



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

**SAFETY DATA SHEET**

Identity: Calcium Hydride

Formula: CaH<sub>2</sub>

**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: 42.10

CAS #	OSHA PEL	ACGIH TLV	%
7789-78-8	NE	NE	0.0-100.0%

**SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS**

Physical States: Solid

Boiling Point: N/A	Vapor Pressure (vs. air or mmHg): N/A
Melting Point: 600.00 °C	Density: 1.9 gm/cc
Evaporation Rate: N/A	Flash Point: N/A
Solubility in water: Decomposes to form hydroxide	

*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.

*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:*

- When heated or on contact with moisture or acids, hydrogen is evolved highly exothermically.
- May explode on contact with strong oxidizing agents.
- May have an explosive reaction on heating with tetrahydrofuran.
- Mixtures with potassium chlorate and other metal oxohalogenates may cause heat and friction sensitive explosives.
- On heating with halogens, manganese dioxide and silver halides a vigorous or incandescent reaction may occur.

**SECTION V - REACTIVITY DATA**

*Stability:* Stable

*Conditions to Avoid (stability):* None

*Incompatibility:* Water, moisture, acids, tetrahydrofuran, potassium chlorate, metal oxohalogenates, halogens, manganese dioxide, silver halides and oxidizing agents.

*Hazardous Decomposition or Byproducts:* 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

To the best of our knowledge the chemical, physical and toxicological properties of calcium hydride have not been thoroughly investigated and recorded.

Generally speaking, calcium compounds should be considered toxic only when they contain toxic components or as calcium oxide or hydroxide. (Sax, Dangerous Properties of Industrial Materials, sixth edition)

*Signs and Symptoms of Overexposure:*

*Inhalation:* May cause sneezing, coughing, chemical burns and dry throat.

*Ingestion:* May cause excessive salivation, vomiting, colic and diarrhea.

*Skin:* May cause itching, redness, inflammation and chemical burns.

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

*Health Hazards (Acute and Chronic):*

*Inhalation:*

Acute: In the presence of moisture, calcium hydride is readily converted to calcium hydroxide which is highly irritating to the lungs, respiratory tract and mucous membranes.

Chronic: No chronic health effects recorded.

*Ingestion:*

Acute: May cause burns to the mouth, throat and stomach.

Chronic: No chronic health effects recorded.

*Skin:*

Acute: May cause irritation and possible chemical burns to moist tissue.



Chronic: No chronic health effects recorded.

*Eye:*

Acute: May cause irritation and possible chemical burns.

Chronic: No chronic health effects recorded.

*Target Organs:* May affect the skin and eyes.

*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

**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. 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. Precautions to be taken in storing - Calcium hydride decomposes in water and moisture. Handle and store in a controlled environment and 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 contact.

*Ventilation:*

Local Exhaust: To maintain concentration at low exposure levels Special: Handle in a controlled atmosphere

Mechanical (General): Not recommended

Other: Handle in an inert gas such as argon.



## **Super Conductor Materials, Inc.**

**391 Spook Rock Industrial Park, Suffern, NY 10901 · 845.368.0240 · Fax 845.368.0250 · [www.scm-inc.com](http://www.scm-inc.com)**

*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
---