

Calcium Borohydride		Pricing >
Linear Formula	Ca(BH ₄) ₂	
Pubchem CID	6095708	
MDL Number	MFCD00015973	
EC No.	N/A	
IUPAC Name	calcium; boranuide	
Beilstein/Reaxys No.	N/A	
SMILES	[Ca+2].[BH4-].[BH4-]	
Inchl Identifier	InChI=1S/2BH4.Ca/h2*1H4;/q2*-1;+2	
Inchl Key	MOUPUCLGEWXWHJ-UHFFFAOYSA-N	
Signal Word	Danger	
Hazard Statements	H261-H301-H311-H314-H331	
Hazard Codes	F,T	
Risk Codes	11-14/15-23/24/25-34	
Safety Statements	26-36/37/39-43-45	
RTECS Number	N/A	
Transport Information	UN 3131 4.3/PG 2	
WGK Germany	3	

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SAFETY DATA SHEET

Date Accessed: 05/21/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #17068-95-0

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

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Substances and mixtures, which in contact with water, emit flammable gases (Category 2), H261
Acute toxicity, Oral (Category 3), H301
Acute toxicity, Inhalation (Category 3), H331
Acute toxicity, Dermal (Category 3), H311
Skin corrosion (Category 1B), H314
Serious eye damage (Category 1), H318

GHS Label elements, including precautionary statements
Pictogram

Signal word
Danger
Hazard statement(s)
H261
In contact with water releases flammable gases.
H301 + H311 + H331
Toxic if swallowed, in contact with skin or if inhaled
H314
Causes severe skin burns and eye damage.
Precautionary statement(s)
P223
Keep away from any possible contact with water, because of violent reaction and possible flash fire.
P231 + P232
Handle under inert gas. Protect from moisture.
P260
Do not breathe dust or mist.
P264
Wash skin thoroughly after handling.
P270
Do not eat, drink or smoke when using this product.
P271
Use only outdoors or in a well-ventilated area.
P280
Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310

IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

P301 + P330 + P331

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353

IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310

Immediately call a POISON CENTER or doctor/ physician.

P322

Specific measures (see supplemental first aid instructions on this label).

P335 + P334

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

P361

Remove/Take off immediately all contaminated clothing.

P363

Wash contaminated clothing before reuse.

P370 + P378

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

P402 + P404

Store in a dry place. Store in a closed container.

P403 + P233

Store in a well-ventilated place. Keep container tightly closed.

P405

Store locked up.

P501

Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS

Reacts violently with water.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Formula: H₈B₂Ca

Molecular Weight: 69.76 g/mol

CAS-No.: 17068-95-0
Hazardous components
Component
Classification
Concentration
Calcium borohydride
Water-react. 2; Acute Tox. 3; Skin Corr. 1B; Eye Dam.
1; H261, H301 + H311 + H331, H314
-

SECTION 4. FIRST AID MEASURES

Description of first aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.
Move out of dangerous area.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Continue rinsing eyes during transport to hospital.
If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11
Indication of any immediate medical attention and special treatment needed
no data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing media
Dry powder
Special hazards arising from the substance or mixture
Borane/boron oxides, Calcium oxide
Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.
Further information
no data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid dust formation. Avoid breathing Vapors, mist or gas. Ensure adequate ventilation.
Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see section 8.
Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and materials for containment and cleaning up
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water.
Keep in suitable, closed containers for disposal.
Reference to other sections
For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking.
For precautions see section 2.
Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.
Never allow product to get in contact with water during storage.
Specific end use(s)
Apart from the uses mentioned in section 1 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, Flame retardant protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Form: solid

Odor: no data available

Odor Threshold: no data available

pH: no data available
Melting point/freezing point: no data available
Initial boiling point and boiling range: no data available
Flash point: no data available
Evaporation rate: no data available
Flammability (solid, gas): no data available
Upper/lower flammability or explosive limits: no data available
Vapor pressure: no data available
Vapor density: no data available
Relative density: no data available
Water solubility: no data available
Partition coefficient: n-octanol/water: no data available
Auto-ignition temperature: no data available
Decomposition temperature: no data available
Viscosity: no data available
Explosive properties: no data available
Oxidizing properties: no data available
Other safety information: no data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
no data available
Chemical stability
Stable under recommended storage conditions.
Possibility of hazardous reactions
Reacts violently with water.
Conditions to avoid
Exposure to moisture.
Incompatible materials
Strong oxidizing agents, Water, acids, Alcohols,
Strong bases
Hazardous decomposition products
Other decomposition products-no data available
In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity
no data available
no data available
Skin corrosion/irritation
no data available
Serious eye damage/eye irritation
no data available
Respiratory or skin sensitisation
no data available
Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

no data available

Specific target organ toxicity -single exposure

no data available

Specific target organ toxicity -repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

RTECS: Not available

Cough, Shortness of breath, Headache, Nausea, Vomiting

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in

igniting as this material is highly flammable.
Offer surplus and non-recyclable solutions to a
licensed disposal company.
Contact a licensed professional waste disposal service
to dispose of this material.
Dissolve or mix the material with a combustible
solvent and burn in a chemical incinerator equipped
with an afterburner and scrubber.
Contaminated packaging
Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT (US)
UN number: 3131
Class: 4.3 (8)
Packing group: II
Proper shipping name: Water-reactive solid,
corrosive, n.o.s. (Calcium borohydride)
Marine pollutant: No
Poison Inhalation Hazard: No
IMDG
UN number: 3131
Class: 4.3 (8)
Packing group: II
EMS-No: F-G, S-L
Proper shipping name: WATER-REACTIVE SOLID,
CORROSIVE, N.O.S. (Calcium borohydride)
Marine pollutant: No
IATA
UN number: 3131
Class: 4.3 (8)
Packing group: II
Proper shipping name: Water-reactive solid,
corrosive, n.o.s. (Calcium borohydride)

SECTION 15. REGULATORY INFORMATION

SARA 302 Components
SARA 302: No chemicals in this material are subject
to the reporting requirements of SARA Title III,
Section 302.
SARA 313 Components
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 311/312 Hazards
Reactivity Hazard, Acute Health Hazard
Massachusetts Right To Know Components

No components are subject to the Massachusetts
Right to Know Act.
Pennsylvania Right To Know Components
Calcium borohydride
CAS-No. 17068-95-0
Revision Date
New Jersey Right To Know Components
Calcium borohydride
CAS-No. 17068-95-0
Revision Date
California Prop. 65 Components
This product does not contain any chemicals known to
State of California to cause cancer, birth defects, or
any other reproductive harm.

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
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