



SAFETY DATA SHEET

Boron (pieces)

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

1. Identification

Product identifier

Product name Boron (pieces)

Internal identification Replaces M-1000-075

CAS number 7440-42-8

Recommended use of the chemical and restrictions on use

Application Exterior surface coating.

Uses advised against No specific uses advised against are identified.

Details of the supplier of the safety data sheet

Supplier **Stanford Advanced Materials**

Manufacturer Stanford Advanced Materials
Address : 23661 Birtcher Dr.,
Lake Forest, CA 92630 U.S.A.
Tel: (949) 407-8904
Fax: (949) 812-6690

Emergency telephone number (949) 407-8904

Emergency telephone (This telephone number is available 24 hours per day, 7 days per week.)

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified

Health hazards Acute Tox. 4 - H302

Environmental hazards Not Classified

Label elements

Boron (pieces)

Pictogram



Signal word

Warning

Hazard statements

H302 Harmful if swallowed.

Precautionary statements

P264 Wash contaminated skin 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 national regulations.

Contains

Boron (pieces)

Other hazards

This product does not contain any substances classified as PBT or vPvB. Based on available knowledge of this material, it has been determined to be non-hazardous and will not pose a risk to persons or the environment in its provided form. However, any cutting, welding, melting, grinding, or use for deposition will produce dust, fume, or particulates containing component elements of this material. Exposure to these components may present significant health hazards. Note: Fine particulate may be a combustible dust which, when dispersed in air, may present an explosion hazard.

3. Composition/information on ingredients

Mixtures

| | |
|-----------------------|-----------------|
| Boron (pieces) | 0 - 100% |
| CAS number: 7440-42-8 | |
| Classification | |
| Acute Tox. 4 - H302 | |

The full text for all hazard statements is displayed in Section 16.

4. First-aid measures

Description of first aid measures

| | |
|-----------------------------------|--|
| General information | If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel. |
| Inhalation | No specific recommendations. If throat irritation or coughing persists, proceed as follows. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if any discomfort continues. |
| Ingestion | No specific recommendations. If throat irritation or coughing persists, proceed as follows. Rinse mouth. Get medical attention if any discomfort continues. |
| Skin Contact | No specific recommendations. Rinse with water. Get medical attention if any discomfort continues. |
| Eye contact | Rinse with water. Get medical attention if any discomfort continues. |
| Protection of first aiders | Use protective equipment appropriate for surrounding materials. |

Most important symptoms and effects, both acute and delayed

| | |
|----------------------------|---|
| General information | The severity of the symptoms described will vary dependent on the concentration and the length of exposure. |
|----------------------------|---|

Boron (pieces)

| | |
|---------------------|---|
| Inhalation | No specific symptoms known. |
| Ingestion | No specific symptoms known. May cause discomfort if swallowed. |
| Skin contact | Prolonged contact may cause dryness of the skin. |
| Eye contact | No specific symptoms known. May be slightly irritating to eyes. |

Indication of immediate medical attention and special treatment needed

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|-----------------------------|--------------------------------|
| Notes for the doctor | Treat symptomatically. |
| Specific treatments | No special treatment required. |

5. Fire-fighting measures

Extinguishing media

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| Suitable extinguishing media | The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire. |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |

Special hazards arising from the substance or mixture

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| Specific hazards | None known. |
| Hazardous combustion products | Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors. |

Advice for firefighters

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|--|---|
| Protective actions during firefighting | Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. |
| Special protective equipment for firefighters | Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents. |

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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| Personal precautions | No specific recommendations. For personal protection, see Section 8. |
|-----------------------------|--|

Environmental precautions

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| Environmental precautions | Avoid discharge into drains or watercourses or onto the ground. |
|----------------------------------|---|

Methods and material for containment and cleaning up

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| Methods for cleaning up | Reuse or recycle products wherever possible. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of contents/container in accordance with national regulations. |
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| Reference to other sections | For personal protection, see Section 8. |
|------------------------------------|---|

7. Handling and storage

Precautions for safe handling

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| Usage precautions | Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. |
|--------------------------|--|

Boron (pieces)

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage precautions No specific recommendations.

Storage class Unspecified storage.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.

8. Exposure Controls/personal protection

Exposure controls

Appropriate engineering controls No specific ventilation requirements.

Eye/face protection No specific eye protection required during normal use. Large Spillages: Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible.

Hand protection No specific hand protection recommended. Large Spillages: Wear protective gloves.

Hygiene measures Wash hands thoroughly after handling. Wash at the end of each work shift and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

Respiratory protection No specific recommendations. Provide adequate ventilation. Large Spillages: If ventilation is inadequate, suitable respiratory protection must be worn.

Environmental exposure controls Not regarded as dangerous for the environment.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance Solid.

Color Dark. Grey. to Black.

Odor No characteristic odor.

Odor threshold Not applicable.

pH Not applicable.

