SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
- Trade name: Boron Nitride Powders
- Product code:
  - PHPP325, PHPP325B, MCFP, PSHP325, PHPF325
  - IDL200, IDL400
  - PCTUF-B, PCTP30D
  - PHPP325A, PHPD, PHPF325A, PXP1214, PXP1011i, PHTP325

Other Boron Nitride Powders: ASxxxxx, Pxxxxxx, Cxxxxxx, IDLxxxx, XSxxxxx
(Where x = any digit 0 – 9, OR any letter A – Z, OR blank. Example: ASxxxxx = AS10392)

1.2 Relevant identified uses of the substance or mixture and uses advised against
- Application of the substance / the mixture: Industrial uses.
- Uses advised against: Not intended for food and drug use.

1.3 Details of the supplier of the Safety Data Sheet
- Manufacturer/Supplier:
  - Saint-Gobain Advanced Ceramics LLC Boron Nitride
  - 168 Creekside Drive
  - Amherst, NY 14228-2027
  - USA
  - Telephone: 716-691-2000
  - Fax: 716-691-2090
  - E-mail: BNsales@saint-gobain.com

Only Representative:
- Saint-Gobain Coating Solutions
  - 50 Rue du Mourelet, BP 90966
  - Avignon 84093
  - France
  - Telephone: +33 (0) 4 90 85 85 00
  - Fax: +33 (0) 4 90 82 94 52
  - E-mail: qehs.coating-solutions@saint-gobain.com

1.4 Emergency telephone number:
- CHEMTREC
  - 1-800-424-9300 (US/Canada)
  - +01 703-527-3887 (International)

London, Medical Toxicology and Information Service Ltd (MTIS)
- Tel (24 hour): 020 7188 0300

SECTION 2: Hazards identification

(Cont'd. on page 2)
Trade name: Boron Nitride Powders

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Classifications listed are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).
May form combustible dust concentrations in air. (USA and Canada GHS Only)
The product is not classified as hazardous according to the CLP regulation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the Globally Harmonized System within the United States.
The product is not classified as hazardous according to the CLP regulation.

Hazard pictograms Not Regulated

Signal word
Not applicable within the EU; applicable only for North America.
Warning

Hazard statements May form combustible dust concentrations in air. (USA and Canada GHS Only)

Additional information:
Read the label and safety data sheet before use. Prevent dust accumulations to minimize explosion hazard. Keep away from all ignition sources including heat, sparks and flame.
Safety data sheet available on request.

2.3 Other hazards

May form explosible dust-air mixture if dispersed.
There are no other hazards not otherwise classified that have been identified.

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components:

<table>
<thead>
<tr>
<th>CAS: 10043-11-5</th>
<th>boron nitride</th>
<th>&gt;80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 1303-86-2</td>
<td>diboron trioxide</td>
<td>≤3.1%</td>
</tr>
</tbody>
</table>

SVHC

1303-86-2 | diboron trioxide

Additional information: For the wording of the listed Hazard Statements refer to section 16.

SECTION 4: First aid measures

(Cont'd. on page 3)
4.1 Description of first aid measures
- **After inhalation:**
  Supply fresh air; consult doctor in case of complaints.
  Provide oxygen treatment if affected person has difficulty breathing.
- **After skin contact:**
  Brush off loose particles from skin.
  Immediately rinse with water.
  Seek medical treatment in case of complaints.
- **After eye contact:**
  Remove contact lenses if worn, if possible.
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
  Rinse out mouth and then drink plenty of water.
  Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed
- Breathing difficulty
- Coughing
- Nausea in case of ingestion.
- Gastric or intestinal disorders when ingested.
- Diarrhea.
- Vomiting.

4.3 Indication of any immediate medical attention and special treatment needed
- Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media
- Suitable extinguishing agents:
  - Water spray
  - Foam
  - Carbon dioxide
  - Gaseous extinguishing agents
- **For safety reasons unsuitable extinguishing agents:** Water with full jet

5.2 Special hazards arising from the substance or mixture
- May form combustible dust concentrations in air.
  - Formation of toxic gases is possible during heating or in case of fire.

