



Super Conductor Materials, Inc.

391 Spook Rock Industrial Park, Suffern, NY 10901 · 845.368.0240 · Fax 845.368.0250 · www.scm-inc.com

Chemtrec: (800) 424-9300
Poison Center: (800) 562-8236
Revision Date: January 8th, 2019

SAFETY DATA SHEET

Identity: Lithium

Formula: Li

SECTION I - GENERAL INFORMATION

Manufacturer: Super Conductor Materials, Inc.

The information below is believed to be accurate and represents the best information available to Super Conductor Materials, Inc. However, SCM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 6.941

CAS #	OSHA PEL	ACGIH TLV	%
7439-93-2	N/A	N/A	0.0-100.0%

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 1342.00°C

Vapor Pressure (vs. air or mmHg): 1 mm at 723.0°C

Melting Point: 180.5°C

Density: 0.53 g/cm³ at 20.0°C

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Decomposes

Appearance and odor: Silver white, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Flammable in water

Explosive Limits: LEL: N/A

UEL: N/A

Extinguishing Media: Special mixtures of dry chemical, soda ash, and graphite. DO NOT USE water, sand, carbon tetrachloride and carbon dioxide

Special Fire Fighting Procedures:

Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Fire and Explosion Hazards:

DANGEROUS WHEN WET

Reacts violently with water to give off flammable hydrogen gas and corrosive dust.

When burned it emits toxic fumes of LiO₂ and hydroxide.

Can react vigorously with oxidizing materials.

A very dangerous fire hazard when exposed to heat or flame. The powder may ignite spontaneously in air.

The solid metal ignites above 180C. It will burn in oxygen, nitrogen, or carbon dioxide, and will continue



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to burn in sand or sodium carbonate. Molten lithium is extremely reactive and attacks such inert materials as sand, concrete, and ceramics.

Explosive reaction with bromobenzene; carbon + lithium tetrachloroaluminate + sulfinyl chloride; diazomethane. Forms very friction-and impact-sensitive explosive mixtures with halogens [e.g., chromium (III) oxide (at 200C)]; halocarbons (e.g., bromoform; carbon tetrabromide; carbon tetrachloride; carbon tetraiodide; chloroform; dichloromethane; diiodomethane; fluorotrichloromethane; tetrachloroethylene; trichloroethylene; 1,1,2-trichloro-trifluoroethane).[Sax, Dangerous Properties of Industrial Materials, eighth edition.]

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (instability): Air, water and moisture

Incompatibility: Water, moisture, acids, oxidizers, oxygen, nitrogen, carbon dioxide, bromine pentafluoride, diazomethane, metal chlorides, metal oxides, non-metal oxides.

See "Unusual Fire and Explosion Hazards"

Hazardous Decomposition or Byproducts: Lithium hydroxide, oxides of lithium, lithium and hydrogen gas

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

Routes of entry: Inhalation? Yes Ingestion? Yes Eyes? Yes Skin? Yes Other? No

The toxicity of lithium compounds is a function of their solubility in water. Lithium ion has central nervous system toxicity. The initial effects of lithium exposure are tremors of the hands, nausea, micturition, slurred speech, sluggishness, sleepiness, vertigo, thirst, and increased urine volume. Effects from continued exposure are apathy, anorexia, fatigue, lethargy, muscular weakness, and changes in ECG. Long-term exposure leads to hypothyroidism, leukocytosis, edema, weight gain, polydipsia/polyuria (increased water intake leading to increased urinary output), memory impairment, seizures, kidney damage, shock, hypotension, cardiac arrhythmias, coma, death. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Signs and Symptoms of Overexposure:

Inhalation: May cause a red, dry, burning throat, inflammation and pain throughout the respiratory tract.

Ingestion: May cause burns to the esophagus, nausea, muscular twitches and mental confusion.

Skin: May cause redness, itching, chemical burns and blistering.

Eye: May cause redness, itching, watering, inflammation and chemical burns.

Health Hazards (Acute and Chronic):

Inhalation:

Acute: SEVERE IRRITANT AND CORROSIVE. Causes irritation to the respiratory tract and mucous membranes.

Chronic: May cause pulmonary edema and lung damage.

Ingestion:

Acute: SEVERE IRRITANT AND CORROSIVE. May cause central nervous system effects, circulatory failure and cardiovascular collapse.

Chronic: May cause gastrointestinal irritation, renal dysfunction, derangement of neuromuscular activity, diabetes and kidney damage.

Skin:

Acute: SEVERE IRRITANT AND CORROSIVE.

Chronic: May be an irritant and corrosive.



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Eye:

Acute: SEVERE IRRITANT AND CORROSIVE.

Chronic: May cause blurred vision.

Target Organs: May affect the respiratory system, skin and eyes

Carcinogenicity: NTP? No IARC Monographs? No

OSHA Regulated? No

Medical Conditions Aggravated by Exposure: Pre-existing allergies

Emergency and First Aid Procedures:

Inhalation: Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention

Ingestion: Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person

Skin: Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist

Eye: Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled:

Wear appropriate respiratory and protective equipment specified in section VIII. Isolate spill area, provide ventilation and extinguish sources of ignition. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust. DO NOT flush with water or use sparking tools.

Waste disposal method: Dispose of in accordance with state, local, and federal regulations.

Hazard Label Information:

Store in cool, DRY area and in tightly sealed container. Wash thoroughly after handling.

Precautions:

Keep under mineral oil or other liquid free from O₂ or water

Handle and store in a controlled environment and in an inert gas, such as argon

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent skin contact.

Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

Special: Handle in a controlled atmosphere

Mechanical (General): Recommended.

Other: Handle in an inert gas such as argon

Work/Hygienic/Maintenance Practices:

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established