1. Identification

Product Name  
Lithium aluminium hydride

Cat No. :  
AC332100000; AC332100100; AC332101000

CAS-No  
16853-85-3

Synonyms  
LAH; Lithium tetrahydridoaluminate

Recommended Use  
Laboratory chemicals.

Uses advised against  
Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company  
Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

Emergency Telephone Number

For information US call: 001-800-ACROS-01  
Europe call: +32 14 57 52 11

Emergency Number  
US:001-201-796-7100  
Europe: +32 14 57 52 99

CHEMTREC Tel. No.  
US:001-800-424-9300  
Europe:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| Substances/mixtures which, in contact with water, emit flammable gases | Category 1 |
| Skin Corrosion/Irritation | Category 1 A |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Combustible dust | Yes |

Label Elements

Signal Word  
Danger

Hazard Statements  
May form combustible dust concentrations in air  
In contact with water releases flammable gases which may ignite spontaneously  
Causes severe skin burns and eye damage

______________________________________________________________________________________________

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Precautionary Statements

Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
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 CO2, dry chemical, or foam for extinction

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

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

Hazards not otherwise classified (HNOC)
None identified

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium aluminum hydride</td>
<td>16853-85-3</td>
<td>95</td>
</tr>
</tbody>
</table>

4. First-aid measures

Eye Contact
Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

Inhalation
Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.

Ingestion
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Call a physician immediately.
Most important symptoms and effects
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.

Notes to Physician
Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media
Dry chemical.

Unsuitable Extinguishing Media
No information available

Flash Point
No information available

Method
No information available

Autoignition Temperature
Not applicable

Explosion Limits
Upper
No data available

Lower
No data available

Sensitivity to Mechanical Impact
No information available

Sensitivity to Static Discharge
No information available

Specific Hazards Arising from the Chemical
Dust can form an explosive mixture with air. Contact with water liberates toxic gas. Water reactive. Combustible material. Produce flammable gases on contact with water. Fine dust dispersed in air may ignite.

Hazardous Combustion Products
Hydrogen. Burning produces obnoxious and toxic fumes.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal Precautions
Ensure adequate ventilation. Use personal protective equipment as required. Should not be released into the environment.

Methods for Containment and Clean Up
Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Sweep up and shovel into suitable containers for disposal. Keep from any possible contact with water, because of violent reaction and possible flash fire.

7. Handling and storage

Handling
Do not breathe dust. Do not get in eyes, on skin, or on clothing. Handle product only in closed system or provide appropriate exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Do not allow contact with water.

Storage
Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Protect from direct sunlight. Keep from any possible contact with water. Keep under nitrogen. Keep away from water or moist air. Keep at temperatures below 35°C. Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

8. Exposure controls / personal protection

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure.
limit established by the region specific regulatory bodies.

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Powder Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Off-white</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>125 °C / 257 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td></td>
</tr>
<tr>
<td>Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>negligible</td>
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<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
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<tr>
<td>Specific Gravity</td>
<td>0.910</td>
</tr>
<tr>
<td>Solubility</td>
<td>No information available</td>
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<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
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<tr>
<td>Autoignition Temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>125 °C</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>Al H₄ Li</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>37.95</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactive Hazard
Yes

Stability
Risk of explosion by shock, friction, fire or other sources of ignition. heat sensitive. Water reactive.

Conditions to Avoid
Keep away from open flames, hot surfaces and sources of ignition. Excess heat. Exposure to light. Incompatible products. Exposure to moist air or water.

Incompatible Materials
Acids, Water, Alcohols, Strong reducing agents
Hazardous Decomposition Products: Hydrogen, Burning produces obnoxious and toxic fumes.

Hazardous Polymerization: Hazardous polymerization does not occur.

Hazardous Reactions: Contact with water liberates extremely flammable gases.

11. Toxicological information

Acute Toxicity

Product Information: No acute toxicity information is available for this product.

Component Information: No information available.

Toxicologically Synergistic Products: Delayed and immediate effects as well as chronic effects from short and long-term exposure.

Irritation: Causes burns by all exposure routes.

Sensitization: No information available.

Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
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</thead>
<tbody>
<tr>
<td>Lithium aluminum hydride</td>
<td>16853-85-3</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects: No information available.

Reproductive Effects: No information available.

Developmental Effects: No information available.

Teratogenicity: No information available.

STOT - single exposure: None known.

STOT - repeated exposure: None known.

Aspiration hazard: No information available.

Symptoms / effects, both acute and delayed: 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.

Endocrine Disruptor Information: No information available.

Other Adverse Effects: The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity: Reacts with water so no ecotoxicity data for the substance is available.

Persistence and Degradability: Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation: No information available.

Mobility: Is not likely mobile in the environment.

13. Disposal considerations

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.
14. Transport information

DOT
- UN-No: UN1410
- Proper Shipping Name: LITHIUM ALUMINUM HYDRIDE
- Hazard Class: 4.3
- Packing Group: I

TDG
- UN-No: UN1410
- Proper Shipping Name: LITHIUM ALUMINUM HYDRIDE
- Hazard Class: 4.3
- Packing Group: I

IATA
- UN-No: UN1410
- Proper Shipping Name: LITHIUM ALUMINUM HYDRIDE
- Hazard Class: 4.3
- Packing Group: I

IMDG/IMO
- UN-No: UN1410
- Proper Shipping Name: LITHIUM ALUMINUM HYDRIDE
- Hazard Class: 4.3
- Packing Group: I

15. Regulatory information

United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active/Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium aluminum hydride</td>
<td>16853-85-3</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:
- TSCA: Toxic Substances Control Act, (40 CFR Part 710)
- X: Listed
- -: Not Listed
- TSCA 12(b): Notices of Export Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
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<tbody>
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<td>16853-85-3</td>
<td></td>
<td>X</td>
<td>240-877-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-00990</td>
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</tbody>
</table>

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable
California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium aluminum hydride</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade
No information available

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date            16-Nov-2010
Revision Date            19-Jan-2018
Print Date               19-Jan-2018
Revision Summary         This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

End of SDS