



# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 07/17/2014

Version 1.2

## SECTION 1. Identification

### Product identifier

Product number	802100
Product name	Calcium hydride for synthesis
CAS-No.	7789-78-8

### Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Chemical for synthesis
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### Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   General Inquiries: +1-978-715-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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## SECTION 2. Hazards identification

### GHS Classification

Substances which in contact with water emit flammable gases, Category 1, H260  
For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

*Hazard pictograms*



*Signal Word*  
Danger

*Hazard Statements*

H260 In contact with water releases flammable gases which may ignite spontaneously.

*Precautionary Statements*

P402 + P404 Store in a dry place. Store in a closed container.

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### OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

### Other hazards

None known.

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### SECTION 3. Composition/information on ingredients

Formula	CaH <sub>2</sub>	H <sub>2</sub> Ca (Hill)
Molar mass	42.09 g/mol	

### Hazardous ingredients

*Chemical Name ( Concentration)*

CAS-No.

*calcium hydride ( >= 90 % - <= 100 % )*

7789-78-8

Exact percentages are being withheld as a trade secret.

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### SECTION 4. First aid measures

#### Description of first-aid measures

*General advice*

First aider needs to protect himself.

*Inhalation*

After inhalation: fresh air. Call in physician.

*Skin contact*

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

*Eye contact*

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

*Ingestion*

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation!). Call a physician immediately. Do not attempt to neutralize.

Never give anything by mouth to an unconscious person.

#### Most important symptoms and effects, both acute and delayed

Irritation and corrosion, Cough, Discomfort, Shortness of breath, Unconsciousness, Risk of corneal clouding.

Risk of blindness!

#### Indication of any immediate medical attention and special treatment needed

No information available.

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### SECTION 5. Fire-fighting measures

#### Extinguishing media

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### *Suitable extinguishing media*

Sand, Cement, Extinguishing media: sodium chloride, -bicarbonate or calcareous sandstone.

### *Unsuitable extinguishing media*

Water, Foam

### **Special hazards arising from the substance or mixture**

Combustible.

Development of hazardous combustion gases or vapors possible in the event of fire.

Risk of dust explosion.

May not get in touch with:

Water

Caution! in contact with water product releases:

Hydrogen

### **Advice for firefighters**

#### *Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6. Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid substance contact. Ensure adequate ventilation.

Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### **Environmental precautions**

Do not empty into drains. Risk of explosion.

### **Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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## **SECTION 7. Handling and storage**

### **Precautions for safe handling**

Observe label precautions.

Keep workplace dry. Do not allow product to come into contact with water.

### **Conditions for safe storage, including any incompatibilities**

Tightly closed. Dry. Keep away from heat and sources of ignition.

Store at +15°C to +25°C (+59°F to +77°F).

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**SECTION 8. Exposure controls/personal protection**

**Exposure limit(s)**

Contains no substances with occupational exposure limit values.

**Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

**Individual protection measures**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

*Hygiene measures*

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

*Eye/face protection*

Tightly fitting safety goggles

*Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

*Other protective equipment:*

Flame retardant antistatic protective clothing

*Respiratory protection*

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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**SECTION 9. Physical and chemical properties**

Physical state	solid
Color	gray
Odor	odorless
Odor Threshold	not applicable
pH	No information available.
Melting point	816 °C
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.

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Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	1.9 g/cm <sup>3</sup> at 68 °F ( 20 °C)
Relative density	No information available.
Water solubility	at 68 °F ( 20 °C) (rigorous decomposition)
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	> 1112 °F ( > 600 °C)
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	> 572 °F ( > 300 °C)

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**SECTION 10. Stability and reactivity**

**Reactivity**

Self-ignition possible due to air moisture.  
Risk of dust explosion.

**Chemical stability**

sensitive to moisture

**Possibility of hazardous reactions**

Risk of ignition or formation of inflammable gases or vapors with:

Water, (generation of hydrogen)

Alcohols, halogens, fluorides

Violent reactions possible with:

Oxidizing agents, sulfuric acid, hydrochloric acid, silver compounds

Risk of explosion with:

perchlorates, chlorates, bromates, iodates, Acids

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## Conditions to avoid

Strong heating (decomposition).  
Exposure to moisture.

## Incompatible materials

no information available

## Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Eye contact, Skin contact, Ingestion

#### *Acute oral toxicity*

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

#### *Acute inhalation toxicity*

Symptoms: mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Possible damages:, damage of respiratory tract

#### *Skin irritation*

in case of perspiration/moisture corrosive.

#### *Eye irritation*

Causes serious eye damage. Risk of corneal clouding. Risk of blindness!

#### *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

### Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential

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carcinogen by ACGIH.

**Further information**

After uptake:  
Discomfort, Shortness of breath, Unconsciousness  
Decomposition of the substance with tissue moisture.  
Possible decomposition products in case of hydrolysis are:  
Calcium hydroxide  
Handle in accordance with good industrial hygiene and safety practice.

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**SECTION 12. Ecological information**

**Ecotoxicity**

No information available.

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility in soil**

No information available.

*Additional ecological information*

Harmful effect due to pH shift.  
Discharge into the environment must be avoided.

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**SECTION 13. Disposal considerations**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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**SECTION 14. Transport information**

**Land transport (DOT)**

UN number	UN 1404
Proper shipping name	CALCIUM HYDRIDE
Class	4.3
Packing group	I
Environmentally hazardous	--

**Air transport (IATA)**

UN number	UN 1404
Proper shipping name	CALCIUM HYDRIDE
Class	4.3
Packing group	I
Environmentally hazardous	--

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<b>Special precautions for user</b>	yes
<b>IATA ( Passenger)</b>	<b>Not permitted for transport</b>
<b>Sea transport (IMDG)</b>	
<b>UN number</b>	UN 1404
<b>Proper shipping name</b>	CALCIUM HYDRIDE
<b>Class</b>	4.3
<b>Packing group</b>	I
<b>Environmentally hazardous</b>	--
<b>Special precautions for user</b>	yes
EmS	F-G S-O

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## SECTION 15. Regulatory information

### United States of America

#### OSHA Hazards

Water Reactive

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

#### SARA 311/312 Hazards

Reactivity Hazard

#### SARA 313

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

#### DEA List I

Not listed

#### DEA List II

Not listed

### US State Regulations

#### Massachusetts Right To Know

Remarks

No components are subject to the Massachusetts Right to Know Act.

#### Pennsylvania Right To Know



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### *Ingredients*

calcium hydride

### **New Jersey Right To Know**

#### *Ingredients*

calcium hydride

### **California Prop 65 Components**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

### **Notification status**

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

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## **SECTION 16. Other information**

### **Training advice**

Provide adequate information, instruction and training for operators.

### **Full text of H-Statements referred to under sections 2 and 3.**

H260 In contact with water releases flammable gases which may ignite spontaneously.

### **Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date 07/17/2014

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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