



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

SAFETY DATA SHEET

Identity: Calcium

Formula: Ca

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: 40.08

CAS #	OSHA PEL	ACGIH TLV	%
7440-70-2	NE	NE	0.0-100.0%

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 1440.00 °C	Vapor Pressure (vs. air or mmHg): N/A
Melting Point: 842 °C	Density: N/A
Evaporation Rate: N/A	Flash Point: N/A
Solubility in water: Decomposes to H ₂ + Ca(OH) ₂	Specific Gravity(H ₂ O=1): 1.54 at 20.0 °C

Appearance and odor: White powder, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Unknown *Explosive Limits:* LEL: N/A UEL: N/A

Extinguishing Media: Use class D or other extinguishing agent for metal fires. 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:

- DANGEROUS WHEN WET.
- Finely divided calcium ignites in air, then burns with crimson flame.
- Flammable when heated or on contact with moisture or acids.
- Moderate explosion hazard in intimate contact with powerful oxidizing agents.
- Reacts with moisture, acids and alcohols to liberate large quantities of hydrogen (can develop explosive pressure in containers)
- Potentially explosive reaction with alkali metal hydroxides or carbonates; dinitrogen tetroxide; lead chloride + heat; phosphorus (V) oxide + heat; sulfur + heat.
- Hypergolic reaction with chlorine fluorides.
- Ignition on contact with halogens; sulfur + vanadium (V) oxide.
- Violent reaction with mercury; silicon; sodium + mixed oxides + heat. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (stability): None

Incompatibility: Air; See "Unusual Fire and Explosion Hazards".

Hazardous Decomposition or Byproducts: Ca(OH)₂ and hydrogen.

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

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

Calcium compounds: The fumes evolved by burning calcium in air are composed of calcium oxide which is an irritant to the skin, eyes and mucous membrane. Generally speaking, calcium compounds should be considered toxic only when they contain toxic components or as calcium oxide or hydroxide. Calcium compounds are common air contaminants. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Signs and Symptoms of Overexposure:

Inhalation: May cause chemical burns, coughing and sneezing.

Ingestion: May cause stomach cramps, pain in swallowing and irritation of the mouth.

Skin: May cause itching and redness. May cause chemical burns on contact with moist skin.

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

Health Hazards (Acute and Chronic):

Inhalation:

Acute: May cause irritation to the respiratory system, sneezing and coughing due to decomposition product Ca(OH)₂. Prolonged or heavy exposure may cause chemical bronchitis.

Chronic: No chronic health effects recorded.

Ingestion:

Acute: Decomposition product Ca(OH)₂ may cause burning sensation in mouth, chest and stomach. May cause irritation of the mouth, pain in swallowing and stomach cramps.

Chronic: No chronic health effects recorded.



Skin:

Acute: May cause irritation on contact with moist skin.

Chronic: No chronic health effects recorded.

Eye:

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

Target Organs: No target organs recorded.

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

Medical Conditions Aggravated by Exposure: Pre-existing respiratory disorders

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 immediately

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 to be taken in handling: Calcium metal reacts with water and moisture. Handle and store in a controlled environment and inert atmosphere such as argon gas.

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 low exposure levels Special: Handle in a dry, controlled atmosphere



Super Conductor Materials, Inc.

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

Mechanical (General): Not 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. Handle in a dry, controlled area. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating and smoking.

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