


<a href="#">Calcium Hydride</a>		<a href="#">Pricing &gt;</a>
Linear Formula	CaH <sub>2</sub>	
Pubchem CID	105052	
MDL Number	MFCD00010897	
EC No.	232-189-2	
IUPAC Name	calcium hydride	
Beilstein/Reaxys No.	N/A	
SMILES	[H-].[H-].[Ca+2]	
Inchl Identifier	InChI=1S/Ca.2H/q+2;2*-1	
Inchl Key	UUGAXJGDKREHIO-UHFFFAOYSA-N	
Signal Word	Warning	
Hazard Statements	H260	
Hazard Codes	F	
Precautionary Statements	P223-P231+P232-P370+P378	
Risk Codes	15	
Safety Statements	24/25-43-7/8	
RTECS Number	N/A	
Transport Information	UN 1404 4.3/PG I	
WGK Germany	1	
GHS Pictograms	<a href="#">GHS02 Flame</a> 	

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## SAFETY DATA SHEET

Date Accessed: 05/05/2024

Date Revised: 01/15/2022

## SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #7789-78-8

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:  
American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:  
Domestic, North America +1 800-424-9300  
International +1 703-527-3887

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## SECTION 2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Substances/mixtures which, in contact with water, emit

flammable gases

Category 1

Skin Corrosion/irritation Category 2

Serious Eye Damage/Eye Irritation Category 2



Label Elements

Signal Word

Danger

Hazard Statements

In contact with water releases flammable gases which may ignite spontaneously

Causes skin irritation

Causes serious eye irritation

Precautionary Statements

Prevention

Keep away from any possible contact with water, because of violent reaction and possible flash fire

Handle under inert gas. Protect from moisture

Wear protective gloves/protective clothing/eye protection/face protection

Skin

Brush off loose particles from skin. Immerse in cool water/wrap with wet bandages

Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

Storage

Store in a dry place. Store in a closed container

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

May form combustible dust concentrations in air

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component CAS-No Weight %

Calcium hydride (CaH<sub>2</sub>) 7789-78-8 93

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### **SECTION 4. FIRST AID MEASURES**

Eye Contact Immediate medical attention is required.

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required. Discard contaminated shoes.

Inhalation Remove from exposure, lie down. Move to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.

Ingestion Do not induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Call a physician immediately.

Most important symptoms/effects No data available.

Notes to Physician Treat symptomatically

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### **SECTION 5. FIREFIGHTING MEASURES**

Suitable Extinguishing Media Flooding quantities of water. Dry chemical, soda ash, lime or sand.

Unsuitable Extinguishing Media No data available

Flash Point No data available

Method - No data available

Autoignition Temperature 300 °C / 572 °F

Explosion Limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No data available

Sensitivity to Static Discharge No data available

Specific Hazards Arising from the Chemical

Water reactive. Produce flammable gases on contact with water.

Hazardous Combustion Products  
Hydrogen  
Protective Equipment and Precautions for Firefighters  
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.  
NFPA  
Health  
2  
Flammability  
3  
Instability  
2  
Physical hazards  
W

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal Precautions Use personal protective equipment. Ensure adequate ventilation.  
Environmental Precautions See Section 12 for additional ecological information.  
Methods for Containment and Clean Up  
Avoid dust formation. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Sweep up or vacuum up spillage and collect in suitable container for disposal. Do not let this chemical enter the environment. Do not expose spill to water.

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## **SECTION 7. HANDLING AND STORAGE**

Handling Use only in area provided with appropriate exhaust ventilation. Avoid contact with skin and eyes. Do not breathe dust. Minimize dust generation and accumulation. Do not allow contact with water.  
Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat and sources of ignition. Never allow product to get in contact with water during storage. Keep under nitrogen.

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## **SECTION 8. EXPOSURE**

## CONTROLS/PERSONAL PROTECTION

Exposure Guidelines This product does not contain any known or suspected reproductive hazards  
Engineering Measures Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection 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 and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard

EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Solid

Appearance Grey

Odor Odorless

Odor Threshold No data available

pH No data available

Melting Point/Range 675 °C / 1247 °F

Boiling Point/Range No data available

Flash Point No data available

Evaporation Rate N/A

Flammability (solid,gas) No data available

Flammability or explosive limits

Upper No data available

Lower No data available

Vapor Pressure No data available

Vapor Density N/A

Specific Gravity 1.900

Solubility Reacts with water

Partition coefficient; n-octanol/water No data available

Autoignition Temperature 300 °C / 572 °F

Decomposition Temperature No data available

Viscosity N/A

Molecular Formula Ca H2

## SECTION 10. STABILITY AND REACTIVITY

Reactive Hazard Yes

Stability Stable under normal conditions. Water reactive.

