Responsible Care initiatives dictates that all shipments of lithium chemicals must be transported in a DOT approved vehicle in a responsible manner (i.e., no flat bed trucks)



EMERGENCY GUIDELINES

FIRST AID MEASURES

Eyes:

Immediately flush with water for a minimum of 15 minutes. See medical doctor or ophthalmologist immediately.

Skin:

Immediately flush with plenty of water. Remove contaminated clothing, wash with soap and water.

Ingestion:

Rinse mouth with water. Dilute by giving 1-2 glasses of water. Do not induce vomiting. See a medical doctor immediately.

Inhalation:

Remove to fresh air. If breathing difficulty occurs and persists, see a medical doctor. If breathing has stopped give artificial respiration.

FIREFIGHTING

Dry chemical, CO₂, water spray, or regular foam

Wear full protective clothing and self-contained breathing apparatus (SCBA) for fire fighting.

- This is necessary to protect against the hazards of heat, products of combustion and oxygen deficiency.

Water based fire systems:

Must be inspected, tested, and maintained in accordance with NFPA 25 Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.

Manual fire-fighting equipment:

In the form of portable water extinguishers or water hose reel stations provided in accordance with NFPA requirements

FOR FURTHER INFORMATION

Livent

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For Emergency

CHEMTREC 800-424-9300



