

TECHNICAL DATA SHEET

Date of Issue: 2025/11/28

Lithium Aluminum Hydride, typ. 20 % solution in Diethyl Ether (typ. 4 M)

CAS-No.	16853-85-3
EC-No.	240-877-9
REACH No.	01-2119919039-36-0000
Molecular formula	LiAlH_4
Product number	10000113, 10000114, 10000488

APPLICATION Versatile reducing agent for organic chemical and pharmaceutical industry.

SPECIFICATION

Lithium Aluminum Hydride: 18.0 - 22.0 %

METHOD OF ANALYSIS

Oxidimetric determination of active hydrogen content (Felkin's method): Oxidation by a solution of iodine, followed by back-titration of excess iodine with sodium thiosulphate solution.

PHYSICAL PROPERTIES

Appearance	liquid
Colour	colourless

The information presented herein is believed to be accurate and reliable, but is presented without guarantee or responsibility on the part of Albemarle Corporation and its subsidiaries and affiliates. It is the responsibility of the user to comply with all applicable laws and regulations and to provide for a safe workplace. The user should consider any health or safety hazards or information contained herein only as a guide, and should take those precautions which are necessary or prudent to instruct employees and to develop work practice procedures in order to promote a safe work environment. Further, nothing contained herein shall be taken as an inducement or recommendation to manufacture or use any of the herein materials or processes in violation of existing or future patent.

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	(No data available)
	(No data available)
Viscosity, dynamic	(No data available)
Viscosity, kinematic	(No data available)
Flash point	-45 °C 1,013 hPa (Diethylether)
Boiling point/boiling range	ca. 34.7 °C at 1,013 hPa (Diethylether)
Density	0.76 g/cm ³ at 20 °C
Bulk density	(No data available)
Water solubility	(Not applicable)
Solubility in other solvents	(No data available)
Molecular weight	37.95 g/mol
Additional Physical Properties	Molarity: abt. 4 Decomposition rate: abt. 0.3 % per month (20 °C, based on total activity)

HANDLING & STORAGE

Handling	Dilute spilled solution with (continued) paraffin oil (but never with halogenated hydrocarbons, alcohols, ketons, esters etc.) and cover with ground limestone or cement. The soaked material should then be taken to a safe place and be decomposed from a safe distance by a jet of water. Pay also attention to the official safety regulations (see: „Marking“). The safety data sheet is available on request. Please see also our brochure “Lithium Aluminum Hydride”. In use may form flammable/explosive vapor-air mixtures. Harmful in contact with skin and if swallowed. Keep under argon or nitrogen. Keep container in a well ventilated place. Never add water to this product. Take precautionary measures against static discharges. In case of fire use powder based on sodium chloride or limestone powder. Never use water, halons or carbon dioxide.
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Storage

When stored according to SDS, the solutions are fairly stable. However, even at room temperature slight decomposition with evolution of hydrogen is observed after prolonged storage. Decomposition rate: abt. 0.3 % per month (20 °C based on total activity). As decomposition accelerates with temperature and the vapor pressure of the solvent DEE has to be taken into account, we recommend not to exceed a storage temperature of 20 °C and to use the product within a period of six months after receipt.

TRANSPORT & PACKAGING

UN number 1411

ADR	Class: 4.3	PG: I	Label: 4.3 (3)
RID	Class: 4.3	PG: I	Label: 4.3 (3)
IMDG	Class: 4.3	PG: I	Label: 4.3 (3)
IATA_C	Class: 4.3	PG: I	Packing instruction (cargo aircraft): 480
IATA_P	Class: 4.3	PG: I	

Hazard pictograms

Signal word

Danger

H&P Phrases

See Safety Data Sheet

Labelling

The labelling is according to EU-GHS classification ((EG) 1272/2008) and may vary in other countries. Please refer to the respective Safety Data Sheet for your country.

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Packaging

Steel containers with the following characteristics, filled to max. 90 % according to the international transport regulations:

Nominal volume (l)	filled up to (l)	content of LiAlH ₄ (kg)
5	4	0.8
40	36	4.9
125	112	15.4
450	405	55.4

OTHER INFORMATION

Further Related Documents	Safety Data Sheet
Our brochure(s)	Lithium Aluminum Hydride

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