

# Material Safety Data Sheet

## Lithium

ACC# 12840

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Lithium

**Catalog Numbers:** S75462, S75462C4

**Synonyms:** Lithium Element; Lithium Metal.

**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100

**Emergency Number:** 201-796-7100

**For CHEMTREC assistance, call:** 800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7439-93-2	Lithium (metal)	>99	231-102-5

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: silver white solid.

**Danger!** Flammable solid. Corrosive. Causes eye and skin burns. Water-reactive. Reacts violently and/or explosively with water, steam or moisture. May ignite or explode on contact with moist air. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. May cause lung damage. Light sensitive. May cause kidney damage. May cause pulmonary edema. May cause central nervous system effects.

**Target Organs:** Kidneys, central nervous system.

#### Potential Health Effects

**Eye:** Causes eye burns. When substance becomes wet or comes in contact with moisture of the mucous membranes, it will cause irritation. May cause lacrimation

(tearing), blurred vision, and photophobia. May cause chemical conjunctivitis and corneal damage.

**Skin:** Causes skin burns. Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.

**Ingestion:** May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract. May cause kidney failure. May cause systemic effects. May cause ear ringing, blurred vision, thyroid abnormalities, photophobia, coma, and

**Inhalation:** Causes chemical burns to the respiratory tract. May cause effects similar to those described for ingestion. Aspiration may lead to pulmonary edema. May cause systemic effects. Olfactory fatigue may occur.

**Chronic:** Prolonged or repeated inhalation may cause lung damage and/or central nervous system disturbances. May cause kidney injury. Effects may be delayed.

## 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. 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. If water-reactive products are embedded in the skin, no water should be applied. The embedded products should be covered with a light oil.

**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. 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:** 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. Reacts violently with water giving off flammable gas which may explode. Combustion generates toxic fumes. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dust can be an explosion hazard when exposed to heat or flame. Flammable solid. May burn rapidly with flare burning effect. May re-ignite after fire is extinguished. May re-ignite after fire is extinguished.

**Extinguishing Media:** If water is the only media available, use in flooding amounts. Do NOT use halogenated agents. Use dry sand, Met-L-X powder, or G-1 graphite

powder. Do NOT use water, carbon dioxide, or foam. Do NOT get water inside containers. Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out.

**Flash Point:** 178.9 deg C ( 354.02 deg F)

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:**Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; Flammability: 2; Instability: 2; Special Hazard: -W-

## Section 6 - Accidental Release Measures

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

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. 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. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation. Do not expose spill to water. Do not get water inside containers.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Use with adequate ventilation. Do not allow water to get into the container because of violent reaction. Minimize dust generation and accumulation. Do not breathe dust, mist, or vapor. 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. Keep away from heat, sparks and flame. Do not get on skin or in eyes. Do not ingest or inhale. Store protected from light. Do not allow contact with water. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep from contact with moist air and steam.

**Storage:** Keep away from heat, sparks, and flame. Keep away from sources of ignition. Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Store protected from light.

## Section 8 - Exposure Controls, Personal Protection

**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 adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

**Exposure Limits**

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Lithium (metal)	none listed	none listed	none listed

**OSHA Vacated PELs:** Lithium (metal): No OSHA Vacated PELs are listed for this chemical.

**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:** 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

**Appearance:** silver white

**Odor:** none reported

**pH:** Not available.

**Vapor Pressure:** 1 mm Hg @ 722.8 deg C

**Vapor Density:** Not available.

**Evaporation Rate:**Not applicable.

**Viscosity:** Not available.

**Boiling Point:** 1317.2 deg C

**Freezing/Melting Point:**180.6 deg C

**Decomposition Temperature:**Not available.

**Solubility:** Decomposes in water.

**Specific Gravity/Density:**0.534 (water=1)

**Molecular Formula:**Li

**Molecular Weight:**6.941

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions. Combines vigorously or explosively with water.

**Conditions to Avoid:** High temperatures, incompatible materials, light, ignition sources, dust generation, moisture, excess heat, exposure to moist air or water.

**Incompatibilities with Other Materials:** Water.

**Hazardous Decomposition Products:** Oxides of lithium.

**Hazardous Polymerization:** Has not been reported

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 7439-93-2: OJ5540000

**LD50/LC50:**

Not available.

**Carcinogenicity:**

CAS# 7439-93-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** No information found

**Neurotoxicity:** No information found

**Other Studies:**

## Section 12 - Ecological Information

No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	<b>US DOT</b>	<b>Canada TDG</b>
<b>Shipping Name:</b>	LITHIUM	LITHIUM
<b>Hazard Class:</b>	4.3	4.3
<b>UN Number:</b>	UN1415	UN1415
<b>Packing Group:</b>	I	I

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 7439-93-2 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

**Section 313** No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 7439-93-2 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.

#### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations**  
**European Labeling in Accordance with EC Directives**

**Hazard Symbols:**

F C

**Risk Phrases:**

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

R 34 Causes burns.

**Safety Phrases:**

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

S 8 Keep container dry.

S 43H In case of fire, use dry chemical, soda ash, lime or sand. (Do not use water or foam).

**WGK (Water Danger/Protection)**

CAS# 7439-93-2: 2

**Canada - DSL/NDSL**

CAS# 7439-93-2 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of B6, E.

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.

**Canadian Ingredient Disclosure List**

**Section 16 - Additional Information**

**MSDS Creation Date:** 12/12/1997

**Revision #10 Date:** 10/29/2007

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