




<a href="#">Sodium Borohydride</a>	<a href="#">Pricing &gt;</a>
<a href="#">Sodium Borohydride Caplets</a>	<a href="#">Pricing &gt;</a>
<a href="#">Sodium Borohydride Granules</a>	<a href="#">Pricing &gt;</a>
<a href="#">Sodium Borohydride Particles</a>	<a href="#">Pricing &gt;</a>
<a href="#">Sodium Borohydride Pellets</a>	<a href="#">Pricing &gt;</a>
<a href="#">Sodium Borohydride Powder</a>	<a href="#">Pricing &gt;</a>
<a href="#">Sodium Borohydride Solution</a>	<a href="#">Pricing &gt;</a>

<b>Linear Formula</b>	NaBH <sub>4</sub>
<b>Pubchem CID</b>	4311764
<b>MDL Number</b>	MFCD00003518
<b>EC No.</b>	241-004-4
<b>IUPAC Name</b>	Sodium boranuide
<b>Beilstein/Reaxys No.</b>	N/A
<b>SMILES</b>	[Na+].[BH4-]
<b>Inchl Identifier</b>	InChI=1S/BH4.Na /h1H4;/q-1;+1
<b>Inchl Key</b>	YOQDYZUWIQVZSF-UHFFFAOYSA-N

<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H260-H301-H311-H314
<b>Hazard Codes</b>	F,T
<b>Risk Codes</b>	15-24/25-34
<b>Safety Statements</b>	22-26-36/37/39-43-45
<b>RTECS Number</b>	ED3325000
<b>Transport Information</b>	UN 1426 4.3/PG 1
<b>WGK Germany</b>	2

GHS Pictograms		<a href="#"><u>GHS05 Corrosive</u></a>
		<a href="#"><u>GHS02 Flame</u></a>
		<a href="#"><u>GHS06 Skull and Crossbones</u></a>

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## SAFETY DATA SHEET

Date Accessed: 03/29/2024

Date Revised: 01/15/2022

### SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #16940-66-2

**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  
Classification according to Regulation (EC) No 1272/2008  
GHS02 Flame  
Water-react. 1 H260 In contact with water releases flammable gases which may ignite spontaneously.  
GHS06 Skull and crossbones  
Acute Tox. 3 H301 Toxic if swallowed.  
Acute Tox. 3 H311 Toxic in contact with skin.  
Acute Tox. 2 H330 Fatal if inhaled.  
GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

T; Toxic

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

C; Corrosive

R34: Causes burns.

F; Highly flammable

R15: Contact with water liberates extremely flammable gases.

Information concerning particular hazards for human and environment:

N/A

Hazards not otherwise classified

No data available

Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labeled according to the CLP regulation.

Hazard pictograms



GHS02

GHS05

GHS06

Signal word

Danger

Hazard statements

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

H301+H311 Toxic if swallowed or in contact with skin.

H330 Fatal if inhaled.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P231+P232 Handle under inert gas. Protect from moisture.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P320 Specific treatment is urgent (see on this label).

P361 Take off immediately all contaminated clothing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification  
B6 - Reactive flammable material  
D1A - Very toxic material causing immediate and serious toxic effects  
D2B - Toxic material causing other toxic effects  
E - Corrosive material  
Classification system  
HMIS ratings (scale 0-4)  
(Hazardous Materials Identification System)  
HEALTH  
FIRE  
REACTIVITY  
3  
3  
2  
Health (acute effects) = 3  
Flammability = 3  
Physical Hazard = 2  
Other hazards  
Results of PBT and vPvB assessment  
PBT:  
N/A  
vPvB:  
N/A

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

Substances  
CAS No. / Substance Name:  
16940-66-2 Sodium borohydride  
Identification number(s):  
EC number:  
241-004-4

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

Description of first aid measures  
General information  
Immediately remove any clothing soiled by the product.  
Remove breathing apparatus only after contaminated clothing has been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.  
If inhaled:  
Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.  
In case of skin contact:  
Immediately wash with soap and water; rinse

thoroughly.

Seek immediate medical advice.

In case of eye contact:

Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed:

Do not induce vomiting; immediately call for medical help.

Information for doctor

Most important symptoms and effects, both acute and delayed

Causes severe skin burns.

Causes serious eye damage.

Indication of any immediate medical attention and special treatment needed

No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing agents

In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

For safety reasons unsuitable extinguishing agents

Water

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Sodium oxide

Boron oxide

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

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

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Environmental precautions:

Do not allow material to be released to the environment without official permits.

Do not allow product to enter drains, sewage systems, or other water courses.

Do not allow material to penetrate the ground or soil.

Methods and materials for containment and cleanup:

Use neutralizing agent.  
Dispose of contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents  
Prevention of secondary hazards:  
Keep away from ignition sources.  
Reference to other sections  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

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

Handling  
Precautions for safe handling  
Handle under dry protective gas.  
Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.  
Open and handle container with care.  
Information about protection against explosions and fires:  
Protect against electrostatic charges.  
Conditions for safe storage, including any incompatibilities  
Requirements to be met by storerooms and receptacles:  
No special requirements  
Information about storage in one common storage facility:  
Store away from water/moisture.  
Store away from strong bases.  
Further information about storage conditions:  
Store under dry inert gas.  
This product is moisture sensitive.  
Keep container tightly sealed.  
Store in cool, dry conditions in well-sealed containers.  
Protect from humidity and water.  
Specific end use(s)  
No data available

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Additional information about design of technical systems:  
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters  
Components with limit values that require monitoring at the workplace:  
None.  
Additional information:  
No data  
Exposure controls  
Personal protective equipment  
Follow typical protective and hygienic practices for handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Remove all soiled and contaminated clothing immediately.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Avoid contact with the eyes and skin.  
Maintain an ergonomically appropriate working environment.  
Breathing equipment:  
Use self-contained respiratory protective device in emergency situations.  
Recommended filter device for short term use:  
Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.  
Protection of hands:  
Impervious gloves  
Inspect gloves prior to use.  
Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.  
Material of gloves  
Nitrile rubber, NBR  
Penetration time of glove material (in minutes)  
>480  
Glove thickness  
0.11 mm  
Eye protection:  
Tightly sealed goggles  
Full face protection  
Body protection:  
Protective work clothing

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties  
Appearance:  
Form: Various forms (powder/flake/crystalline/beads, etc.)

