

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name Lithium Hydride
CAS number 7580-67-8
Synonyms Lithium Monohydride; LIH

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Company Lab Alley, LLC
 12501 Pauls Valley Road
 Austin, Texas 78737
 U.S.A.

Telephone 512-668-9918
Fax 512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Substances/mixtures which, in contact with water, emit flammable gases (Category 1)
Skin Corrosion/Irritation (Category 1B)
Serious Eye Damage/Eye Irritation (Category 1)

2.2 GHS Label elements, including precautionary statements

Pictogram**Signal Word**

Danger

Hazard statements

In contact with water releases flammable gases which may ignite spontaneously
 Toxic if swallowed
 Causes severe skin burns and eye damage
 Causes serious eye damage

Precautionary statements

Prevention Do not breathe dust/fume/gas/mist/vapors/spray
 Wash face, hands and any exposed skin thoroughly after handling
 Wear protective glove/protective clothing/eye protection/face protection
 Use only outdoors or in a well-ventilated area
 Keep away from any possible contact with water, because of violent reaction and possible flash fire
 Handle under inert gas. Protect from moisture

Response Immediately call a POISON CENTER or doctor/physician.

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

Skin IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 Brush off loose particles from skin. Immerse in cool water/wrap with wet bandages.

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

Ingestion IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

Fire In case of fire: Use limestone powder, sodium chloride or dry sand to extinguish

Storage Store locked up
 Store in a well-ventilated place. Keep container tightly closed
 Store in a dry place. Store in a closed container

Disposal Dispose of contents/container to an approved waste disposal plant

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Reacts violently with water

SECTION 3: Composition/information on ingredients**3.1 Components**

Chemical name	Common name and synonyms	CAS number	Concentration
Lithium hydride	Lithium Monohydride; LIH	7580-67-8	>95%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately. If not breathing, give artificial respiration.
In case of skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothing and shoes. Call a physician immediately.
In case of eye contact	Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing.
If swallowed	Do NOT induce vomiting. Immediate medical attention is required. Never anything by mouth to an unconscious person. Drink plenty of water.

4.2 Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Dry sodium chloride. Limestone powder. Dry sand.

Unsuitable extinguishing media Water, Carbon dioxide, foam

5.2 Specific hazards arising from the substance or mixture

The product causes burns of eyes, skin and mucous membranes. Reacts violently with water.

5.3 Special protective equipment and precautions for firefighters

Hazardous combustion products: Hydrogen. Lithium oxide. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

5.4 Further information

Flash Point No information available

Autoignition Temperature No information available

Explosion limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

NFPA

Health	Flammability	Instability	Physical hazards
3	2	0	W

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Should not be released into the environment. See section 12 for additional ecological information.

6.3 Methods and materials for containment and cleaning up

Avoid dust formation. Sweep up and shovel into suitable containers for disposal. Do not expose spill to water.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not ingest. If swallowed then seek immediate medical assistance. Wear personal protective equipment/face protection. Do not allow contact with water.

Hygiene measures

No information available

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Keep away from water or moist air. Store under an inert atmosphere.

Incompatibilities

Acids. Strong oxidizing agents. Alcohols. Chlorine. Oxygen.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Lithium hydride	TWA	0.025 mg/m ³

US. ACGIH Threshold Limit Values

Component	Type	Value
Lithium hydride	Ceiling	0.05 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Lithium hydride	IDLH	0.05 mg/m ³
	TWA	0.025 mg/m ³

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close of the workstation location. Use only under a chemical fume hood.

Personal protective equipment

Eye/face protection

Tight sealing safety goggles. Face protection shield.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Control of environmental exposure

No information available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Powder solid
Appearance	Light grey
Odor	No information available
Odor Threshold	No information available
pH	No information available
Melting Point/Range	680 °C / 1256 °F
Boiling Point/Range	No information available
Evaporation Rate	not applicable
Flammability (solid)	No information available
Flammability or explosive limit	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Density	0.82
Solubility	Reacts violently with water
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	>160 °C
Decomposition Temp	No information available
Viscosity	Not applicable
Molecular Formula	H Li
Molecular Weight	7.95
VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information

No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

Yes

10.2 Chemical stability

Stable under normal conditions

10.3 Possibility of hazardous reactions

None under normal processing. Reacts violently with water

10.4 Conditions to avoid

Incompatible products. Excess heat. Exposure to moist air or water. Exposure to moisture.

10.5 Incompatible materials

Acids, strong oxidizing agents, alcohols, chlorine, oxygen

10.6 Hazardous decomposition products

Hydrogen, Lithium oxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

No acute toxicity information is available for this product

Skin corrosion/irritation

Causes burns by all exposure routes.

Serious eye damage/eye irritation

No information available

Respiratory or skin sensitization

No information available

Germ cell mutagenicity

No information available

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Lithium hydride	7580-67-8	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

None known

Specific target organ toxicity - repeated exposure

None known

Reproductive toxicity

No information available

Chronic effects

No information available

11.2 Additional Information

The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Toxicity

Reacts with water so no ecotoxicity data for the substance is available. Discharge to water will affect pH and harm aquatic organisms.

12.2 Persistence and degradability

Persistence is unlikely based on information available

12.3 Bio accumulative potential

No information available

12.4 Mobility in soil

Is not likely mobile in the environment.

12.5 Results of PBT and vPvB assessment

No information available

12.6 Endocrine disrupting properties

No information available

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN-no.	UN1414
Proper Shipping Name	LITHIUM HYDRIDE
Hazard Class	4.3
Packing group	I

IMDG

UN-no.	UN1414
Proper Shipping Name	LITHIUM HYDRIDE
Hazard Class	4.3
Packing group	I

IATA

UN-no.	UN1414
Proper Shipping Name	LITHIUM HYDRIDE
Hazard Class	4.3
Packing group	I

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not listed

CERCLA Hazardous Substance List (40 CFR 302.4)
Listed

SARA 304 Emergency release notification
Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous
See section 2 for more information

SARA 313 (TRI reporting)
Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act
Not regulated

US state regulations

US. Massachusetts RTK - Substance List
Listed

US. New Jersey Worker and Community Right-to-Know Act
Listed

US. Pennsylvania Worker and Community Right-to-Know Law
Listed

California Proposition 65
Listed

SECTION 16: Other information

Issue date: 07/15/2024

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.