


<b>MSDS</b> <b>Material Safety Data Sheet</b>	<b>24 Hour Emergency Telephone: 908-659-2151</b> <b>CHEMTREC: 1-800-424-9300</b>
	<b>National Response in Canada</b> <b>CANUTEC: 613-996-6666</b>
<b>From: Mallinckrodt Baker, Inc.</b> <b>222 Red School Lane</b> <b>Phillipsburg, NJ 08865</b>	<b>Outside U.S. and Canada</b> <b>Chemtrec: 703-527-3887</b>
	<b>NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.</b>
All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.	

## LITHIUM ALUMINUM HYDRIDE

MSDS Number: L6523 --- *Effective Date: 11/17/99*

### 1. Product Identification

**Synonyms:** Lithium tetrahydroaluminate; Aluminum lithium hydride  
**CAS No.:** 16853-85-3  
**Molecular Weight:** 37.95  
**Chemical Formula:** AlH<sub>4</sub>Li  
**Product Codes:** P403

### 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Lithium Aluminum Hydride	16853-85-3	90 - 100%	Yes

### 3. Hazards Identification

#### Emergency Overview

**DANGER! CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED. FLAMMABLE SOLID. WATER REACTIVE. MAY IGNITE IF HEATED OR CONTACTED WITH WATER OR ACIDS.**

**J.T. Baker SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)**

Health Rating: 2 - Moderate  
 Flammability Rating: 3 - Severe (Flammable)  
 Reactivity Rating: 3 - Severe (Water Reactive)  
 Contact Rating: 3 - Severe (Corrosive)  
 Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES; CLASS D EXTINGUISHER  
 Storage Color Code: Red Stripe (Store Separately)

#### Potential Health Effects

##### Inhalation:

Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

##### Ingestion:

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach. Can cause sore throat, vomiting, diarrhea.

##### Skin Contact:

Corrosive. Symptoms of redness, pain, and severe burn can occur.

##### Eye Contact:

Corrosive. Contact can cause blurred vision, redness, pain and severe tissue burns.

##### Chronic Exposure:

No information found.

##### Aggravation of Pre-existing Conditions:

No information found.

### 4. First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Ingestion:**

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Contact:**

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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## 5. Fire Fighting Measures

**Fire:**

Flammable Solid. May ignite spontaneously because of friction (grinding or rubbing) or static sparks. When this material is heated or contacts water or acids, an exothermic (heat-producing) reaction occurs as hydrogen gas is produced. Often enough heat is generated to cause ignition.

**Explosion:**

See above. Sensitive to static discharge.

**Fire Extinguishing Media:**

Use approved Class D extinguishers or smother with dry sand, dry clay, or dry ground limestone. DO NOT USE: water, carbon dioxide, or halogenated extinguishing agents.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## 6. Accidental Release Measures

DO NOT USE WATER. Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer!

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Never mix this material with another material without first testing chemical compatibility with small quantities in a manner similar to the proposed use. Avoid dust formation and control ignition sources. Employ grounding, venting and explosion relief provisions in accord with accepted engineering practices in any process capable of generating dust and/or static electricity. Empty only into inert or non-flammable atmosphere. Emptying contents into a non-inert atmosphere where flammable vapors may be present could cause a flash fire or explosion due to electrostatic discharge. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**

None established.

**Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to the substance is apparent, consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Eye Protection:**

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

**Appearance:**

White to gray powder.

**Odor:**

No information found.

**Solubility:**

Reacts with water

**Density:**

0.92

**pH:**

No information found.

**% Volatiles by volume @ 21C (70F):**

0

**Boiling Point:**

Not applicable.

**Melting Point:**

125C (257F)

**Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

## 10. Stability and Reactivity

**Stability:**

Decomposes in moist air, when heated, or in contact with acids. May ignite on grinding. Reacts with water.

**Hazardous Decomposition Products:**

Hydrogen, lithium hydride, lithium hydroxide, aluminum.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Heat, water, alcohols, acids, transition metal salts, oxidizing agents, and a wide variety of other substances. Violent reacts occur on contact with powerful oxidizers.

Exothermic reactions involving hydrogen occur when heated or in contact with moisture or acids.

**Conditions to Avoid:**

Moisture, heat, flames, ignition sources and incompatibles.

## 11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Lithium Aluminum Hydride (16853-85-3)	No	No	None

## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

**Domestic (Land, D.O.T.)****Proper Shipping Name:** LITHIUM ALUMINUM HYDRIDE**Hazard Class:** 4.3**UN/NA:** UN1410**Packing Group:** I**Information reported for product/size:** 100G**International (Water, I.M.O.)**

**Proper Shipping Name:** LITHIUM ALUMINUM HYDRIDE  
**Hazard Class:** 4.3  
**UN/NA:** UN1410  
**Packing Group:** I  
**Information reported for product/size:** 100G

**International (Air, I.C.A.O.)**

**Proper Shipping Name:** LITHIUM ALUMINUM HYDRIDE  
**Hazard Class:** 4.3  
**UN/NA:** UN1410  
**Packing Group:** I  
**Information reported for product/size:** 100G

## 15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
Ingredient                                     TSCA  EC   Japan  Australia
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Lithium Aluminum Hydride (16853-85-3)         Yes  Yes  Yes    Yes
-----\Chemical Inventory Status - Part 2\-----
Ingredient                                     --Canada--
Korea  DSL  NDSL  Phil.
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Lithium Aluminum Hydride (16853-85-3)         Yes  Yes  No    Yes
-----\Federal, State & International Regulations - Part 1\-----
Ingredient                                     -SARA 302-  -SARA 313-
RQ    TPQ    List  Chemical Catg.
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Lithium Aluminum Hydride (16853-85-3)         No    No    No    No
-----\Federal, State & International Regulations - Part 2\-----
Ingredient                                     -RCRA-  -TSCA-
CERCLA  261.33  8(d)
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Lithium Aluminum Hydride (16853-85-3)         No    No    No
Chemical Weapons Convention: No  TSCA 12(b): No  CDTA: No
SARA 311/312: Acute: Yes  Chronic: Yes  Fire: Yes  Pressure: No
Reactivity: Yes  (Pure / Solid)

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**Australian Hazchem Code:** 4W

**Poison Schedule:** No information found.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 3 Flammability: 2 Reactivity: 2 Other: **Water reactive**

**Label Hazard Warning:**

DANGER! CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED. FLAMMABLE SOLID. WATER REACTIVE. MAY IGNITE IF HEATED OR CONTACTED WITH WATER OR ACIDS.

**Label Precautions:**

Do not breathe dust.  
Do not contact with water.  
Do not get in eyes, on skin, or on clothing.  
Keep container closed.  
Use only with adequate ventilation.  
Wash thoroughly after handling.  
Keep away from heat, sparks and flame.

**Label First Aid:**

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases get medical attention immediately.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No changes.

**Disclaimer:**

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