Conditions to Avoid Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition.

Protect from water. Excess heat. Incompatible products. Exposure to moist air or water.

Incompatible Materials Acids, Water, Strong acids, Alcohols, Halogens, Acid anhydrides, Reducing agents

Hazardous Decomposition Products Hydrogen

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing

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## SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information No acute toxicity information is available for this product

Component Information

Toxicologically Synergistic

Products

No data available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes and skin

Sensitization No data available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component CAS-No IARC NTP ACGIH OSHA Mexico

Calcium hydride  
(CaH<sub>2</sub>)

7789-78-8 Not listed Not listed Not listed Not listed  
Not listed

Mutagenic Effects No data available

Reproductive Effects No data available.

Developmental Effects No data available.

Teratogenicity No data available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No data available

Symptoms / effects, both acute and

delayed  
No data available  
Endocrine Disruptor Information No data available  
Other Adverse Effects The toxicological properties  
have not been fully investigated

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## **SECTION 12. ECOLOGICAL INFORMATION**

Ecotoxicity  
Do not empty into drains. Reacts with water so no  
ecotoxicity data for the substance is available.  
Persistence and Degradability Persistence is unlikely  
based on information available.  
Bioaccumulation/ Accumulation No data available.  
Mobility Is not likely mobile in the environment

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste Disposal Methods Chemical waste generators  
must determine whether a discarded chemical is  
classified as a  
hazardous waste. Chemical waste generators must  
also consult local, regional, and  
national hazardous waste regulations to ensure  
complete and accurate classification.

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## **SECTION 14. TRANSPORT INFORMATION**

DOT  
UN-No UN1404  
Proper Shipping Name CALCIUM HYDRIDE  
Hazard Class 4.3  
Packing Group I  
TDG  
UN-No UN1404  
Proper Shipping Name CALCIUM HYDRIDE  
Hazard Class 4.3  
Packing Group I  
IATA  
UN-No UN1404  
Proper Shipping Name CALCIUM HYDRIDE  
Hazard Class 4.3  
Packing Group I  
IMDG/IMO  
UN-No UN1404  
Proper Shipping Name CALCIUM HYDRIDE  
Hazard Class 4.3  
Packing Group I

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## SECTION 15. REGULATORY INFORMATION

International Inventories

Component TSCA DSL NDSL EINECS ELINCS NLP  
PICCS ENCS AICS IECSC KECL

Calcium hydride (CaH<sub>2</sub>) X X - 232-189-2 - X X X X X

Legend:

X - Listed

E - Indicates a substance that is the subject of a  
Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a  
Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no  
free-radical initiator in its inventory name but is  
considered to cover the designated  
polymer made with any free-radical initiator regardless  
of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a  
Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a  
proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a  
Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting  
under the Inventory Update Rule, i.e. Partial Updating  
of the TSCA Inventory Data Base

Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-  
average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester  
and is made only from reactants included in a  
specified list of low concern reactants  
that comprises one of the eligibility criteria for the  
exemption rule.

U.S. Federal Regulations

TSCA 12(b) N/A

SARA 313 N/A

SARA 311/312 Hazard Categories

Acute Health Hazard Yes

Chronic Health Hazard No

Fire Hazard No

Sudden Release of Pressure Hazard No

Reactive Hazard Yes

CWA (Clean Water Act) N/A

Clean Air Act N/A

OSHA Occupational Safety and Health Administration  
N/A

CERCLA

N/A

California Proposition 65 This product does not  
contain any Proposition 65 chemicals



U.S. State Right-to-Know  
Regulations  
Component Massachusetts New Jersey Pennsylvania  
Illinois Rhode Island  
Calcium hydride (CaH<sub>2</sub>) - X - - -  
U.S. Department of Transportation  
Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N  
U.S. Department of Homeland Security  
This product does not contain any DHS chemicals.  
Other International Regulations  
Mexico - Grade No data available  
Canada  
This product has been classified in accordance with  
the hazard criteria of the Controlled Products  
Regulations (CPR) and  
the MSDS contains all the information required by the  
CPR  
WHMIS Hazard Class B6 Reactive flammable  
material  
D2B Toxic materials

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.

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