5.3 Advice for firefighters
- **Protective equipment:**
  - Wear self-contained respiratory protective device.
  - Wear fully protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
- Ensure adequate ventilation
- Avoid formation of dust.
SECTION 7: Handling and storage

7.1 Precautions for safe handling
Use only in well ventilated areas.
Prevent formation of dust.
Any unavoidable deposit of dust must be regularly removed.
Use personal protective equipment as required.
Avoid contact with the eyes and skin.
Avoid breathing dust.

Information about fire - and explosion protection:
Dust can combine with air to form an explosive mixture.
Avoid dust cloud formation. Keep ignition sources away. No smoking.
Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

Storage:
Requirements to be met by storerooms and receptacles:
Storage area should be dry and well-ventilated.
Avoid storage near extreme heat, ignition sources or open flame.

Information about storage in one common storage facility: Store away from foodstuffs.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Ingredients with limit values that require monitoring at the workplace:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1303-86-2 diboron trioxide</td>
</tr>
<tr>
<td>WEL (Great Britain) Short-term value: 20 mg/m³</td>
</tr>
<tr>
<td>Long-term value: 10 mg/m³</td>
</tr>
<tr>
<td>PEL (USA) Long-term value: 15* mg/m³</td>
</tr>
<tr>
<td>&quot;total dust</td>
</tr>
<tr>
<td>REL (USA) Long-term value: 10 mg/m³</td>
</tr>
<tr>
<td>TLV (USA) Long-term value: 10 mg/m³</td>
</tr>
</tbody>
</table>
Trade name: Boron Nitride Powders

- **8.2 Exposure controls**
  - **Engineering measures**: No special measures required.
  - **Personal protective equipment**:
    - **General protective and hygienic measures**: The usual precautionary measures are to be adhered to when handling chemicals.
      - Keep away from foodstuffs, beverages and feed.
      - Do not breathe dust.
      - Avoid contact with the eyes and skin.
      - Pregnant women should strictly avoid inhalation or skin contact.
    - **Respiratory protection**: An EU approved dust respirator should be used for operations generating dust.
      - Particulate mask should filter at least 99% of airborne particles.
  - **Protection of hands**: Protective gloves
  - **Eye protection**: Safety glasses
  - **Body protection**: Not required under normal conditions of use.
  - **Limitation and supervision of exposure into the environment**: Avoid release to the environment.
  - **Risk management measures**: No further relevant information available.

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**SECTION 9: Physical and chemical properties**

- **9.1 Information on basic physical and chemical properties**
  - **Appearance**
    - **Form**: Solid
    - **Colour**: White, Whitish, Grey
    - **Odour**: Odourless
    - **Odour threshold**: Not determined.
  - **pH-value**: Not applicable.
  - **Melting point/freezing point**: Not determined.
  - **Initial boiling point and boiling range**: Not determined.
  - **Flash point**: Not applicable.
  - **Flammability (solid, gas)**: May form combustible dust concentrations in air.
  - **Auto/Self-ignition temperature**: Not applicable.
### Decomposition temperature:
2204 °C (3,999,2 °F) (boron nitride)

### Explosive properties:
Can pose a dust explosion hazard if dispersed in air.

#### Explosion limits
- **Lower:** Not determined.
- **Upper:** Not determined.

#### Oxidising properties
Non-oxidising.

### Vapour pressure:
Not applicable.

### Density:
- **Relative density:** 1,8-3,0
- **Vapour density:** Not applicable.
- **Evaporation rate:** Not applicable.

### Solubility in / Miscibility with water:
Insoluble.

### Partition coefficient: n-octanol/water:
Not applicable.

### Viscosity
- **Dynamic:** Not applicable.
- **Kinematic:** Not applicable.

### Other information
No further relevant information available.

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity
No further relevant information available.

#### 10.2 Chemical stability

#### Thermal decomposition / conditions to be avoided:
No decomposition if used and stored according to specifications.

#### 10.3 Possibility of hazardous reactions
- Risk of dust explosion if enriched with fine dust in the presence of air.
- Reacts with strong oxidising agents.
- Reacts with strong acids.