Color: White  
Odor: Weak  
Odor threshold: Not determined.  
pH: N/A  
Melting point/Melting range: 400 °C (752 °F) (dec)  
Boiling point/Boiling range: Not determined  
Sublimation temperature / start: Not determined  
Flammability (solid, gas)  
Contact with water liberates extremely flammable gases.  
Ignition temperature: Not determined  
Decomposition temperature: Not determined  
Autoignition: Not determined.  
Danger of explosion: Not determined.  
Explosion limits:  
Lower: Not determined  
Upper: Not determined  
Vapor pressure: N/A  
Density at 20 °C (68 °F): 1.074 g/cm<sup>3</sup> (8.963 lbs/gal)  
Relative density  
Not determined.  
Vapor density  
N/A  
Evaporation rate  
N/A  
Solubility in Water (H<sub>2</sub>O):  
Contact with water releases flammable gases  
Partition coefficient (n-octanol/water): Not determined.  
Viscosity:  
Dynamic: N/A  
Kinematic: N/A  
Other information  
No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity  
In contact with water releases flammable gases which may ignite spontaneously.  
Chemical stability  
Stable under recommended storage conditions.  
Thermal decomposition / conditions to be avoided:  
Decomposition will not occur if used and stored according to specifications.  
Possibility of hazardous reactions  
Contact with water releases flammable gases  
Conditions to avoid  
No data available  
Incompatible materials:  
Bases  
Water/moisture  
Hazardous decomposition products:



Sodium oxide  
Boron oxide

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects

Acute toxicity:

Fatal if inhaled.

Toxic in contact with skin.

Toxic if swallowed.

Danger through skin absorption.

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 values that are relevant for classification:

Oral LD50 162 mg/kg (rat)

Dermal LD50 230 mg/kg (rabbit)

Skin irritation or corrosion:

Causes severe skin burns.

Eye irritation or corrosion:

Causes serious eye damage.

Sensitization:

No sensitizing effects known.

Germ cell mutagenicity:

No effects known.

Carcinogenicity:

EPA-I: Data are inadequate for an assessment of human carcinogenic potential.

Reproductive toxicity:

No effects known.

Specific target organ system toxicity - repeated exposure:

No effects known.

Specific target organ system toxicity - single exposure:

No effects known.

Aspiration hazard:

No effects known.

Subacute to chronic toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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## **SECTION 12. ECOLOGICAL INFORMATION**

Toxicity

Aquatic toxicity:

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Additional ecological information:

Do not allow material to be released to the environment without official permits.

Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.

Avoid transfer into the environment.

Results of PBT and vPvB assessment

PBT:

N/A

vPvB:

N/A

Other adverse effects

No data available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods

Recommendation

Consult official regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

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## **SECTION 14. TRANSPORT INFORMATION**

UN-Number

DOT, IMDG, IATA

UN1426

UN proper shipping name

DOT

Sodium borohydride

IMDG, IATA

SODIUM BOROHYDRIDE

Transport hazard class(es)

DOT

Class

4.3 Substances which, in contact with water, emit flammable gases.

Label  
4.3  
Class  
4.3 (W2) Substances which, in contact with water, emit flammable gases  
Label  
4.3  
IMDG, IATA  
Class  
4.3 Substances which, in contact with water, emit flammable gases.  
Label  
4.3  
Packing group  
DOT, IMDG, IATA  
I  
Environmental hazards:  
N/A  
Special precautions for user  
Warning: Substances which, in contact with water, emit flammable gases  
EMS Number: F-G,S-O  
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
N/A  
Transport/Additional information:  
DOT  
Marine Pollutant (DOT):  
No  
UN "Model Regulation":  
UN1426, Sodium borohydride, 4.3, I

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## **SECTION 15. REGULATORY INFORMATION**

Safety, health and environmental regulations/legislation specific for the substance or mixture  
National regulations  
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.  
All components of this product are listed on the Canadian Domestic Substances List (DSL).  
SARA Section 313 (specific toxic chemical listings)  
Substance is not listed.  
California Proposition 65  
Prop 65 - Chemicals known to cause cancer  
Substance is not listed.  
Prop 65 - Developmental toxicity  
Substance is not listed.  
Prop 65 - Developmental toxicity, female  
Substance is not listed.

Prop 65 - Developmental toxicity, male  
Substance is not listed.  
Information about limitation of use:  
For use only by technically qualified individuals.  
Other regulations, limitations and prohibitive regulations  
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.  
Substance is not listed.  
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.  
Substance is not listed.  
Annex XIV of the REACH Regulations (requiring Authorisation for use)  
Substance is not listed.  
REACH - Pre-registered substances  
Substance is listed.  
Chemical safety assessment:  
A Chemical Safety Assessment has not been carried out.

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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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