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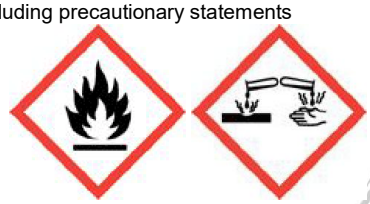
----------ISO 9001: 2015----------

MATERIAL SAFETY DATA SHEET

1.Identification
1.1GHS Product identifier
Lithium aluminium hydride, 97%
Code L 1505

2.Hazard identification
2.1Classification of the substance or mixture
Substances and mixtures, which in contact with water, emit flammable gases, Category 1
Skin corrosion, Category 1A
2.2GHS label elements, including precautionary statements
Pictogram(s)



Signal word	Danger
Hazard statement(s)	H260 In contact with water releases flammable gases which may ignite spontaneously H314 Causes severe skin burns and eye damage
Precautionary statement(s)	
Prevention	P223 Do not allow contact with water. P231+P232 Handle and store contents under inert gas/... Protect from moisture. P280 Wear protective gloves/protective clothing/eye protection/face protection. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P264 Wash ... thoroughly after handling.
Response	P302+P335+P334 IF ON SKIN: Brush off loose particles from skin. Immerse in cool water [or wrap in wet bandages]. P370+P378 In case of fire: Use ... to extinguish. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P363 Wash contaminated clothing before reuse. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P310 Immediately call a POISON CENTER/doctor/\u2026 P321 Specific treatment (see ... on this label). P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage	P402+P404 Store in a dry place. Store in a closed container. P405 Store locked up.
Disposal	P501 Dispose of contents/container to ...

2.3Other hazards which do not result in classification
none

3.Composition/information on ingredients
3.1Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
lithium tetrahydroaluminate	lithium tetrahydroaluminate	16853-85-3	none	100%

4.First-aid measures
4.1Description of necessary first-aid measures
General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact
Wash off with soap and plenty of water. Consult a physician.
In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
4.2Most important symptoms/effects, acute and delayed
Contact of solid with eyes and skin causes severe burns similar to those caused by caustic soda. (USCG, 1999)
4.3Indication of immediate medical attention and special treatment needed, if necessary
no data available

5.Fire-fighting measures
5.1Extinguishing media
Suitable extinguishing media
Fire must be extinguished with powdered limestone or dry chemical.
5.2Specific hazards arising from the chemical
Behavior in Fire: Decomposes at 125\u00b0C to form hydrogen gas. The heat generated may cause ignition and/or explosion. (USCG, 1999)
5.3Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

6.Accidental release measures
6.1Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.
6.2Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
6.3Methods and materials for containment and cleaning up
Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7.Handling and storage
7.1Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.
7.2Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well-ventilated location. Separate from ketones, aldehydes, nitrogenous organic compounds.

8.Exposure controls/personal protection
8.1Control parameters
Occupational Exposure limit values
Recommended Exposure Limit: 10-Hr Time-Weighted Avg: 10 mg/cu m (total). /Aluminum/
Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 5 mg/cu m (resp). /Aluminum/
Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 2 mg/cu m. /Aluminum (soluble salts and alkyls, as Al)/
Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 5 mg/cu m. /Aluminum (pyro powders and welding fumes, as Al)/
Biological limit values
no data available
8.2Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
8.3Individual protection measures, such as personal protective equipment (PPE)
Eye/face protection
Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Respiratory protection
Wear dust mask when handling large quantities.
Thermal hazards
no data available

9.Physical and chemical properties

Physical state	white crystalline powder
Colour	Microcrystalline powder when pure; gray when aluminum impurity present. Monoclinic crystals.

