



Material Safety Data Sheet

n-Butyllithium, 1.6M solution in hexanes

MSDS# 97077

Section 1 - Chemical Product and Company Identification

MSDS Name: n-Butyllithium, 1.6M solution in hexanes

Catalog Numbers: AC181270000, AC181270100, AC181270500, AC181270900, AC181271000, AC181275000

Synonyms: None.

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:

CAS#: 109-72-8
Chemical Name: n-Butyllithium
%: 15.2
EINECS#: 203-698-7
Hazard Symbols:

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

CAS#: 110-54-3
Chemical Name: Hexane
%: 84.8
EINECS#: 203-777-6
Hazard Symbols: F XN N

Text for R-phrases: see Section 16

Hazard Symbols:

F C N



Risk Phrases:

11 14/15 17 34 48/20 51/53 62 65 67

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Corrosive. Water-reactive. May cause central nervous system depression. Aspiration hazard if swallowed. Can enter lungs and cause damage. May cause kidney damage. Causes digestive and respiratory tract burns. Causes severe eye and skin burns. Pyrophoric. Spontaneously flammable in air. Extremely flammable liquid and vapor. Vapor may cause flash fire. Target Organs: Kidneys, central nervous system.

Potential Health Effects

Eye: Causes severe eye burns. May cause irreversible eye injury.

Skin: Contact with liquid is corrosive and causes severe burns and ulceration.

Ingestion: Aspiration hazard. May cause central nervous system depression, kidney damage, and liver damage. Causes digestive tract burns with immediate pain, swelling of the throat, convulsions, and possible coma. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. May cause effects similar to those described for ingestion. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. Chronic exposure may cause kidney damage.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Possible aspiration hazard. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: Evacuate area and fight fire from a safe distance. Evacuate area and fight fire from a safe distance. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors can travel to a source of ignition and flash back. Combustion generates toxic fumes. Material is easily ignited if allowed to dry. Extremely flammable. Material will readily ignite at room temperature. Water reactive. Material will react with water and may release a flammable and/or toxic gas. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Can form explosive mixtures at temperatures above the flashpoint. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Water may be ineffective. Do NOT use carbon dioxide. DO NOT USE WATER! Use dry chemical. Do NOT use straight streams of water. Cool containers with flooding quantities of water until well after fire is out.

Autoignition Temperature: 240 deg C (464.00 deg F)

Flash Point: -21 deg C (-5.80 deg F)

Explosion Limits: Lower: 1.20 vol %

Explosion Limits: Upper: 7.40 vol %

NFPA Rating: ; Special Hazard: -W-

Section 6 - Accidental Release Measures

General

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

Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Scoop up with a nonsparking tool, then place into a suitable container for disposal. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Provide ventilation.

Section 7 - Handling and Storage

Handling: Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Do not ingest or inhale. Do not allow contact with water. Use only in a chemical fume hood. Store and handle protected from air. Do not use if the material has evaporated to dryness. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Keep container closed to prevent drying out. Keep under a nitrogen blanket. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Keep away from organic halogens. Refrigerator/flammables.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
n-Butyllithium	none listed	none listed	none listed
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

OSHA Vacated PELs: n-Butyllithium: None listed Hexane: 50 ppm TWA; 180 mg/m3 TWA

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

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 minimize contact with skin.

Respirators: 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.

Section 9 - Physical and Chemical Properties

Physical State: Solid/Liquid Mixture

Color: clear yellow

Odor: None reported.

pH: Not available

Vapor Pressure: Not available

Vapor Density: Not available

Evaporation Rate: Not available

Viscosity: mPas 20 deg C

Boiling Point: 60 - 80 deg C @ 760.00mm Hg

Freezing/Melting Point: -95 deg C (-139.00°F)

Decomposition Temperature: Not available

Solubility in water: Reacts

Specific Gravity/Density: .6800g/cm³

Molecular Formula: C₄H₉Li

Molecular Weight: 64.06

Section 10 - Stability and Reactivity

Chemical Stability:	Stable under normal temperatures and pressures.
Conditions to Avoid:	Incompatible materials, ignition sources, exposure to air, contact with water, organic materials, strong oxidants, exposure to moist air or water, dehydrating agents.
Incompatibilities with Other Materials	Not available
Hazardous Decomposition Products	Carbon monoxide, carbon monoxide, carbon dioxide, lithium hydroxide, butane, oxides of lithium.
Hazardous Polymerization	Has not been reported.

Section 11 - Toxicological Information

RTECS#:	CAS# 109-72-8: None listed CAS# 110-54-3: MN9275000 RTECS: Not available. RTECS: CAS# 110-54-3: Draize test, rabbit, eye: 10 mg Mild;
LD50/LC50:	Inhalation, mouse: LC50 = 150000 mg/m ³ /2H; Inhalation, rat: LC50 = 48000 ppm/4H; Inhalation, rat: LC50 = 627000 mg/m ³ /3M; Oral, rat: LD50 = 25 gm/kg;
Carcinogenicity:	n-Butyllithium - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65. Hexane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:	See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:	Not available
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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, PYROPHORIC, WATER-REACTIVE

Hazard Class: 4.2

UN Number: UN3394

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 34 Causes 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).
- S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

- CAS# 109-72-8: 2
- CAS# 110-54-3: 1

Canada

- CAS# 109-72-8 is listed on Canada's DSL List
- CAS# 110-54-3 is listed on Canada's DSL List
- Canadian WHMIS Classifications: B2, E, B6
- 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# 109-72-8 is not listed on Canada's Ingredient Disclosure List.
- CAS# 110-54-3 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

- CAS# 109-72-8 is listed on the TSCA Inventory.
- CAS# 110-54-3 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 6/03/1999
Revision #6 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.
