


<a href="#">Boron Balls</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Band</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Bars</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Chunk</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Coil</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Concentrate</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Cylinder</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Disc</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Flake</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Flange</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Foil</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Granules</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Ingot</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Lump</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Mesh</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Metal</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Microfoil</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Microleaf</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Monofilament</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Nanoparticle Dispersion</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Nanoparticles / Nanopowder</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Nanoprisms</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Nanorods</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Particles</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Parts</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Pellets</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Pieces</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Plate</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Powder</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Puck</a>	<a href="#">Pricing &gt;</a>

<a href="#">Boron Ribbon</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Ring</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Rod</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Rotatable Sputtering Target</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Samples</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Shavings</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Sheet</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Shot</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Single Crystal</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Slugs</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Specimen</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Spheres</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Spring</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Sputtering Target</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Strips</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Tape</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Tube</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Wafer</a>	<a href="#">Pricing &gt;</a>
<a href="#">Boron Wire</a>	<a href="#">Pricing &gt;</a>

<b>Linear Formula</b>	B
<b>Pubchem CID</b>	5462311
<b>MDL Number</b>	MFCD00134034
<b>EC No.</b>	231-151-2
<b>Beilstein/Reaxys No.</b>	N/A
<b>SMILES</b>	[B]
<b>Inchl Identifier</b>	InChI=1S/B
<b>Inchl Key</b>	ZOXJGFHDIHLPTG-UHFFFAOYSA-N
<b>Signal Word</b>	Warning
<b>Hazard Statements</b>	H302
<b>Hazard Codes</b>	N/A
<b>Precautionary Statements</b>	P264-P270-P301+P312-P330-P501a
<b>Flash Point</b>	Not applicable
<b>Risk Codes</b>	N/A

<b>Safety Statements</b>	N/A
<b>RTECS Number</b>	ED7350000
<b>Transport Information</b>	DOT
<b>WGK Germany</b>	nwg
<b>GHS Pictograms</b>	<a href="#"><u>GHS07 Exclamation Point</u></a> 

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## SAFETY DATA SHEET

Date Accessed: 05/14/2024

Date Revised: 01/15/2022

### SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #7440-42-8

**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

### SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture  
Classification according to Regulation (EC) No 1272/2008  
GHS07  
Acute Tox. 4 H302 Harmful if swallowed.  
Classification according to Directive 67/548/EEC or Directive 1999/45/EC  
Xn; Harmful  
R22: Harmful if swallowed.

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



GHS07

Signal word

Warning

Hazard statements

H302 Harmful if swallowed.

Precautionary statements

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/.../if you feel unwell.

P330 Rinse mouth.

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

WHMIS classification

Not controlled

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH

FIRE

REACTIVITY

1

0

0

Health (acute effects) = 1

Flammability = 0

Physical Hazard = 0

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:

7440-42-8 Boron

Identification number(s):

EC number:

231-151-2

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## SECTION 4. FIRST AID MEASURES

Description of first aid measures

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:

Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed

No data available

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

Special powder for metal fires. Do not 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:

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

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:

Dispose of contaminated material as waste according to section 13.

Prevention of secondary hazards:

No special measures required.

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

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

No data available

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 oxidizing agents.

Store away from halogens.

Do not store with interhalogens.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well-sealed containers.

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.

Maintain an ergonomically appropriate working environment.

Breathing equipment:

Use suitable respirator when high concentrations are present.

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.

Penetration time of glove material (in minutes)

No data available

Eye protection:

Safety glasses

Body protection:

Protective work clothing

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

Information on basic physical and chemical properties

Appearance:

Form: Solid in various forms

Color: Dark grey

Odor: Odorless

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: 2075 °C (3767 °F)

Boiling point/Boiling range: 2550 °C (4622 °F)

Sublimation temperature / start: No data available

Flammability (solid, gas)  
No data available.  
Ignition temperature: 700 °C (1292 °F)  
Decomposition temperature: No data available  
Autoignition: No data available.  
Danger of explosion: No data available.  
Explosion limits:  
Lower: No data available  
Upper: No data available  
Vapor pressure: N/A  
  
Density at 20 °C (68 °F): 2.34 g/cm<sup>3</sup> (19.527 lbs/gal)  
Relative density  
No data available.  
Vapor density  
N/A  
Evaporation rate  
N/A  
Solubility in Water (H<sub>2</sub>O): Insoluble  
Partition coefficient (n-octanol/water): No data available.  
Viscosity:  
Dynamic: N/A  
Kinematic: N/A  
Other information  
No data available

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

Reactivity  
No data available  
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  
No dangerous reactions known  
Conditions to avoid  
No data available  
Incompatible materials:  
Oxidizing agents  
Halogens  
Interhalogens  
Hazardous decomposition products:  
Boron oxide

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects  
Acute toxicity:



Harmful if swallowed.  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.  
LD/LC50 values that are relevant for classification:  
Oral LD50 650 mg/kg (rat)  
Skin irritation or corrosion:  
May cause irritation  
Eye irritation or corrosion:  
May cause irritation  
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:  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.  
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:  
No effects known.  
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.  
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, ADN, IMDG, IATA  
N/A  
UN proper shipping name  
DOT, ADN, IMDG, IATA  
N/A  
Transport hazard class(es)  
DOT, ADR, ADN, IMDG, IATA  
Class  
N/A  
Packing group  
DOT, IMDG, IATA  
N/A  
Environmental hazards:  
N/A  
Special precautions for user  
N/A  
Transport in bulk according to Annex II of  
MARPOL73/78 and the IBC Code  
N/A  
Transport/Additional information:  
DOT  
Marine Pollutant (DOT):  
No

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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

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