

Lithium Aluminum Deuteride		Pricing >
Lithium Aluminum Deuteride Solution		Pricing >
Linear Formula	LiAlD ₄	
Pubchem CID	11062293	
MDL Number	MFCD00044245	
EC No.	237-980-6	
IUPAC Name	lithium; tetradeuterioalumanuide	
Beilstein/Reaxys No.	N/A	
SMILES	[Li+].[AlH4-]	
Inchl Identifier	InChI=1S/Al.Li.4H/q-1;+1;;;/i;;4*1+1	
Inchl Key	OCZDCIYGECBNKL-HGZFDWPVSA-N	
Signal Word	Danger	
Hazard Statements	H260-H302-H314-H336	
Hazard Codes	F,C	
Risk Codes	15-19-22-34-67	
Safety Statements	26-36/37/39-43-45	
RTECS Number	N/A	
Transport Information	UN 1411 4.3/PG 1	
WGK Germany	1	

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SAFETY DATA SHEET

Date Accessed: 05/03/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #14128-54-2

Relevant identified uses of the substance:
Scientific research and development

Supplier details:
American Elements

10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
Domestic, North America +1 800-424-9300
International +1 703-527-3887

SECTION 2. HAZARDS 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



Label Elements

Signal Word

Danger

Hazard Statements

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

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component CAS-No Weight %

Lithium tetradeuteridoaluminate 14128-54-2 >95

SECTION 4. FIRST AID MEASURES

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Obtain medical attention.

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

Inhalation Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Obtain medical attention.

Ingestion Clean mouth with water. Get medical attention.

Most important symptoms/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

SECTION 5. FIREFIGHTING MEASURES

Suitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Unsuitable Extinguishing Media No data available

Flash Point No data available

Method - No data available

Autoignition Temperature No data available

Explosion Limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No data available

Sensitivity to Static Discharge No data available

Specific Hazards Arising from the Chemical

Flammable. Contact with water liberates toxic gas.

Water reactive. Combustible material. Produce flammable gases on contact with water.

Hazardous Combustion Products

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

Health

3

Flammability

3

Instability

Physical hazards

W

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Ensure adequate ventilation.

Use personal protective equipment.

Environmental Precautions See Section 12 for additional ecological information.

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. Do not

expose spill to water. Do not let this chemical enter the environment.

SECTION 7. HANDLING AND STORAGE

Handling Avoid contact with skin and eyes. Avoid contact with clothing. Avoid breathing vapors or mists. Do not ingest. Handle under inert gas, protect from moisture. Use explosion-proof equipment. Use only non-sparking tools. Do not allow contact with water because of violent reaction.

Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat and sources of ignition. Protect from moisture. Never allow product to get in contact with water during storage. Flammables area. Store under an inert atmosphere. Keep away from water.

SECTION 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.

Engineering Measures Use explosion-proof electrical/ventilating/lighting/equipment.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by

OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard

EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Powder
Appearance White

Odor Odorless
Odor Threshold No data available
pH No data available
Melting Point/Range 175 °C / 347 °F
Boiling Point/Range No data available
Flash Point No data available
Evaporation Rate No data available
Flammability (solid,gas) No data available
Flammability or explosive limits
Upper No data available
Lower No data available
Vapor Pressure No data available
Vapor Density No data available
Relative Density No data available
Solubility No data available
Partition coefficient; n-octanol/water No data available
Autoignition Temperature No data available
Decomposition Temperature No data available
Viscosity No data available
Molecular Formula Al D4 Li
Molecular Weight 41.98

SECTION 10. STABILITY AND REACTIVITY

Reactive Hazard Yes
Stability Hygroscopic.
Conditions to Avoid Keep away from open flames, hot surfaces and sources of ignition. Incompatible products.
Incompatible Materials Acids, Water, Strong oxidizing agents, Alcohols
Hazardous Decomposition Products Burning produces obnoxious and toxic fumes
Hazardous Polymerization No data available.
Hazardous Reactions Contact with water liberates extremely flammable gases.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Product Information No acute toxicity information is available for this product
Component Information
Toxicologically Synergistic Products
No data available
Delayed and immediate effects as well as chronic effects from short and long-term exposure
Irritation No data available
Sensitization No data available

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

Component	CAS-No	IARC	NTP	ACGIH	OSHA
Mexico					
Lithium					
tetradeteridoaluminat					
e					
14128-54-2	Not listed	Not listed	Not listed	Not listed	Not listed
Mutagenic Effects	No data available				
Reproductive Effects	No data available.				
Developmental Effects	No data available.				
Teratogenicity	No data available.				
STOT - single exposure	None known				
STOT - repeated exposure	None known				
Aspiration hazard	No data 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 data available				
Other Adverse Effects	See actual entry in RTECS for complete information.				

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Do not empty into drains.
Persistence and Degradability No data available
Bioaccumulation/ Accumulation No data available.
Mobility No data available.

SECTION 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.

SECTION 14. TRANSPORT INFORMATION

DOT
UN-No UN1410
Hazard Class 4.3
Packing Group I
TDG
UN-No UN1410
Hazard Class 4.3
Packing Group I
IATA
UN-No 1410
Proper Shipping Name LITHIUM ALUMINIUM
HYDRIDE
Hazard Class 4.3
Packing Group I
IMDG/IMO
UN-No 1410
Proper Shipping Name LITHIUM ALUMINIUM
HYDRIDE
Hazard Class 4.3
Packing Group I

SECTION 15. REGULATORY INFORMATION

International Inventories
Component TSCA DSL NDSL EINECS ELINCS NLP
PICCS ENCS AICS IECSC KECL
Lithium
tetra deuteridoaluminate
- - - 237-980-6 - - - X - -
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) N/A
SARA 313 N/A
SARA 311/312 Hazardous Categorization
Acute Health Hazard Yes
Chronic Health Hazard No
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard Yes
Clean Water Act N/A
Clean Air Act N/A
OSHA Occupational Safety and Health Administration
N/A
CERCLA
N/A
California Proposition 65 This product does not contain any Proposition 65 chemicals
State Right-to-Know N/A
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 data available
Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR
WHMIS Hazard Class B6 Reactive flammable material
E Corrosive material

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions.

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