Odour	None
Melting point/ freezing point	181\u00b0C(dec.)(lit.)
Boiling point or initial boiling point and boiling range	140\u00b0C/13mmHg(lit.)
Flammability	no data available
Lower and upper explosion limit / flammability limit	no data available
Flash point	-17\u00b0C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	In water:Reacts
Partition coefficient n-octanol/water (log value)	no data available
Vapour pressure	no data available
Density and/or relative density	0.905g/mLat 25\u00b0C
Relative vapour density	no data available
Particle characteristics	no data available

10.Stability and reactivity
10.1Reactivity
no data available
10.2Chemical stability
Stable in dry air at room temperature.
10.3Possibility of hazardous reactions
Evolves hydrogen & ignites on contact with water.LITHIUM ALUMINUM HYDRIDE is a powerful reducing agent. React violently on contact with many oxidizing agents. Ignites by friction, especially if powdered. Reacts vigorously with hydroxy compounds such as water, alcohols, carboxylic acids [Mellor 2 Supp. 2:142. 1961]. Caused a violent explosion when used to dry diethylene glycol dimethyl ether: Ignition may have been caused by heat from reaction with impurity water or perhaps decomposition of peroxides in the ether. About 75% of the ether had been removed when the explosion occurred [MCA Case History 1494. 1968]. Reduces carbon dioxide or sodium hydrogen carbonate to methane and ethane at elevated temperatures. These flammable or explosive gases can form when CO2 extinguishers are used to fight hydride fires. Forms explosive complexes with ether, dimethylamine and various tetrazoles. Tetrazoles include, 2-methyl, 2-ethyl, 5-ethyl, 2-methyl-5-vinyl, 5-amino-2-ethyl [US Pat. 3 396 170, 1968].
10.4Conditions to avoid
no data available
10.5Incompatible materials
Reacts violently with air, acids, alcohols, benzoyl peroxide, boron trifluoride etherate, (2-chloromethyl furan + ethyl acetate), diethylene glycol dimethyl ether, diethyl ether, 1,2-dimethoxyethane, dimethyl ether, methyl ethyl ether, (nitriles + water), perfluorosuccinamide, perfluorosuccinamide plus water, tetrahydrofuran, water.
10.6Hazardous decomposition products
Decomposes to lithium hydride, aluminum metal and hydrogen above 125\u00b0C without melting.

11.Toxicological information
Acute toxicity
Oral: no data available
Inhalation: no data available
Dermal: no data available
Skin corrosion/irritation
no data available
Serious eye damage/irritation
no data available
Respiratory or skin sensitization
no data available
Germ cell mutagenicity
no data available
Carcinogenicity
no data available
Reproductive toxicity
no data available
STOT-single exposure
no data available
STOT-repeated exposure
no data available
Aspiration hazard
no data available

12.Ecological information
12.1Toxicity

Toxicity to fish: no data available
Toxicity to daphnia and other aquatic invertebrates: no data available
Toxicity to algae: no data available
Toxicity to microorganisms: no data available
12.2Persistence and degradability
no data available
12.3Bioaccumulative potential
no data available
12.4Mobility in soil
no data available
12.5Other adverse effects
no data available

13.Disposal considerations
13.1Disposal methods
Product
The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.
Contaminated packaging
Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14.Transport information
14.1UN Number
ADR/RID: UN3399 IMDG: UN3399 IATA: UN3399
14.2UN Proper Shipping Name
ADR/RID: ORGANOMETALLIC SUBSTANCE, LIQUID, WATER- REACTIVE, FLAMMABLE
IMDG: ORGANOMETALLIC SUBSTANCE, LIQUID, WATER- REACTIVE, FLAMMABLE
IATA: ORGANOMETALLIC SUBSTANCE, LIQUID, WATER- REACTIVE, FLAMMABLE
14.3Transport hazard class(es)
ADR/RID: 4.3 IMDG: 4.3 IATA: 4.3
14.4Packing group, if applicable
ADR/RID: I IMDG: I IATA: I
14.5Environmental hazards
ADR/RID: no IMDG: no IATA: no
14.6Special precautions for user
no data available
14.7Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
no data available

15.Regulatory information
15.1Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
lithium tetrahydroaluminate	lithium tetrahydroaluminate	16853-85-3	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

Section 16: Other Information
This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.