

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: Samarium oxide

Formula: Sm_2O_3

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: 348.70

CAS #	OSHA PEL	ACGIH TLV	%
12060-58-1	NE	NE	0.0-100.0%

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 4118° C

Melting Point: 2300° C

Evaporation Rate (Butyl Acetate=1): 0

Solubility in water: Insoluble

Vapor Pressure (mmHg): Essentially 0

Specific Gravity (water=1): 8.347 g/cc

Flash Point: N/A

Appearance and odor: White powder or pieces with no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Unknown

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

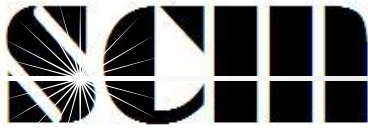
Extinguishing Media: Oxides do not burn. Use water, carbon dioxide, dry chemical extinguishing agents, dry sand, or dry ground dolomite.

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 Explosive Hazards:

When heated to decomposition, samarium oxide may emit toxic fumes.



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SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (instability): None

Incompatibility (Materials to Avoid): Moisture, strong acids, and carbon dioxide.

Hazardous Decomposition or Byproducts: None

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None Recorded

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 chemical, physical and toxicological properties of samarium oxide have not been thoroughly investigated and recorded.

Samarium is considered a rare earth metal. These metals are moderately to highly toxic. The symptoms of toxicity of the rare earth elements include writhing, ataxia, labored respiration, walking on the toes with arched back and sedation. Oral or intraperitoneal doses of 5 to 10 g/kg of dysprosium oxide had no pathological effects in mice and daily doses of 2 g/kg were harmless. Rare earth oxides are much less toxic than chlorides or citrates. The rare earth elements exhibit low toxicity by ingestion exposure. However, the intraperitoneal route is highly toxic while the subcutaneous route is poison to moderately toxic. The production of skin and lung granulomas after exposure to them requires extensive protection to prevent such exposure. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Signs and Symptoms of Overexposure:

Inhalation: May cause a red, dry throat, congestion and coughing.

Ingestion: May effect the coagulation time of the blood

Skin: May cause redness, burning, and itching

Eye: May cause redness, itching, and watering

Health Hazards (Acute and Chronic):

Inhalation:

Acute: May cause irritation to the upper respiratory system and mucus membranes.

Chronic: May cause writhing, ataxia, labored respiration, walking on toes with arched back, sedation, pneumoconiosis, hemoglobinemia and lung granuloma.

Ingestion:

Acute: Considered to have low toxicity by ingestion

Chronic: May affect the blood coagulant

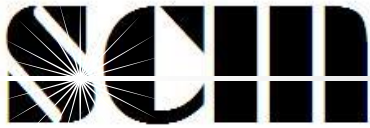
Skin:

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

Eye:

Acute: May cause irritation



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Chronic: No chronic health effects recorded.

Target Organ: May affect the blood and lungs

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

Medical Conditions Aggravated by Exposure: Pre-existing respiratory disorders.

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-Control Measures. Isolate spill area, provide ventilation. 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. Take care not to raise dust. Use non-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.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

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

Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

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