



Material Safety Data Sheet

Diisobutylaluminum hydride(DIBAL-H), 1.0M solution in hexane

MSDS# 97212

Section 1 - Chemical Product and Company Identification

MSDS Name: Diisobutylaluminum hydride(DIBAL-H), 1.0M solution in hexane
Catalog Numbers: AC183790000, AC183791000, AC183794000
Synonyms: DIBAL-H

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaaan 3a
2440 Geel, Belgium

Company Identification: (USA) Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01

For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

Risk Phrases: 11 38 48/20 51/53 62 65 67

CAS#: 110-54-3
Chemical Name: Hexane
%: ~85.5
EINECS#: 203-777-6
Hazard Symbols: F XN N

Risk Phrases: 14/15 17 35

CAS#: 1191-15-7
Chemical Name: Diisobutylaluminum hydride
%: ~14.5
EINECS#: 214-729-9
Hazard Symbols: F C

Text for R-phrases: see Section 16

Hazard Symbols:



Risk Phrases:

F C N



11 14/15 17 35 48/20 51/53 62 65 67



Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Aspiration hazard if swallowed. Can enter lungs and cause damage. Causes burns by all exposure routes. Pyrophoric. Spontaneously flammable in air. Reacts violently with water. Flammable liquid and vapor. Possible risk of impaired fertility. Breathing vapors may cause drowsiness and dizziness. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Contact with water liberates extremely flammable gases. Danger of serious damage to health by prolonged exposure through inhalation. Target Organs: Blood, central nervous system, liver, respiratory system, gastrointestinal system, eyes, skin.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns. May be harmful if absorbed through the skin.

Ingestion: Aspiration hazard. Causes gastrointestinal tract burns. May cause nausea and vomiting. May be harmful if swallowed. May cause lung damage.

Inhalation: Prolonged exposure may result in dizziness and general weakness. Causes chemical burns to the respiratory tract. May be harmful if inhaled. Aspiration hazard. Inhalation of vapors may cause drowsiness and dizziness. Chronic exposure may cause liver damage. Adverse reproductive effects have been reported in animals.

Chronic: Laboratory experiments have resulted in mutagenic effects. Chronic exposure may cause blood effects. Exposure to high concentrations may cause central nervous system depression. Animal studies have reported the development of tumors. May impair fertility.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Water reactive. Material will react with water and may release a flammable and/or toxic gas. Containers may explode in the heat of a fire. Flammable liquid and vapor. Reacts violently with water. Contact with water liberates highly flammable gases.

Extinguishing Media: Do NOT use carbon dioxide. Use dry chemical to fight fire. DO NOT USE WATER!

Autoignition Temperature: > 225 deg C (> 437.00 deg F)

Flash Point: > -22C

Explosion Limits: Lower: 1.1 (approx)

Explosion Limits: Upper: 7.5 (approx)

NFPA Rating: ; Special Hazard: -W-

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Remove all sources of ignition. Use a spark-proof tool. Do not expose spill to water.

Do not get water inside containers. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Do not allow water to get into the container because of violent reaction. Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharges. Keep away from heat, sparks and flame. Do not ingest or inhale. Handle under an inert atmosphere. Do not allow contact with water. Use only in a chemical fume hood.

Storage: Keep away from sources of ignition. Store in a cool, dry place. Do not store in direct sunlight. Store in a tightly closed container. Flammables-area. Water free area. Store under nitrogen.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Hexane	50 ppm; Skin - potential significant contribution to overall exposure by the cutaneous route	50 ppm TWA; 180 mg/m3 TWA 1100 ppm IDLH (10% LEL)	500 ppm TWA; 1800 mg/m3 TWA
Diisobutylaluminum hydride	none listed	none listed	none listed

OSHA Vacated PELs: Hexane: 50 ppm TWA; 180 mg/m3 TWA Diisobutylaluminum hydride: None listed

Engineering Controls:

Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Personal Protective Equipment

Eyes: 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: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: colorless

Odor: gasoline-like

pH: Not available

Vapor Pressure: .150 mm Hg @ 25C

Vapor Density: approx. 3.0

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: > 110 deg C (> 230.00°F)

Freezing/Melting Point: Not available

Decomposition Temperature: Not available

Solubility in water: Insoluble

Specific Gravity/Density: .8000g/cm3

Molecular Formula: Mixture

Molecular Weight:

Section 10 - Stability and Reactivity

Chemical Stability:

Reacts violently with water. Moisture sensitive. Light sensitive.

Conditions to Avoid:	Incompatible materials, light, ignition sources, excess heat, exposure to moist air or water.
Incompatibilities with Other Materials	Not available
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, aluminum oxide, aluminum fumes.
Hazardous Polymerization	Has not been reported.

Section 11 - Toxicological Information

RTECS#:	CAS# 110-54-3: MN9275000 CAS# 1191-15-7: BD0710000
RTECS:	CAS# 110-54-3: Draize test, rabbit, eye: 10 mg Mild; Inhalation, mouse: LC50 = 150000 mg/m ³ /2H; Inhalation, rat: LC50 = 48000 ppm/4H;
LD50/LC50:	Inhalation, rat: LC50 = 627000 mg/m ³ /3M; Oral, rat: LD50 = 25 gm/kg;
RTECS:	CAS# 1191-15-7:
Carcinogenicity:	Hexane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65. Diisobutylaluminum hydride - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:	The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Other: Do not empty into drains.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE

Hazard Class: 4.3

UN Number: UN3399

Packing Group: I

Canada TDG

Shipping Name: Not available

Hazard Class:

UN Number:

Packing Group:

USA RQ: CAS# 110-54-3: 5000 lb final RQ; 2270 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: F C N

Risk Phrases:

R 11 Highly flammable.

R 14/15 Reacts violently with water liberating extremely flammable gases.

R 17 Spontaneously flammable in air.

R 35 Causes severe burns.

R 48/20 Harmful : danger of serious damage to health by prolonged exposure through inhalation.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 62 Possible risk of impaired fertility.

R 65 Harmful: may cause lung damage if swallowed.

R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:

S 7/8 Keep container tightly closed and dry.

S 16 Keep away from sources of ignition - No smoking.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 110-54-3: 1

CAS# 1191-15-7: 2

Canada

CAS# 110-54-3 is listed on Canada's DSL List

CAS# 1191-15-7 is listed on Canada's DSL List

Canadian WHMIS Classifications: E, F, D2A, B2

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 110-54-3 is listed on Canada's Ingredient Disclosure List

CAS# 1191-15-7 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 110-54-3 is listed on the TSCA Inventory.

CAS# 1191-15-7 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 6/03/1999

Revision #7 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.