#### 10.4 Conditions to avoid
Prevent formation of dust.

#### 10.5 Incompatible materials
- Strong acids.
- Oxidisers

#### 10.6 Hazardous decomposition products
Nitrogen oxides

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects
- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:** None.
- **Primary irritant effect**

(Cont'd. on page 7)
Trade name: Boron Nitride Powders

- Skin corrosion/irritation: Based on available data, the classification criteria are not met.
- Serious eye damage/irritation: Based on available data, the classification criteria are not met.
- Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.
- Carcinogenic categories

| IARC (International Agency for Research on Cancer): | None of the ingredients are listed. |
| NTP (National Toxicology Program): | None of the ingredients are listed. |
| OSHA-Ca (Occupational Safety & Health Administration): | None of the ingredients are listed. |
- Probable routes of exposure:
  Ingestion.
  Inhalation.
  Eye contact.
  Skin contact.
- Repeated dose toxicity:
  Long-term inhalation of silica dusts may cause obstructive pulmonary disease including silicosis.
- Germ cell mutagenicity: Based on available data, the classification criteria are not met.
- Carcinogenicity: Based on available data, the classification criteria are not met.
- Reproductive toxicity: Based on available data, the classification criteria are not met.
- STOT-single exposure: Based on available data, the classification criteria are not met.
- STOT-repeated exposure: Based on available data, the classification criteria are not met.
- Aspiration hazard: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- 12.1 Toxicity
  Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- 12.3 Bioaccumulative potential No further relevant information available.
- 12.4 Mobility in soil No further relevant information available.
- Additional ecological information:
  General notes: Avoid release to the environment.
- 12.5 Results of PBT and vPvB assessment
  PBT: Not applicable.
  vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- 13.1 Waste treatment methods
  Recommendation
  The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and
SECTION 14: Transport information

- **14.1 UN-Number**
  - DOT, ADR, IMDG, IATA: Not Regulated

- **14.2 UN proper shipping name**
  - DOT, ADR, IMDG, IATA: Not Regulated

- **14.3 Transport hazard class(es)**
  - DOT, ADR, IMDG, IATA: Not Regulated

- **14.4 Packing group**
  - DOT, ADR, IMDG, IATA: Not Regulated

- **14.5 Environmental hazards:**
  - Marine pollutant: No

- **14.6 Special precautions for user**
  - Not applicable.

- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**
  - Not applicable.

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - United States (USA)
  - SARA

  - **Section 355 (extremely hazardous substances):**
    - None of the ingredients are listed.

  - **Section 313 (Specific toxic chemical listings):**
    - None of the ingredients are listed.

  - **TSCA (Toxic Substances Control Act):**
    - All ingredients are listed.

  - **Proposition 65 (California):**

  - **Chemicals known to cause cancer:**
    - None of the ingredients are listed.

  - **Chemicals known to cause reproductive toxicity for females:**

  (Cont’d. on page 9)
Trade name: Boron Nitride Powders

None of the ingredients are listed.

- **Chemicals known to cause reproductive toxicity for males:**
  None of the ingredients are listed.

- **Chemicals known to cause developmental toxicity:**
  None of the ingredients are listed.

- **Carcinogenic Categories**

  - **EPA (Environmental Protection Agency)**
    - 10043-11-5 boron nitride
    - 1303-86-2 diboron trioxide

  - **IARC (International Agency for Research on Cancer)**
    None of the ingredients are listed.

  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    None of the ingredients are listed.

- **Canadian Domestic Substances List (DSL)**
  All ingredients are listed.

- **Other regulations, limitations and prohibitive regulations**

  - **Substances of very high concern (SVHC) according to REACH, Article 57**
    - 1303-86-2 diboron trioxide

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
  H360FD May damage fertility. May damage the unborn child.

- **Abbreviations and acronyms:**
  - ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - DNEL: Derived No-Effect Level (REACH)
  - PNEC: Predicted No-Effect Concentration (REACH)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bio-accumulable, Toxique
  - SVHC: Substances of Very High Concern
  - vPvB: very Persistent and very Bioaccumulative
  - Repr. 1B: Reproductive toxicity – Category 1B

- **Sources**
  Website, European Chemicals Agency (echa.europa.eu)
Trade name: Boron Nitride Powders

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Safety Data Sheets, Individual Manufacturers

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Website: www.chemtelinc.com