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: Not for 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)

<table>
<thead>
<tr>
<th>Substances/mixtures which, in contact with water, emit flammable gases</th>
<th>Category 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corrosion/irritation</td>
<td>Category 1 A</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Combustible dust</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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
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. Move 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.
**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**
- Not applicable

**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 in 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.

### NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>2</td>
<td>W</td>
</tr>
</tbody>
</table>

### 6. Accidental release measures

**Personal Precautions**
- Ensure adequate ventilation. Use personal protective equipment.
- 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 or vacuum up spillage and collect in suitable container 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. Use only in area provided with appropriate exhaust ventilation. Use explosion-proof equipment. Use only non-sparking tools. Do not allow contact with water.

**Storage**
- Keep in a dry, cool and well-ventilated place. Keep away from direct sunlight. Never allow product to get in contact with water during storage. Keep under nitrogen. Keep away from water. 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 limits established by the region specific regulatory bodies.
Lithium aluminium hydride

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Powder Solid</td>
</tr>
<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>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>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.910</td>
</tr>
<tr>
<td>Solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Stability</td>
<td>Risk of explosion by shock, friction, fire or other sources of ignition. heat sensitive. Water reactive.</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Keep away from open flames, hot surfaces and sources of ignition. Excess heat. Exposure to light. Incompatible products. Exposure to moist air or water.</td>
</tr>
<tr>
<td>Incompatible Materials</td>
<td>Acids, Water, Alcohols, Strong reducing agents</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Hydrogen, Burning produces obnoxious and toxic fumes</td>
</tr>
</tbody>
</table>
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>
</tr>
</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

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium aluminum hydride</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>240-877-9</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
- Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

- TSCA 12(b) Not applicable
- 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
Lithium aluminium hydride

Revision Date 19-Jan-2018

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 aluminium 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