

MATERIAL SAFETY DATA SHEET

VS 100 **Boron Nitride Powder Blend**

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Momentive Performance Materials
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EMERGENCY TELEPHONE NO.:
24 hr. CHEMTREC: 1-800-424-9300

TRADE NAME: VS 100

MSDS NUMBER: 420

CHEMICAL NAME: Boron Nitride Powder Blend

SYNONYMS: Not Applicable

PREPARED BY:
Momentive Performance Materials

DATE OF ISSUE / LATEST REVISION:
May 20, 2005 / July 8, 2007

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION! May cause skin and eye irritation. Inhalation of dust from dried material may cause respiratory tract irritation. Odorless white powder.

POTENTIAL HEALTH EFFECTS:

Eye: Direct contact with product or dusts may cause mechanical irritation.

Skin Contact: Dusts may cause mechanical irritation.

Skin Absorption: Not absorbed through intact skin.

Ingestion: Not an expected route of exposure. Non-toxic by ingestion. May cause gastrointestinal irritation.

Inhalation: Not an expected route of exposure. Inhalation of dusts may cause respiratory tract irritation.

Medical Conditions Aggravated by Exposure: Pre-existing skin or respiratory disorders.

Chronic & Carcinogenicity: Boron nitride: Repeated or prolonged inhalation of high concentrations of boron nitride dusts may cause a benign pneumoconiosis. Boron nitride is not a known or suspected carcinogen. Dusts may possibly aggravate pre-existing lung and skin disorders. See Section 11 Toxicological Information for more information.

Routes of Exposure: Skin, respiratory tract (dusts).

3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS #</u>	<u>Percent</u>	<u>ACGIH (TLV)</u>	<u>OSHA (PEL)</u>	<u>Units</u>
Boron nitride	10043-11-5	63 – 97	10 (T) 3 (R)	15 (T) 5 (R)	mg/M ³ mg/M ³
Aluminum oxide	1344-28-1	1 – 15	10 (T)	15 (T) 5 (R)	mg/M ³ mg/M ³
Yttrium oxide	1314-36-9	1 – 15	1 (T)	1 (T)	mg/M ³
Boron oxide	1303-86-2	1 – 5	10 (T) 3 (R)	15 (T) 5 (R)	mg/M ³ mg/M ³
Calcium oxide	1305-78-8	0 – 2	2 (T)	5 (T)	mg/M ³

T = Total Dust

R = Respirable Dust

PEL - OSHA Permissible Exposure Limit; TLV - ACGIH Threshold Limit Value; TWA - Time Weighted Average
OSHA revoked the Final Rule Limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338).

4. FIRST AID MEASURES

Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention if irritation persists.

Eyes: Do not rub eyes. Flush with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

Skin: Wash skin gently with soap and water and remove contaminated clothing. Get medical attention if irritation persists. Remove any contaminated clothing and launder thoroughly before reuse.

Ingestion: Do not induce vomiting. If large amounts of the product are ingested, give 2 glasses of water. Never give anything by mouth to an unconscious person. Seek medical attention.

5. FIRE FIGHTING MEASURES

FLASH POINT: NA **LEL:** NA **UEL:** NA **AUTO IGN. TEMP.:** NA

Product is non-flammable. Product in or near fires should be cooled with water spray or fog. Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus (SCBA) with full face mask and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Dike area with earth, sand, or other non-reactive material to prevent spread of release. Do not walk through spilled material. Wet mopping or vacuuming with a unit that contains a HEPA filter is recommended. Shovel or wipe up into a container for later disposal. Avoid cleanup procedures that may result in water pollution.

Personal safety and exposure recommendations described elsewhere in this data sheet apply to exposure during clean up of spilled material. See Section 13.

7. HANDLING AND STORAGE

Storage: Store in original containers away from incompatibles.

Handling: Avoid contact with the eyes and skin. Avoid generating and breathing dust. Use with adequate local exhaust ventilation. Wear protective clothing to minimize skin contact. Remove contaminated clothing and clean before reuse. Wash thoroughly after work using soap and water. Keep away from children.

Empty Containers: Product packaging may contain product residue. Do not reuse.

