

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Name:** Ethyllithium Solution

**Product Number:** All applicable American Elements product codes, e.g. E-LI-01-SOL

**CAS #:** 811-49-4

**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:**

+1 800-424-9300

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## SECTION 2. HAZARDS IDENTIFICATION

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):

Flammable liquids (Category 2), H225

Substances and mixtures, which in contact with water, emit flammable gases (Category 2), H261

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

Germ cell mutagenicity (Category 1B), H340

Carcinogenicity (Category 1A), H350

Specific target organ toxicity - repeated exposure (Category 1), H372

Aspiration hazard (Category 1), H304

Short-term (acute) aquatic hazard (Category 2), H401

Long-term (chronic) aquatic hazard (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.



Signal word: Danger

Hazard statement(s):

H225 Highly flammable liquid and vapour.

H261 In contact with water releases flammable gases.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H340 May cause genetic defects.  
H350 May cause cancer.  
H372 Causes damage to organs through prolonged or repeated exposure.  
H401 Toxic to aquatic life.  
H412 Harmful to aquatic life with long lasting effects.  
Precautionary statement(s):  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P223 Do not allow contact with water.  
P231 + P232 Handle under inert gas. Protect from moisture.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P331 Do NOT induce vomiting.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P335 + P334 Brush off loose particles from skin. Immerse in cool water/ wrap in wet bandages.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
P402 + P404 Store in a dry place. Store in a closed container.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal  
Hazards not otherwise classified (HNOC) or not covered by GHS - none

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Mixtures

Formula : C<sub>2</sub>H<sub>5</sub>Li

Molecular weight : 36.00 g/mol

Benzene

CAS-No. 71-43-2

Cyclohexane

CAS-No. 110-82-7

Ethyllithium

CAS-No. 811-49-4

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## **SECTION 4. FIRST AID MEASURES**

General advice:

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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. Take victim immediately to hospital. Consult a physician.

In case of eye contact:

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed:

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed:

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed:

No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing media:

Dry powder

Special hazards arising from the substance or mixture:

Carbon oxides, Lithium oxides

Advice for firefighters:

Wear self-contained breathing apparatus for firefighting if necessary.

Further information:

No data available

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions:

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up:

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to local regulations (see section 13). Do not flush with water.

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## SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Never allow product to get in contact with water during storage.

Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Component / CAS-No. / Value / Control parameters / Basis

Benzene / 71-43-2 / TWA / 0.5 ppm / USA. ACGIH Threshold Limit Values (TLV)

STEL / 2.5 ppm / USA. ACGIH Threshold Limit Values (TLV)

Cyclohexane / 110-82-7 / TWA / 100 ppm / USA. ACGIH Threshold Limit Values (TLV)

Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection:

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection:

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.

Body Protection:

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure:

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Form: liquid

Odour No data available

Odour Threshold No data available

pH No data available

Melting point/freezing point: No data available

Initial boiling point and boiling range: No data available  
Flash point -27.22 °C (-17.00 °F) - closed cup  
Evaporation rate No data available  
Flammability (solid, gas): No data available  
Upper/lower flammability or explosive limits: No data available  
Vapour pressure No data available  
Vapour density No data available  
Relative density 0.862 g/cm<sup>3</sup> at 25 °C (77 °F)  
Water solubility No data available  
Partition coefficient: n-octanol/water: No data available  
Auto-ignition temperature: The substance or mixture is not classified as pyrophoric.  
Decomposition temperature: No data available  
Viscosity: No data available  
Explosive properties: No data available  
Oxidizing properties: No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity:

No data available

Chemical stability:

Stable under recommended storage conditions.

Possibility of hazardous reactions:

Vapours may form explosive mixture with air. Reacts violently with water.

Conditions to avoid:

Heat, flames and sparks. Exposure to moisture

Incompatible materials:

Bases, Strong oxidizing agents, acids, Halogens, Metallic salts

Hazardous decomposition products:

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Lithium oxides

Other decomposition products - No data available

In the event of fire: see section 5

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Acute toxicity:

No data available

Inhalation: No data available

Dermal: No data available

No data available

Skin corrosion/irritation:

No data available

Serious eye damage/eye irritation:

No data available

Respiratory or skin sensitisation:

No data available

Germ cell mutagenicity:

No data available

Carcinogenicity:

NTP: Known - Known to be human carcinogen (Benzene)

OSHA: OSHA specifically regulated carcinogen (Benzene)

Reproductive toxicity:  
No data available  
Specific target organ toxicity - single exposure:  
No data available  
Specific target organ toxicity - repeated exposure  
No data available  
Aspiration hazard:  
No data available  
Additional Information:  
RTECS: Not available

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## **SECTION 12. ECOLOGICAL INFORMATION**

Toxicity:  
No data available  
Persistence and degradability:  
No data available  
Bioaccumulative potential:  
No data available  
Mobility in soil:  
No data available  
Results of PBT and vPvB assessment:  
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted  
Other adverse effects:  
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life.

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods  
Product:  
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.  
Contaminated packaging:  
Dispose of as unused product

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## **SECTION 14. TRANSPORT INFORMATION**

DOT (US):  
UN number: 3399 Class: 4.3 (3) Packing group: II  
Proper shipping name: Organometallic substance, liquid, water-reactive, flammable  
(Ethyllithium, Benzene, Cyclohexane)  
Reportable Quantity (RQ): 11 lbs  
Reportable Quantity (RQ): 10 lbs  
Poison Inhalation Hazard: No  
IMDG:  
UN number: 3399 Class: 4.3 (3) Packing group: II EMS-No: F-G, S-N  
Proper shipping name: ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE,  
FLAMMABLE (Ethyllithium, Benzene, Cyclohexane)

Marine pollutant : yes

IATA:

UN number: 3399 Class: 4.3 (3) Packing group: II

Proper shipping name: Organometallic substance, liquid, water-reactive, flammable  
(Ethyllithium, Benzene, Cyclohexane)

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## **SECTION 15. REGULATORY INFORMATION**

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components:

The following components are subject to reporting levels established by SARA Title III, Section 313:

Benzene / 71-43-2

Cyclohexane / 110-82-7

SARA 311/312 Hazards:

Fire Hazard, Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

Reportable Quantity D018 lbs

Massachusetts Right To Know Components

Benzene / 71-43-2

Cyclohexane / 110-82-7

Pennsylvania Right To Know Components

Benzene / 71-43-2

Cyclohexane / 110-82-7

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## **SECTION 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. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.