



Super Conductor Materials, Inc.

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SAFETY DATA SHEET

Identity: Lanthanum Strontium Manganate

Formula: LaSrMnO₃ (La_{0.7}Sr_{0.3}MnO₃)

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

Component	Formula	CAS#	OSHA PEL	ACGIH TLV	%
Lanthanum Oxide	La ₂ O ₃	1312-81-8	15 mg/m ³	10 mg/m ³	0.0-100.0%
Manganese Oxide	Mn ₂ O ₃	1317-34-6	5 mg/m ³	5mg/m ³	0.0-100.0%
Strontium Oxide	SrO	1314-11-0	N/A	N/A	100.0%

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Powder / Target

Boiling Point: N/A

Inflammability: N/A

Melting Point: N/A

Ignition Temperature: N/A

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Insoluble

Appearance and odor: Black sputtering powder and pieces, odorless

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Nonflammable

Explosive Limits: LEL: N/A UEL: N/A

Extinguishing Media: Use CO₂, sand and suitable extinguishing agent for surrounding material and type of fire. Do not use water.

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: Exothermic reaction with water



SECTION V – STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid (instability): None known

Incompatibility (Materials to avoid): Air, acids, oxidizing agents, water/moisture, aluminum/ aluminum alloys, and magnesium

Hazardous Decomposition or Byproducts: None known

Hazardous Polymerization: Exothermic reaction with water (Strontium oxide)

Conditions to avoid (hazardous polymerization): No Data Available

SECTION VI - HEALTH HAZARD DATA

Route of Entry: Inhalation? Yes Ingestion? Yes Skin? Yes Eyes? Yes Other? No

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Strontium has a low order of toxicity. High doses has caused change in blood clotting factors, adrenal function, and renal function, corrosive materials are acutely destructive to the respiratory tract, eyes, skin, and digestive tract.

Chronic manganese poisoning may develop after as little as three month of heavy exposure but usually after one to three years.

Sign and Symptoms of Overexposure:

Inhalation: May cause nausea.

Ingestion: May cause fever, cough, and increase in white blood cell counts. Breathing of dust may aggravate asthma and inflammatory or fibrotic pulmonary disease. This applies to liquids also, due to the drying of solution or slurry creating airborne dust.

Skin: May cause irritation and irritate an existing dermatitis

Eyes: May cause irritation, experienced as redness and conjunctiva. Liquids can also cause irritation due to drying of solution or slurry, creating airborne dust.

Health Hazards (Acute and Chronic):

LANTHANUM OXIDE:

Inhalation: No acute health affects

Ingestion: No acute health affects

Skin:

Acute: Irritant to skin and mucus membranes

Chronic: Lanthanons can cause delayed clotting leading to hemorrhages, exposure may lead to sensitivity to heat, itching, increased awareness of odor and taste, and liver damage.

Eyes:

Acute: Irritant effect

Chronic: No chronic health affects recorded



STRONTIUM OXIDE:

Inhalation:

Acute: No acute health affects

Chronic: Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortens of breath, headache, nausea, and vomiting.

Ingestion:

Acute: Swallowing will lead to strong corrosive effects on the mouth and throat and to the danger of performance of the esophagus and stomach.

Chronic: Ingestion may cause damage to the mouth, throat and esophagus.

Skin:

Acute: Corrosive effects on skin and mucus membranes

Chronic: Eye contact may result in permanent damage and complete vision loss.

Eyes:

Acute: Strong corrosive effects, may cause permanent damage and blindness

Chronic: May cause skin burns or irritation, depending on the sensitivity of the exposure.

MANGANESE OXIDE:

Inhalation: No acute or chronic health affects

Ingestion: No acute or chronic health affects

Skin:

Acute: Irritant to skin and mucus membrane, absorbed through the skin

Chronic: Chronic exposure to manganese may cause impairment to the central nervous system.

Symptoms include sluggishness, sleepiness, and muscle weakness, loss of facial muscle control, edema, emotional disturbance, spastic gait, and falling.

Eyes:

Acute: Irritant effect

Chronic: No chronic health effect recorded

Target Organs: Mouth, throat and esophagus

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Medical Condition Generally Aggravated: No Data Available

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



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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.

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: Store away from oxidizing and acid materials

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

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

Ventilation:

Local Exhaust: To maintain concentration at or below the PEL, TLV

Mechanical (General): Recommended

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