

Zinc Borohydride		Pricing >
Linear Formula	Zn(BH ₄) ₂	
Pubchem CID	N/A	
MDL Number	N/A	
EC No.	N/A	
IUPAC Name	N/A	
Beilstein/Reaxys No.	N/A	
SMILES	[BH4-].[BH4-].[Zn+2]	
Inchl Identifier	InChI=1S/2BH4.Zn/h2*1H4;/q2*-1;+2	
Inchl Key	PTJGRTOJBSRNJP-UHFFFAOYSA-N	
Signal Word	N/A	
Hazard Statements	N/A	
Hazard Codes	N/A	
Risk Codes	N/A	
Safety Statements	N/A	
Transport Information	N/A	

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SAFETY DATA SHEET

Date Accessed: 04/29/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #17611-70-0

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:

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225
Substances and mixtures, which in contact with water, emit flammable gases (Category 1), H260
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Skin corrosion (Category 1B), H314
Carcinogenicity (Category 2), H351
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Classification according to EU Directives 67/548/EEC or 1999/45/EC

F Highly flammable R11, R15

Xn Harmful R20/21/22

Xn Harmful R40

Xi Irritant R36/37/38

R19, R14

Label elements

Labelling according Regulation (EC) No 1272/2008



Signal word Danger

Hazard statement(s)

H225 Highly flammable liquid and Vapor.

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

H302 + H332 Harmful if swallowed or if inhaled

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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.

P261 Avoid breathing Vapors.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

P422 Store contents under inert gas.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Zinc borohydride
CAS-No. 17611-70-0

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.

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. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

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

Carbon oxides, Borane/boron oxides, Lithium oxides

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

Use personal protective equipment. Avoid breathing Vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of Vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

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

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.

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 inhalation of Vapor or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Never allow product to get in contact with water during storage.

Handle and open container with care. Moisture sensitive.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components with workplace control parameters

Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Splash contact

Material: butyl-rubber

Minimum layer thickness: 0,3 mm

Break through time: 10 min test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic 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 respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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: liquid

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 -18 °C - closed cup

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 0,896 g/cm³

Water solubility no data available

Partition coefficient: noctanol/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

Heat, flames and sparks. Extremes of temperature and direct sunlight. Exposure to moisture.

Incompatible materials

Strong bases, Oxidizing agents, Strong oxidizing agents, Amines, Ammonia, Strong acids, Oxygen, Chloroformates, Halogens, Phosphorus halides

Hazardous decomposition products

Other decomposition products - no data available
In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

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.

Reproductive toxicity

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

Central nervous system depression, Exposure to high airborne concentrations can cause anesthetic effects., Cough, chest pain, Difficulty in breathing, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated., burning sensation.

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.
Contaminated packaging
Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

UN number: 3399
UN proper shipping name
ORGANOMETALLIC SUBSTANCE, LIQUID,
WATER-REACTIVE, FLAMMABLE
(Zinc borohydride)
IMDG: ORGANOMETALLIC SUBSTANCE, LIQUID,
WATER-REACTIVE, FLAMMABLE (Zinc borohydride)
IATA: Organometallic substance, liquid, water-
reactive, flammable (Zinc borohydride)
Transport hazard class(es)
ADR/RID: 4.3 (3) IMDG: 4.3 (3) IATA: 4.3 (3)
Packaging group
ADR/RID: I IMDG: I IATA: I
Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no
Special precautions for user
no data available

SECTION 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements
of Regulation (EC) No. 1907/2006.
Safety, health and environmental
regulations/legislation specific for the substance or
mixture
no data available

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

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

Acute Tox. Acute toxicity

Carc. Carcinogenicity

EUH014 Reacts violently with water.

EUH019 May form explosive peroxides.

Eye Irrit. Eye irritation

Flam. Liq. Flammable liquids

H225 Highly flammable liquid and Vapor.

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

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

Skin Corr. Skin corrosion

STOT SE Specific target organ toxicity - single exposure

Full text of R-phrases referred to under sections 2 and 3

F Highly flammable

T Toxic

R11 Highly flammable.

R14 Reacts violently with water.

R14/15 Reacts violently with water, liberating extremely flammable gases.

R15 Contact with water liberates extremely flammable gases.

R19 May form explosive peroxides.

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R34 Causes burns.

R36/37 Irritating to eyes and respiratory system.

Xn Harmful

R36/37/38 Irritating to eyes, respiratory system and skin.

R40 Limited evidence of a carcinogenic effect.

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.
