

# LITHIUM ALUMINUM HYDRIDE

LAH

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b>		Solid powder	White to gray	Odorless
LAH		Reacts violently with water. Flammable gas is produced.		
<p>Evacuate.                  Restrict human use; farm use; industrial use.                  Keep people away.                  Avoid contact with solid and dust.                  Wear rubber overclothing (including gloves).                  Shut off ignition sources and call fire department.                  Notify local health and pollution control agencies.</p>				
<b>Fire</b>	<p><b>FLAMMABLE.</b>                  Flammable gas is released on contact with water, metals, or acids.                  Wear rubber overclothing (including gloves).                  DO NOT USE WATER, DRY CHEMICALS, CARBON DIOXIDE, OR FOAM.                  Extinguish with powdered limestone or powdered graphite.</p>			
<b>Exposure</b>	<p>CALL FOR MEDICAL AID.</p> <p><b>SOLID</b>                  Will burn skin and eyes.                  Harmful if swallowed.                  Remove contaminated clothing and shoes.                  Flush affected areas with plenty of water.                  IF IN EYES, hold eyelids open and flush with plenty of water.                  IF SWALLOWED and victim is CONSCIOUS, have victim drink plenty of water.</p>			
<b>Water Pollution</b>	<p>Effect of low concentrations on aquatic life is unknown.                  May be dangerous if it enters water intakes.                  Notify local health and wildlife officials.                  Notify operators of nearby water intakes.</p>			

<b>1. CORRECTIVE RESPONSE ACTIONS</b>	<b>2. CHEMICAL DESIGNATIONS</b>
Dilute and disperse Stop discharge	2.1 <b>CG Compatibility Group:</b> Not listed. 2.2 <b>Formula:</b> LiAlH <sub>4</sub> 2.3 <b>IMO/UN Designation:</b> 4.3/1410 2.4 <b>DOT ID No.:</b> 1410 2.5 <b>CAS Registry No.:</b> 1302-30-3 2.6 <b>NAERG Guide No.:</b> 138 2.7 <b>Standard Industrial Trade Classification:</b> 52495
<b>3. HEALTH HAZARDS</b>	
3.1 <b>Personal Protective Equipment:</b> Rubberized gloves; full face shield. 3.2 <b>Symptoms Following Exposure:</b> Contact of solid with eyes and skin causes severe burns similar to those caused by caustic soda. 3.3 <b>Treatment of Exposure:</b> In case of accidental contact with the skin, wipe off excess with a dry paper towel. Wash the affected area with a large volume of water to prevent localized heating of the skin. 3.4 <b>TLV-TWA:</b> Not listed. 3.5 <b>TLV-STEL:</b> Not listed. 3.6 <b>TLV-Ceiling:</b> Not listed. 3.7 <b>Toxicity by Ingestion:</b> Currently not available. 3.8 <b>Toxicity by Inhalation:</b> Currently not available. 3.9 <b>Chronic Toxicity:</b> Currently not available. 3.10 <b>Vapor (Gas) Irritant Characteristics:</b> Not pertinent. 3.11 <b>Liquid or Solid Characteristics:</b> Moisture of skin causes caustic burns. 3.12 <b>Odor Threshold:</b> Odorless. 3.13 <b>IDLH Value:</b> Not listed. 3.14 <b>OSHA PEL-TWA:</b> Not listed. 3.15 <b>OSHA PEL-STEL:</b> Not listed. 3.16 <b>OSHA PEL-Ceiling:</b> Not listed. 3.17 <b>EPA AEGL:</b> Not listed.	

## 4. FIRE HAZARDS

- 4.1 **Flash Point:**  
Flammable Solid
- 4.2 **Flammable Limits in Air:** Not pertinent
- 4.3 **Fire Extinguishing Agents:** Powdered graphite, powdered salt, or powdered limestone
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Do NOT use water, soda acid, carbon dioxide or dry chemical.
- 4.5 **Special Hazards of Combustion Products:** Currently not available
- 4.6 **Behavior in Fire:** Decomposes at 257°F to form hydrogen gas. The heat generated may cause ignition and/or explosion.
- 4.7 **Auto Ignition Temperature:** Currently not available
- 4.8 **Electrical Hazards:** Class 1, Group B
- 4.9 **Burning Rate:** Not pertinent
- 4.10 **Adiabatic Flame Temperature:** Currently not available
- 4.11 **Stoichiometric Air to Fuel Ratio:** 9.5 (calc.)
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** 3.0 (calc.)
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

## 5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** Reacts violently with water as a dry solid or when dissolved in ether. The hydrogen produced by the reaction with water is a major hazard and necessitates adequate ventilation.
- 5.2 **Reactivity with Common Materials:** Can burn in heated or moist air.
- 5.3 **Stability During Transport:** Normally stable; unstable at high temperatures.
- 5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
- 5.5 **Polymerization:** Not pertinent
- 5.6 **Inhibitor of Polymerization:** Not pertinent

## 6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:**  
Currently not available
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):**  
Currently not available
- 6.4 **Food Chain Concentration Potential:**  
None
- 6.5 **GESAMP Hazard Profile:** Not listed

## 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 95-98%
- 7.2 **Storage Temperature:** Ambient
- 7.3 **Inert Atmosphere:** Dry air
- 7.4 **Venting:** Store container in well-ventilated area.
- 7.5 **IMO Pollution Category:** Currently not available
- 7.6 **Ship Type:** Currently not available
- 7.7 **Barge Hull Type:** Currently not available

## 8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Dangerous When Wet
- 8.2 **49 CFR Class:** 4.3
- 8.3 **49 CFR Package Group:** I
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:**

Category	Classification
Health Hazard (Blue).....	3
Flammability (Red).....	1
Instability (Yellow).....	2
Special (White).....	W
- 8.6 **EPA Reportable Quantity:** Not listed.
- 8.7 **EPA Pollution Category:** Not listed.
- 8.8 **RCRA Waste Number:** Not listed
- 8.9 **EPA FWPCA List:** Not listed

## 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Solid
- 9.2 **Molecular Weight:** 37.94
- 9.3 **Boiling Point at 1 atm:** Decomposes
- 9.4 **Freezing Point:** Not pertinent
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** 0.917 at 15°C (solid)
- 9.8 **Liquid Surface Tension:** Not pertinent
- 9.9 **Liquid Water Interfacial Tension:** Not pertinent
- 9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
- 9.11 **Ratio of Specific Heats of Vapor (Gas):**  
Not pertinent
- 9.12 **Latent Heat of Vaporization:** Not pertinent
- 9.13 **Heat of Combustion:** Not pertinent
- 9.14 **Heat of Decomposition:** Not pertinent
- 9.15 **Heat of Solution:** Not pertinent
- 9.16 **Heat of Polymerization:** Not pertinent
- 9.17 **Heat of Fusion:** Currently not available
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** Currently not available

## NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	R E A C T S		N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T