

# Material Safety Data Sheet

## Calcium Hydride

ACC# 03970

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Calcium Hydride  
**Catalog Numbers:** C94 100, C94-100, C94100  
**Synonyms:** Calcium Dihydride  
**Company Identification:**  
Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100  
**Emergency Number:** 201-796-7100  
**For CHEMTREC assistance, call:** 800-424-9300  
**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7789-78-8	Calcium Hydride	100.00	232-189-2

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: white powder.

**Warning!** May ignite on contact with water or moist air Water-reactive. Produces flammable gases on contact with water. May cause irritation. Moisture sensitive. The toxicological properties of this material have not been fully investigated.

**Target Organs:** Respiratory system, eyes, skin, mucous membranes.

#### Potential Health Effects

**Eye:** No information regarding eye irritation and other potential effects was found.

**Skin:** No information regarding skin irritation and other potential effects was found.

**Ingestion:** The toxicological properties of this substance have not been fully investigated.

**Inhalation:** The toxicological properties of this substance have not been fully investigated. Inhalation of dust may cause respiratory tract irritation.

**Chronic:** No information found.

### Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Reacts violently with water giving off flammable gas which may explode. Water Reactive. Material will react with water and may release a flammable and/or toxic gas. May react violently or explosively on contact with water. May be ignited by heat, sparks, and flame.

**Extinguishing Media:** Do NOT get water inside containers. Cool containers with flooding quantities of water until well after fire is out. DO NOT USE WATER OR FOAM. For small fires, use dry chemical, soda ash, lime or sand. For large fires, use dry sand, dry chemical, soda ash or lime or withdraw from area and let fire burn.

**Flash Point:** Not available.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 0; Instability: 2; Special Hazard: -W-

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Remove all sources of ignition. Do not get water on spilled substances or inside containers.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Use only in a well-ventilated area. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not allow contact with water. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:** Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Water free area.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Calcium Hydride	none listed	none listed	none listed

**OSHA Vacated PELs:** Calcium Hydride: No OSHA Vacated PELs are listed for this chemical.

**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

## Section 9 - Physical and Chemical Properties

**Physical State:** Powder

**Appearance:** white

**Odor:** odorless

**pH:** Not available.

**Vapor Pressure:** Negligible.

**Vapor Density:** Not applicable.

**Evaporation Rate:** Negligible.

**Viscosity:** Not available.

**Boiling Point:** Not applicable.

**Freezing/Melting Point:** 816 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Decompose in H<sub>2</sub>O to form Hydrogen gas.

**Specific Gravity/Density:** 1.9 (water=1)

**Molecular Formula:** CaH<sub>2</sub>

**Molecular Weight:** 42.094

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, ignition sources, dust generation, contact with water, excess heat, heat plus an incompatible substance.

**Incompatibilities with Other Materials:** Acids, acid anhydrides, bromates, chlorates, carbonyl compounds, halogens, perchlorates, potassium chlorates, silver fluoride, silver halides, tetrahydrofuran, oxidizing agents, oxohalogenates.

**Hazardous Decomposition Products:** Calcium oxide, hydrogen gas.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:**

CAS# 7789-78-8 unlisted.

**LD50/LC50:**

Not available.

**Carcinogenicity:**

CAS# 7789-78-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information available.**Teratogenicity:** No information available.**Reproductive Effects:** No information available.**Neurotoxicity:** No information available.**Mutagenicity:** No information available.**Other Studies:** No data available.

<b>Section 12 - Ecological Information</b>
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**Ecotoxicity:** No data available. No information available.**Environmental:** No information found.**Physical:** No information found.**Other:** No information available.

<b>Section 13 - Disposal Considerations</b>
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Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.**RCRA U-Series:** None listed.

<b>Section 14 - Transport Information</b>
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	US DOT	Canada TDG
<b>Shipping Name:</b>	CALCIUM HYDRIDE	CALCIUM HYDRIDE
<b>Hazard Class:</b>	4.3	4.3
<b>UN Number:</b>	UN1404	UN1404
<b>Packing Group:</b>	I	I

<b>Section 15 - Regulatory Information</b>
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**US FEDERAL****TSCA**

CAS# 7789-78-8 is listed on the TSCA inventory.

**Health & Safety Reporting List**

None of the chemicals are on the Health &amp; Safety Reporting List.

**Chemical Test Rules**

None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**

None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

**CERCLA Hazardous Substances and corresponding RQs**

None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances**

None of the chemicals in this product have a TPQ.

**SARA Codes**

CAS # 7789-78-8: acute, chronic, flammable, reactive.

**Section 313** No chemicals are reportable under Section 313.**Clean Air Act:**

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 7789-78-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

**California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations****European Labeling in Accordance with EC Directives****Hazard Symbols:**

Not available.

**Risk Phrases:**

R 15 Contact with water liberates extremely flammable gases.

**Safety Phrases:**

S 24/25 Avoid contact with skin and eyes.

S 7/8 Keep container tightly closed and dry.

S 43A In case of fire, use dry chemical (never use water).

**WGK (Water Danger/Protection)**

CAS# 7789-78-8: 1

**Canada - DSL/NDSL**

CAS# 7789-78-8 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of B6, F.

**Canadian Ingredient Disclosure List**

Section 16 - Additional Information
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**MSDS Creation Date:** 2/04/1999

**Revision #5 Date:** 7/18/2002

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*