8. EXPOSURE CONTROL - PERSONAL PROTECTION

Engineering Controls: Ventilation and other forms of engineering controls are the preferred means for controlling exposures. The need for local exhaust ventilation should be evaluated by a professional industrial hygienist. Local exhaust ventilation systems should be designed by a professional engineer.

Respiratory: If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29 CFR 1910.134).

Eye Protection: Chemical splash goggles or safety glasses with side shields.

Protective Gloves: Polymeric gloves.

General: Avoid unnecessary skin contact with this material. Polymeric coated apron or other body covering is recommended. All soiled or dirty clothing and personal protective equipment should be thoroughly cleaned before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & PHYSICAL STATE: White powder

MELT POINT: At >2200°F (>1204°C) boron nitride oxidizes to a complex mixture of borates.

VAPOR DENSITY (AIR=1): Not applicable

OCTANOL/WATER PARTITION COEFFICIENT: Not determined

VAPOR PRESSURE: Not applicable

EVAPORATION RATE BuOAC = 1: Not applicable

ODOR: None

SPECIFIC GRAVITY/BULK DENSITY: 2.32 – 2.61 g/cc

% VOLATILE BY VOLUME: Not applicable

BOILING POINT: Not determined

% SOLUBILITY (H₂O): Insoluble

pH: Not applicable

OTHER: Not applicable

10. STABILITY AND REACTIVITY

Stability & Polymerization: Product is stable. Hazardous polymerization will not occur.

Incompatibility (Conditions to Avoid): Strong oxidizing and reducing agents.

Hazardous Decomposition Products: Decomposition products may include oxides of boron, nitrogen, aluminum, calcium, yttrium, carbon monoxide, and carbon dioxide.

Conditions to Avoid: None known.

11. TOXICOLOGICAL INFORMATION

Boron nitride is physiologically inert and is considered a "nuisance" dust. Other boron compounds may be highly toxic and considered poisonous. Free boron will not be liberated under normal operating conditions or thermal decomposition of boron nitride. Exposure to boron nitride will not result in boron poisoning.

12. ECOLOGICAL INFORMATION

No ecotoxicity data is available. Product is inert. It is not expected to present an environmental hazard.

13. DISPOSAL CONSIDERATIONS

As prepared, product is considered non-hazardous. Dispose in accordance with all local, state, and federal or provincial regulations. If used or waste product is disposed of testing should be conducted to determine hazard characteristics. Empty containers will have product residues. Do not reuse.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: Not Regulated

Hazard Class: Not applicable

UN/NA Code: Not applicable

Packing Group: Not applicable

15. REGULATORY INFORMATION

U.S. Regulations

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA) Reportable Quantity:

This product is not subject to CERCLA reporting requirements. Report spills required under federal, state and local regulations.

Clean Water Act (CWA):

This product, as supplied, contains the following substances which are regulated pollutants under the Clean Water Act (40 CFR 122.21 and 122.42 with reference to Appendix D, Tables II-V). Facilities must notify the appropriate permitting agency prior to introducing this product into its storm water and process waste water discharges.

Chemical Name

Boron, total (as boron nitride and boron oxide)

Aluminum, total (as aluminum oxide)

Toxic Substances Control Act (TSCA): All components of this product are listed or exempt from listing on the TSCA inventory.

OSHA Hazard Communication Categories: None

**Superfund Amendments and Reauthorization Act (SARA) Title III Information:
SARA Section 311/312 Hazard Categories: None**

**This product contains the following toxic chemical(s) subject to reporting requirements of SARA
Section 313: None**

California Proposition 65:

This product contains no chemicals known to the State of California to cause cancer.

16. OTHER INFORMATION

Not Est. = Not Established

NA = Not Applicable

NFPA Ratings:

Health: 1 Flammability: 1 Reactivity: 0

HMIS Ratings:

Health: 1 Flammability: 1 Reactivity: 0

Revision Indication

This MSDS has been revised in the following section(s):

May 20, 2005: New MSDS.

June 4, 2007

Section 1- Company name updated
Document footer- Company name updated
Disclaimer- Company name updated

July 8, 2007

Section 1- Latest revision date corrected
Document footer- Date corrected and trademark note removed
Various- Grammar and spelling corrections

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