

Safety Data Sheet
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA
GHS

Revision: 27 September 2017

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

· **1.1 Product identifier**

- Trade name: **Combat Boron Nitride Coating**
- Product code: Type A

· **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**

Skin Corr. 1C H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

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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



GHS05

Signal word Danger

Hazard-determining components of labelling:

aluminium phosphate

Hazard statements

H314 Causes severe skin burns and eye damage.

Precautionary statements

P260 Do not breathe mist/vapours/spray.

P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

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:

| | | | |
|--------------------------------|---------------|--|--------|
| CAS: 10043-11-5 | boron nitride | | 10-45% |
| EINECS: 233-136-6 | | | |
| Reg.nr.: 01-2119947399-20-0003 | | | |

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| | | | |
|---|---------------------|---|--------|
| CAS: 7784-30-7 EINECS: 232-056-9 Reg.nr.: 01-2119971255-34-XXXX | aluminium phosphate |  Skin Corr. 1C, H314 | 10-30% |
|---|---------------------|---|--------|

Additional information:

For the listed ingredient(s), the identity and/or exact percentages are being withheld as a trade secret.
For the wording of the listed Hazard Statements refer to section 16.

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:

Immediately remove any clothing soiled by the product.
Immediately rinse with water.
If skin irritation continues, consult a doctor.
Seek immediate medical help for blistering or open wounds.

After eye contact:

Protect unharmed eye.
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. Then 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

Coughing
Breathing difficulty
Cramp
Strong caustic effect on skin and mucous membranes.
Gastric or intestinal disorders when ingested.
Nausea in case of ingestion.

Hazards:

Danger of gastric perforation.
Causes serious eye damage.

4.3 Indication of any immediate medical attention and special treatment needed

Medical supervision for at least 48 hours.
Monitor circulation.
If necessary oxygen respiration treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- **Suitable extinguishing agents:** CO₂, powder or water spray. Fight larger fires with water spray.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet

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- **5.2 Special hazards arising from the substance or mixture**

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**

Use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

- **6.2 Environmental precautions**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **6.3 Methods and material for containment and cleaning up**

Use limestone to neutralize and absorb spill.

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**

Avoid splashes or spray in enclosed areas.

Use only in well ventilated areas.

Avoid contact with the eyes and skin.

Avoid breathing mist/vapours/spray.

- **Information about fire - and explosion protection:** No special measures required.

- **7.2 Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Use only receptacles specifically permitted for this substance/product.

Store in cool, dry conditions in well sealed receptacles.

- **Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with alkalis (caustic solutions).

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

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

8.2 Exposure controls

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.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Respiratory protection:

Not required under normal conditions of use.

Use suitable respiratory protective device when aerosol or mist is formed.

For spills, respiratory protection may be advisable.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Eye protection:



Safety glasses

Body protection: Acid resistant protective clothing

Limitation and supervision of exposure into the environment:

No further relevant information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- | | |
|---------------------------|-----------------|
| · Form: | Liquid |
| · Colour: | White |
| · Odour: | Odourless |
| · Odour threshold: | Not determined. |

- | | |
|--------------------|-----|
| · pH-value: | 1-3 |
|--------------------|-----|

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| | |
|---|---|
| · Melting point/freezing point: | Not determined. |
| · Initial boiling point and boiling range: | 107°C (224,6 °F) |
| · Flash point: | Not applicable. |
| · Flammability (solid, gas): | Not applicable. |
| · Auto/Self-ignition temperature: | Not determined. |
| · Decomposition temperature: | 2204°C (3.999,2 °F) (boron nitride) |
| · Explosive properties: | Product does not present an explosion hazard. |
| · Explosion limits | |
| Lower: | Not determined. |
| Upper: | Not determined. |
| · Oxidising properties | Non-oxidising. |
| · Vapour pressure: | Not determined. |
| · Density: | |
| Relative density: | 1.1-1.4 |
| Vapour density: | Not determined. |
| Evaporation rate: | Not determined. |
| · Solubility in / Miscibility with water: | Fully miscible. |
| · Partition coefficient: n-octanol/water: | Not determined. |
| · Viscosity | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Toxic fumes may be released if heated above the decomposition point.
Reacts with alkali (lyes).
- **10.4 Conditions to avoid** Excessive heat.
- **10.5 Incompatible materials** Alkalis
- **10.6 Hazardous decomposition products** Phosphorus oxides (e.g. P2O5)

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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**
- **Skin corrosion/irritation:**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation:**
Causes serious eye damage.
- **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.

- **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.
- **Ecotoxicological effects:**
- **Remark:** After neutralisation a reduction of the harming action may be recognised.
- **Additional ecological information:**
- **General notes:**
Must not reach sewage water or drainage ditch undiluted or unneutralised.

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Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. If the dilution of the use-level pH-value is considerably increased after use, the aqueous waste, emptied into drains, is only low water-dangerous.

- **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**
Dilute concentrate with water and neutralize afterwards with suitable material (lime or chalk). The formed salts are inert and pose little hazard.
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.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN-Number**
- **DOT, ADR, IMDG, IATA** UN3264
- **14.2 UN proper shipping name**
- **DOT, IATA** Corrosive liquid, acidic, inorganic, n.o.s. (aluminium phosphate)
- **ADR, IMDG** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (aluminium phosphate)
- **14.3 Transport hazard class(es)**
- **DOT**
- 
- **Class** 8 Corrosive substances.
- **Label** 8

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· **ADR**

· **Class** 8 (C1) Corrosive substances.
 · **Label** 8

· **IMDG, IATA**

· **Class** 8 Corrosive substances.
 · **Label** 8

· **14.4 Packing group**
 · **DOT, ADR, IMDG, IATA** III

· **14.5 Environmental hazards:**

· **Marine pollutant:** No

· **14.6 Special precautions for user** Warning: Corrosive substances.
 · **Danger code (Kemler):** 80
 · **EMS Number:** F-A,S-B
 · **Segregation groups** Acids

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

· **Transport/Additional information:**· **DOT**

Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 L each.

· **ADR**

Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 L each.

· **IMDG**

Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 L each.

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· IATA



Limited Quantity for packages less than 30 kg gross and inner packagings less than 0,5 L each / 1 L net.

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)

· **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.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients are listed.

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· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients are listed.

· **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**

H314 Causes severe skin burns and eye damage.

· **Abbreviations and acronyms:**

LDLo: Lowest Lethal Dose Observed

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

Skin Corr. 1C: Skin corrosion/irritation – Category 1C

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

· **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)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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