Melting point 2075°C

Initial boiling point and range Not available.

Flash point Not applicable.

Evaporation rate Not applicable.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits Not applicable.

Vapor pressure Not available.

Vapor density Not available.

Relative density 2.35 @ 25°C

Boron (pieces)

| | |
|----------------------------------|---------------------|
| Bulk density | Not available. |
| Solubility(ies) | Insoluble in water. |
| Partition coefficient | Not applicable. |
| Auto-ignition temperature | Not applicable. |
| Decomposition Temperature | Not available. |
| Viscosity | Not applicable. |
| Molecular weight | 10.811 |

10. Stability and reactivity

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|---|---|
| Reactivity | There are no known reactivity hazards associated with this product. |
| Stability | Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions. |
| Possibility of hazardous reactions | No potentially hazardous reactions known. |
| Conditions to avoid | There are no known conditions that are likely to result in a hazardous situation. |
| Materials to avoid | No specific material or group of materials is likely to react with the product to produce a hazardous situation. |
| Hazardous decomposition products | Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors. |

11. Toxicological information

Information on toxicological effects

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|---|--|
| Toxicological effects | Not regarded as a health hazard under current legislation. |
| <u>Acute toxicity - oral</u> | |
| Notes (oral LD₅₀) | Based on available data the classification criteria are not met. |
| ATE oral (mg/kg) | 500.0 |
| <u>Acute toxicity - dermal</u> | |
| Notes (dermal LD₅₀) | Based on available data the classification criteria are not met. |
| <u>Acute toxicity - inhalation</u> | |
| Notes (inhalation LC₅₀) | Based on available data the classification criteria are not met. |
| <u>Skin corrosion/irritation</u> | |
| Animal data | Based on available data the classification criteria are not met. |
| <u>Serious eye damage/irritation</u> | |
| Serious eye damage/irritation | Based on available data the classification criteria are not met. |
| <u>Respiratory sensitization</u> | |
| Respiratory sensitization | Based on available data the classification criteria are not met. |
| <u>Skin sensitization</u> | |
| Skin sensitization | Based on available data the classification criteria are not met. |

Boron (pieces)

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

IARC carcinogenicity None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Not relevant. Solid.

General information

No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation No specific symptoms known.

Ingestion No specific symptoms known. May cause discomfort if swallowed.

Skin Contact Prolonged contact may cause dryness of the skin.

Eye contact No specific symptoms known. May be slightly irritating to eyes.

Route of exposure Ingestion Inhalation Skin and/or eye contact

Target Organs No specific target organs known.

12. Ecological Information

Ecotoxicity Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Toxicity Based on available data the classification criteria are not met.

Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Bioaccumulative potential

Bio-Accumulative Potential No data available on bioaccumulation.

Partition coefficient Not applicable.

Mobility in soil

Mobility No data available.

Other adverse effects

Other adverse effects None known.

Boron (pieces)

13. Disposal considerations

Waste treatment methods

General information

The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way.

Disposal methods

Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of the local water authority.

14. Transport information

General

The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

UN Number

Not applicable.

UN No. (DOT)

Not applicable.

UN proper shipping name

Not applicable.

Proper shipping name (DOT) Not applicable.

Transport hazard class(es)

No transport warning sign required.

DOT transport labels

No transport warning sign required.

Packing group

Not applicable.

DOT packing group

Not applicable.

Environmental hazards

Environmentally Hazardous Substance

No.

Special precautions for user

Not applicable.

DOT reportable quantity

Not applicable.

DOT TIH Zone

Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US Federal Regulations

Boron (pieces)

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed or exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

None of the ingredients are listed or exempt.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed or exempt.

SARA 313 Emission Reporting

None of the ingredients are listed or exempt.

CAA Accidental Release Prevention

None of the ingredients are listed or exempt.

FDA - Essential Chemical

None of the ingredients are listed or exempt.

FDA - Precursor Chemical

None of the ingredients are listed or exempt.

SARA (311/312) Hazard Categories

None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals

None of the ingredients are listed or exempt.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-I)

None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances

None of the ingredients are listed or exempt.

Massachusetts "Right To Know" List

None of the ingredients are listed or exempt.

Rhode Island "Right To Know" List

None of the ingredients are listed or exempt.

Minnesota "Right To Know" List

All the ingredients are listed or exempt.

New Jersey "Right To Know" List

All the ingredients are listed or exempt.

Pennsylvania "Right To Know" List

All the ingredients are listed or exempt.

Inventories

Boron (pieces)

US - TSCA

All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification

None of the ingredients are listed or exempt.

Philippines - PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

16. Other information

| | |
|----------------------------------|--|
| Training advice | Only trained personnel should use this material. |
| Revision date | 5/10/2018 |
| Revision | 5 |
| Supersedes date | 5/10/2018 |
| SDS No. | 4691 |
| Hazard statements in full | H302 Harmful if swallowed. |
| End of SDS | |

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.