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MATERIAL SAFETY DATA SHEET SDS/MSDS

1 PRODUCT AND SUPPLIER IDENTIFICATION

Product Name: NB 110 Boron Nitride Nanopowder 99.8% 10043-11-5 1
Formula: BN

2 HAZARDS IDENTIFICATION

GHS Classification (29 CFR 1910.1200): Not classified as hazardous
GHS Label Elements:
Signal Word: N/A
Hazard Statements: N/A
Precautionary Statements: N/A

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient:	**CAS#**:	**%**:	**EC#**:
Boron Nitride	10043-11-5	95 - 100	233-136-6

4 FIRST AID MEASURES

General Measures: Remove patient from area of exposure.
INHALATION: Remove to fresh air, keep warm and quiet, give oxygen if breathing is difficult. Seek medical attention.
INGESTION: Rinse mouth with water. Do not induce vomiting. Seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person.
SKIN: Remove contaminated clothing, brush material off skin, wash affected area with soap and water. Seek medical attention if irritation develops or persists.
EYES: Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek medical attention if irritation develops or persists.
Most Important Symptoms/Effects, Acute and Delayed: May cause irritation. See section 11 for more information.
Indication of Immediate Medical Attention and Special Treatment: No other relevant information available.

5 FIREFIGHTING MEASURES

Extinguishing Media: Use suitable extinguishing agent for surrounding materials and type of fire.
Unsuitable Extinguishing Media: No information available.
Specific Hazards Arising from the Material: May release toxic fumes if involved in a fire.
Special Protective Equipment and Precautions for Firefighters: Wear full face, self-contained breathing apparatus and full protective clothing.

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.

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.

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.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:
Form: Solid or powder
Color: White
Odor: Odorless
Odor Threshold: Not determined
pH: N/A
Melting Point: No data
Boiling Point: No data
Flash Point: N/A
Evaporation Rate: N/A
Flammability: No data
Upper Flammable Limit: No data
Lower Flammable Limit: No data
Vapor Pressure: No data
Vapor Density: N/A
Relative Density (Specific Gravity): N/A
Solubility in H_2O: Insoluble
Partition Coefficient (n-octanol/water): Not determined
Autoignition Temperature: No data
Decomposition Temperature: No data
Viscosity: N/A

10 STABILITY AND REACTIVITY

Reactivity: No specific test data available.
Chemical Stability: Stable under recommended storage conditions.
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: No data
Incompatible Materials: Strong oxidizing agents, strong acids.
Hazardous Decomposition Products: Boron oxide fume, nitrogen oxide fume.

11 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 show that exposure is associated with short-term irritant effects on the upper respiratory tract, nasopharynx, and eye. 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.
Acute Toxicity: No data
Carcinogenicity: **NTP**: Not identified as carcinogenic **IARC**: Not identified as carcinogenic
To the best of our knowledge the chemical, physical and toxicological characteristics of the substance are not fully known.

12 ECOLOGICAL INFORMATION

Ecotoxicity: No data
Persistence and Degradability: No data
Bioaccumulative Potential: No data
Mobility in Soil: No data
Other Adverse Effects: Do not allow material to be released to the environment. No further relevant information available.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Product: Dispose of in accordance with Federal, State and Local regulations.
Packaging: Dispose of in accordance with Federal, State and Local regulations.

14 TRANSPORT INFORMATION

Shipping Regulations: Not regulated

UN Number:	N/A
UN Proper Shipping Name:	N/A
Transport Hazard Class:	N/A
Packing Group:	N/A
Marine Pollutant:	No

15 REGULATORY INFORMATION

TSCA Listed: All components are listed.
Regulation (EC) No 1272/2008 (CLP): N/A
WHMIS 2015 Classification: N/A
HMIS Ratings: **Health**: 1 **Flammability**: 0 **Physical**: 0
NFPA Ratings: **Health**: 1 **Flammability**: 0 **Instability**: 0
Chemical Safety Assessment: A chemical safety assessment has not been carried out.

16 OTHER INFORMATION

The information contained in this document is based on the state of our knowledge at the time of publication and is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide.