



SAFETY DATA SHEET

Boron Nitride

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: Boron Nitride

Chemical Name: Boron Nitride

Chemical Family: Nitrides

Formula: BN

CAS #: 10043-11-5

Primary Use: Boron Nitride is commonly used in high-heat environments, the semiconductor industry, abrasive and cutting implements.

Identified Uses: Applications include but are not limited to the following:

- High temperature electrical insulators and vacuum furnace supports
- Crucibles and containers for high purity molten metals
- Insulators and source fixtures for ion implantation systems
- Radar components and antenna windows
- Setterplates for the processing of other advanced materials
- Nozzles for powdered metal spraying

Distributor / Manufacturer:

CeraMaterials
525 Silver Lake Rd
Dingmans Ferry, PA 18328
Emergency Contact: Jerry Weinstein
Product Stewardship: 518.701.6722
E-Mail: sales@ceramaterials.com
www.ceramaterials.com

24hr Emergency Contact Info:

Poison Control Center:	877.671.4608
CHEMTREC US Transportation:	800.424.9300
CHEMTREC International Transportation:	703.741.5500

**SECTION 2 - HAZARDS IDENTIFICATION**

OSHA/HCS Status	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Classification of substance	Not classified
GHS Label Elements	
Signal word	No signal word (non-hazardous product)
Hazard statement	No known significant effects or critical hazards
Precautionary Statements	
Prevention	Not applicable
Response	Not applicable
Storage	Not applicable
Disposal	Not applicable
Hazards not otherwise classified	None known

SECTION 3 - COMPOSITION

<u>Chemical & Common Name</u>	<u>CAS#</u>	<u>% By Weight</u>	<u>EC#</u>
Boron Nitride	10043-11-5	95 - 100%	233-136-6
Calcium Borate	13701-64-9	0 - 5 %	237-224-5

*Concentrations shown as a range to protect confidentiality and/or is due to batch variation.

SECTION 4 - FIRST AID MEASURES

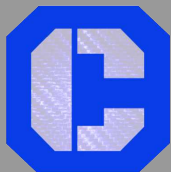
Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion.

General Measures:

Remove individual from area of exposure.

Inhalation:

Remove affected personnel to an exposure-free environment and keep at rest in a position comfortable for breathing. Give oxygen if breathing is difficult. Get medical attention if symptoms occur.



Skin

Remove contaminated clothing, brush material off skin, wash affected area with plenty of soap and water. Get medical attention if irritation develops or persists.

Eyes

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for & remove any contact lenses. Get medical attention if irritation develops or persists.

Ingestion:

Wash out mouth with water. Remove individual to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most Important Symptoms /Effects, Acute & Delayed:

May cause irritation. See Section 11 for more information.

Indication of Immediate Medical Attention and Special Treatment:

No other relevant information available.

Notes to physicians:

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments:

No specific treatment

SECTION 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the material

May release toxic fumes if involved in a fire.

Special protective actions for fire-fighters

No special measures are required.

Special protective equipments for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.



SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures:

Wear appropriate respiratory and protective equipment specified in Section 8. Isolate spill area and provide ventilation. Avoid breathing dust or fume. Avoid contact with skin and eyes.

Methods and Materials for Containment and Cleaning Up:

Avoid creating dust. Scoop or vacuum up spill using a vacuum system equipped with a high efficiency particulate air (HEPA) filtration system and place in a properly labeled closed container for further handling and disposal.

Environmental Precautions:

Do not allow to enter drains or to be released to the environment.

SECTION 7 - HANDLING AND STORAGE

Precautions for Safe Handling:

Avoid creating dust. Provide adequate ventilation if dusts are created. Avoid breathing dust or fumes. Avoid contact with skin and eyes. Wash thoroughly before eating or smoking. See Section 8 for information on personal protection equipment.

Conditions for Safe Storage:

Store in a cool, dry area. Store material tightly sealed in properly labeled containers. Do not store together with oxidizers. See Section 10 for more information on incompatible materials.

Hygroscopic:

Storage class (TRGS 510): Non Combustible Solids

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits	OSHA / PEL	ACGIH / TLV
Boron Nitride	No exposure limit established	No exposure limit established

Engineering Controls:

Ensure adequate ventilation to maintain exposures below occupational limits. Whenever possible the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne dust and fume to meet established occupational exposure limits. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Individual Protection Measures, Such as Personal Protective Equipment

Respiratory Protection	Use suitable respirator when high concentrations are present.
Eye Protection	Safety glasses
Skin Protection	Impermeable gloves, protective work clothing as necessary.



SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance & State:	White Solid or Powder	LEL/UEL:	No data available
Odor:	Odorless	Vapor pressure:	No data available
Odor threshold:	Not determined	Vapor density:	Not applicable
pH:	Not applicable	Relative density:	1.8 - 2.0 g/cc
Melting point:	No data available	Water Solubility:	Insoluble
Boiling point:	No data available	Viscosity:	Not applicable
Flash point:	Not applicable	Autoignition temperature:	No data available
Evaporation rate:	Not applicable	Decomposition temperature:	No data available
Flammability (solid, gas):	No data available	Partition coefficient (n-octanol/water):	No data available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	No specific test data related to reactivity is available for this product or its ingredients.
Chemical Stability	The product is stable under recommended storage conditions.
Possibility of hazardous reactions	Under normal conditions hazardous polymerization will not occur.
Conditions to avoid	No specific data
Incompatible materials	Strong oxidizing agents, strong acids
Hazardous decomposition products	Boron oxide fume, nitrogen oxide fume.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information On Toxicological Information

Likely Routes of Exposure	Inhalation, skin and eyes.
Symptoms of Exposure	May cause irritation to eyes and abraded skin. May cause respiratory irritation if inhaled.
Acute and Chronic Effects	
Boron Compounds	Only a few human studies have been conducted to assess health effects associated with exposure to boron compounds. The available data shows that exposure is associated with short-term irritant effects on the upper respiratory tract, nasopharynx, and eye(s). These effects, however, appear to be short-term and reversible. The sole long-term (7-year) follow-up study failed to identify any long-term health effects. No studies have been identified that assess reproductive outcomes. Based on the lack of human data and the limited animal data, boron is not classifiable as to its human carcinogenicity.
Nitrides	The nitrides of the alkaline earth metals react with water to form ammonia and the oxide or hydroxide of the metal and therefore may cause irritation and/or burns to moist tissue and mucous membranes. The nitrides of boron, silicon, and the transition metals are refractory, hard, and resistant to chemical attack, and therefore tend to cause mechanical irritation only.



SECTION 15 - REGULATORY INFORMATION

TSCA Listed:	All components are listed.
Regulation (EC) No 1272/2008(CLP):	Not applicable.
WHMIS 2015 Classification:	Not applicable.
HMIS Ratings:	Health = 1, Flammability = 0, Physical = 0
NFPA Ratings:	Health = 1, Flammability = 0, Physical = 0

SECTION 16 - OTHER INFORMATION

Effective Date: November 1, 2016
Revision Summary: Company Information updated.
Revision Date: May 21, 2020
SDS Prepared By: CeraMaterials

Disclaimer

The information presented herein is presented in good faith and believed to be accurate as the effective date of this Safety Data Sheet. Employers may use this SDS to supplement other information gathered by them in their efforts to assure the health and safety of their employees and the proper use of the product. This summary of the relevant data reflects professional judgement; employers should note that information perceived to be less relevant has not been included in this SDS. Therefore, given the summary nature of this document, CeraMaterials does not extend any warranty (expressed or implied), assume any responsibility, or make any representation regarding the completeness of this information or its suitability for the purposes envisioned by the user.