

BORON NITRIDE COATINGS

According to Regulation (EC) No 1907/2006/EC REACH

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Trade name: Boron Nitride Coatings

Product code: SF+, 10SF+

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

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2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

The product is not classified as hazardous according to OSHA GHS regulations within the United States. The product is not classified as hazardous according to the CLP regulation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- The product is not classified as hazardous according to OSHA GHS regulations within the United States.

- The product is not classified as hazardous according to the CLP regulation.

Hazard pictograms Not Regulated

Signal word Not Regulated

Hazard statements Not Regulated.

Precautionary statements Not Regulated.

Additional information:

Safety data sheet available on request

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.

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3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Mixtures

Components Types SF+ & 10SF+		
CAS: 10043-11-5 EINECS: 233-136-6 Reg.no.:01-2119947399-20-0003	Hexagonal Boron Ni tride	4 - 35%
CAS: 1344-28-1 EINECS: 215-691-6 Reg.nr.: 01-2119529248-35-XXXX	Aluminium Oxide Substance with a Community workplace exposure limit	0 - 15%

Additional information:

For the wording of the listed hazard phrases refer to section 16.

For the listed ingredient(s), the identity and/or exact percentages are being withheld as a trade secret.

4. FIRST AID MEASURES

4.1 Description of first aid measures

After inhalation:

Supply fresh air; consult doctor in case of complaints.

After skin contact:

Immediately rinse with water.

If skin irritation is experienced, consult a doctor.

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

Slight irritant effect on skin and mucous membranes. Slight irritant effect on eyes.

May cause gastro-intestinal irritation if ingested

Nausea in case of ingestion.

Diarrhea.

Vomiting.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents:

The product is not flammable.

Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents:

None.

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device. Wear fully protective suit.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Use personal protective equipment as required.

6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and material for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). 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.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Use only in well ventilated areas.

Avoid splashes or spray in enclosed areas. Avoid breathing mist/vapours/spray.

Wash hands before breaks and at the end of work.

Information about fire - and explosion protection:

No special measures required.

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7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:

Store in cool, dry conditions in well-sealed receptacles.

Use only receptacles specifically permitted for this substance/product.

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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:	
1344-28-1 aluminium oxide	
WEL (Great Britain)	Long-term value: 10* 4** mg/m ³ *inhalable dust **respirable dust
PEL (USA)	Long-term value: 15*; 5** mg/m ³ *Total dust; ** Respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m ³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV (USA)	Long-term value: 1* mg/m ³ as Al; *as respirable fraction

DNELs: No further relevant information available.

PNECs: No further relevant information available.

8.2 Exposure controls

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals. Keep away from foodstuffs, beverages and feed.

Avoid breathing mist/vapours/spray. Avoid contact with the eyes.

Avoid close or long term contact with the skin.

Respiratory protection:

Not required under normal conditions of use.

Use suitable respiratory protective device when aerosol or mist is formed. For large spills, respiratory protection may be advisable.

Protection of hands:

Gloves are advised for repeated or prolonged contact.

Wear protective gloves to handle contents of damaged or leaking units.

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Eye protection:



Safety glasses

Body protection:

Protective work clothing

Protection may be required for spills.

Limitation and supervision of exposure into the environment:

Avoid release to the environment.

Risk management measures:

No further relevant information available

9. PHYSICAL & CHEMICAL PROPERTIES

9.1. Information on the basic physical and chemical properties

Appearance

Form:	Liquid
Colour:	White
Odour:	Odourless
Odour threshold:	Not determined.
pH-value:	4,5-9
Melting point/freezing point:	Not determined.
Initial boiling point and boiling range:	100 °C (212 °F) (water)
Flash point:	Not applicable.
Flammability (solid, gas):	Not applicable.
Auto/Self-ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
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:	1,0 – 2,1
Vapour density:	Not determined
Evaporation rate:	Not determined
Solubility in / Miscibility with water:	Partly miscible
Partition coefficient: n-octanol/water:	Not determined
Viscosity	
Dynamic:	Not determined
Kinematic:	Not determined

9.2 Other information

No further relevant information available.

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10. CHEMICAL STABILITY & REACTIVITY INFORMATION

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

Reacts with alkali (lyes).

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials

Oxidisers, strong acids.

10.6 Hazardous decomposition products

Under fire conditions only: Nitrogen oxides (NO_x), Toxic metal oxide smoke

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: Slight irritant effect on skin and mucous membranes.

Serious eye damage/irritation: Slight irritant effect on eyes.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

Carcinogenic categories

IARC (International Agency for Research on Cancer):

Present in trace quantities.

75-21-8 ethylene oxide

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.

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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:

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

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

13. TRANSPORTATION INFORMATION

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 non-hazardous wastes.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

14. TRANSPORTATION INFORMATION

14.1 UN-Number

DOT, ADR/RID/ADN, IMDG, IATA

Not Regulated

14.2 UN proper shipping name

DOT, ADR/RID/ADN, IMDG, IATA

Not Regulated

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14.3 Transport hazard class(es) DOT, ADR/RID/ADN, IMDG, IATA Class	Not Regulated
14.4 Packing group DOT, ADR/RID/ADN, 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.

15. REGULATORY INFORMATION

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

SARA

Section 302 (extremely hazardous substances):

None of the ingredients are listed.

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

1344-28-1 Aluminium oxide

TSCA (Toxic Substances Control Act):

Not all ingredients listed.

Proposition 65 (California):

Chemicals known to cause cancer:

Present in trace quantities.

75-21-8 ethylene oxide

Chemicals known to cause developmental toxicity for females:

Present in trace quantities.

EPA (Environmental Protection Agency)

10043-11-5 boron nitride

IARC (International Agency for Research on Cancer)

Present in trace quantities.

75-21-8 Ethylene oxide 1

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Canadian Domestic Substances List (DSL): (Substances not listed)

Not all ingredients listed.

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.

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

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, Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative