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

1.1 Product identifier
- Trade name: Boron Nitride Solids and Powders
- **Product code:** Solid Grade A, ASxxxxx, Pxxxxxx, Cxxxxxx, IDLxxx, XSxxxxx
  (Where x = any digit 0 – 9, OR any letter A – Z, OR blank.)

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

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)
  Repr. 1B  H360FD  May damage fertility. May damage the unborn child. 
  (Cont'd. on page 2)
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 classified and labelled according to the CLP regulation.

· Hazard pictograms

  GHS08

· Signal word Danger

· Hazard-determining components of labelling:
  diboron trioxide

· Hazard statements
  May form combustible dust concentrations in air. (USA and Canada GHS Only)
  H360FD May damage fertility. May damage the unborn child.

· Precautionary statements
  P201 Obtain special instructions before use.
  P202 Do not handle until all safety precautions have been read and understood.
  P280 Wear protective gloves/protective clothing/eye protection.
  P308+P313 If exposed or concerned: Get medical advice/attention.
  P405 Store locked up.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· 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.

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

| CAS: 10043-11-5 | boron nitride | >80% |
| EINECS: 233-136-6 | | |
| Reg.nr.: 01-2119947399-20-0003 | | |
| CAS: 1303-86-2 | diboron trioxide | 3.1-8% |
| EINECS: 215-125-8 | | |
| Index number: 005-008-00-8 | | |
| | Repr. 1B, H360FD | |
SECTION 4: First aid measures

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.
- **Hazards:** May damage fertility or the unborn child.

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.
Trade name: Boron Nitride Solid and Powders

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.
Do not breathe dust.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

6.2 Environmental precautions
Avoid release to the environment.
Damp down dust with water spray.

6.3 Methods and material for containment and cleaning up
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.

6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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

Ingredients with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>WEL (Great Britain)</th>
<th>PEL (USA)</th>
<th>REL (USA)</th>
<th>TLV (USA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1303-86-2 diboron trioxide</td>
<td>Short-term value: 20 mg/m³</td>
<td>Long-term value: 10 mg/m³</td>
<td>Long-term value: 10 mg/m³</td>
<td>Long-term value: 10 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **DNELs:** No further relevant information available.
- **PNECs:** No further relevant information available.

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:**
    - NIOSH or 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.
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)
  - **Explosion 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.
- **9.2 Other information**
  - No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
  - No further relevant information available.
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
- 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.

11.2 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:
  May damage fertility. May damage the unborn child.
- 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.
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according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA
GHS

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- 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 disposal for hazardous and nonhazardous wastes.
  - Uncleaned packaging:
    - Recommendation: Disposal must be made according to official regulations.

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
    - Class: Not Regulated
    - Label: -
- 14.4 Packing group
  - DOT, ADR, IMDG, IATA: Not Regulated
Trade name: Boron Nitride Solid and Powders

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:
      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 I (oral)
      1303-86-2 diboron trioxide I (oral)
    - 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.
Safety Data Sheet
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA
GHS

Revision: 27 September 2017

Trade name: Boron Nitride Solid and Powders

· 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)
  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
  SDS Prepared by:
  ChemTel Inc.
  1305 North Florida Avenue
  Tampa, Florida USA 33602-2902
  Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
  Website: www.chemtelinc.com