

|                                                   |                                 |                              |
|---------------------------------------------------|---------------------------------|------------------------------|
| <a href="#">Aluminum Boride</a>                   |                                 | <a href="#">Pricing &gt;</a> |
| <a href="#">Aluminum Boride Sputtering Target</a> |                                 | <a href="#">Pricing &gt;</a> |
| <b>Linear Formula</b>                             | AlB <sub>2</sub>                |                              |
| <b>Pubchem CID</b>                                | 57518740                        |                              |
| <b>MDL Number</b>                                 | MFCD00084760                    |                              |
| <b>EC No.</b>                                     | 234-923-7                       |                              |
| <b>IUPAC Name</b>                                 | aluminum; λ2- boranylideneboron |                              |
| <b>Beilstein/Reaxys No.</b>                       | N/A                             |                              |
| <b>SMILES</b>                                     | [B]=[B].[Al]                    |                              |
| <b>Inchi Identifier</b>                           | InChI=1S/Al.B2/c;1-2            |                              |
| <b>Inchi Key</b>                                  | KWHWTBILEAIARH-UHFFFAOYSA-N     |                              |
| <b>Signal Word</b>                                | N/A                             |                              |
| <b>Hazard Statements</b>                          | N/A                             |                              |
| <b>Hazard Codes</b>                               | N/A                             |                              |
| <b>Risk Codes</b>                                 | N/A                             |                              |
| <b>Safety Statements</b>                          | N/A                             |                              |
| <b>Transport Information</b>                      | NONH for all modes of transport |                              |
| <b>WGK Germany</b>                                | 3                               |                              |

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## SAFETY DATA SHEET

Date Accessed: 05/13/2024

Date Revised: 01/15/2022

### SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #12041-50-8

**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

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## **SECTION 2. HAZARDS IDENTIFICATION**

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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

3.1 Substances

Chemical characterization : Product does not burn

Formula : AlB2

Molecular Weight : 48.60 g/mol

CAS-No. : 12041-50-8

EC-No. : 234-923-7

No ingredients are hazardous according to OSHA criteria.

No components need to be disclosed according to the applicable regulations.

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

4.1 Description of first aid measures

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and

special treatment needed  
no data available

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## **SECTION 5. FIREFIGHTING MEASURES**

### **5.1 Extinguishing media**

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

Borane/boron oxides, Aluminum oxide

### **5.3 Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

### **5.4 Further information**

The product itself does not burn.

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

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

Avoid dust formation. Avoid breathing Vapors, mist or gas.

For personal protection see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains.

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

Sweep up and shovel. Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections**

For disposal see section 13.

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

### **7.1 Precautions for safe handling**

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.

Keep in a dry place.

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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

### **8.1 Control parameters**

Components with workplace control parameters  
Contains no substances with occupational exposure  
limit values.

### **8.2 Exposure controls**

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

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

Choose body protection in relation to its type, to the  
concentration and amount of dangerous substances,  
and

to the specific work-place., The type of protective  
equipment must be selected according to the  
concentration

and amount of the dangerous substance at the  
specific workplace.

Respiratory protection

Respiratory protection is not required. Where  
protection from nuisance levels of dusts are desired,  
use type

N95 (US) or type P1 (EN 143) dust masks. Use  
respirators and components tested and approved  
under

appropriate government standards such as NIOSH  
(US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

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

### **9.1 Information on basic physical and chemical properties**

a) Appearance Form: powder

b) Odor no data available  
c) Odor Threshold no data available  
d) pH no data available  
e) Melting point/freezing point  
no data available  
f) Initial boiling point and boiling range  
no data available  
g) Flash point not applicable  
h) Evaporation rate no data available  
i) Flammability (solid, gas) no data available  
j) Upper/lower flammability or explosive limits  
no data available  
k) Vapor pressure no data available  
l) Vapor density no data available  
m) Relative density no data available  
n) Water solubility no data available  
o) Partition coefficient: octanol/water  
no data available  
p) Auto-ignition temperature  
no data available  
q) Decomposition temperature  
no data available  
r) Viscosity no data available  
s) Explosive properties no data available  
t) Oxidizing properties no data available  
9.2 Other safety information  
no data available

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

10.1 Reactivity  
no data available  
10.2 Chemical stability  
Stable under recommended storage conditions.  
10.3 Possibility of hazardous reactions  
no data available  
10.4 Conditions to avoid  
no data available  
10.5 Incompatible materials  
acids  
10.6 Hazardous decomposition products  
Other decomposition products - no data available  
In the event of fire: see section 5

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## **SECTION 11. TOXICOLOGICAL**

## **INFORMATION**

### **11.1 Information on toxicological effects**

Acute toxicity

no data available

Inhalation: no data available

Dermal: 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

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## **SECTION 12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

no data available

### **12.2 Persistence and degradability**

no data available

### **12.3 Bioaccumulative potential**

no data available

### **12.4 Mobility in soil**

no data available

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical  
safety assessment not required/not conducted  
12.6 Other adverse effects  
no data available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

13.1 Waste treatment methods  
Product  
Offer surplus and non-recyclable solutions to a  
licensed disposal company.  
Contaminated packaging  
Dispose of as unused product.

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## **SECTION 14. TRANSPORT INFORMATION**

DOT (US)  
Not dangerous goods  
IMDG  
Not dangerous goods  
IATA  
Not dangerous goods

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## **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  
No SARA Hazards  
Massachusetts Right To Know Components  
No components are subject to the Massachusetts  
Right to Know Act.  
Pennsylvania Right To Know Components  
New Jersey Right To Know Components  
Aluminum diboride  
CAS-No.  
12041-50-8  
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.

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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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