



SHOBN™ UHP-1K

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 04/15/2011

Revision date: 06/12/2015

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

Trade name	: SHOBN™ UHP-1K
Recommended use	: Industrial use
Restrictions on use	: Not to be used for any purpose other than the one the product was designed for
Importer / Distributor Name	: SHOWA DENKO AMERICA, INC
Address	: 420 Lexington Avenue, Suite 2335A, New York, NY 10170, U.S.A.
Phone number	: +1 212 370 0033 (Monday - Friday 9:00-17:00)
E-mail	: sales@showadenko.us
Emergency phone numbers	: U.S.A.: +1 212 370 0033 (Monday – Friday, 9:00–17:00). +81-263-52-0180 (Shiojiri Plant 24-hour) (Shiojiri Plant).
Manufacturer	: SHOWA DENKO K.K. Ceramics Division 13-9, Shiba Daimon 1-Chome, Minato-ku, Tokyo Tel. +81-3-5470-3434 ;Fax +81-3-3431-6924
Transportation Emergency phone numbers	: CHEMTREC, USA (Customer number : CCN20146) U.S.A. Domestic call: 1-800-424-9300, International call : +1-703-527-3887
Reference no.	: CE-US303EN

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labelling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

Mixture

Name	Product identifier	%	GHS-US classification
Boron nitride	(CAS No) 10043-11-5	>= 99.5	Not classified
Diboron trioxide	(CAS No) 1303-86-2	<= 0.5	Eye Irrit. 2A, H319 STOT SE 3, H335

(Calcium oxide and carbon are included in a small amount(<0.1%) in addition to the above mentioned major component.)

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical advice.
First-aid measures after skin contact	: Wash off immediately with soap and plenty of water.
First-aid measures after eye contact	: Wash immediately with plenty water (during 20 minutes), also under eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Ask for urgent medical help even if there are no visible symptoms.
First-aid measures after ingestion	: Rinse mouth with water, do not induce vomiting, call a doctor.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : ABC-powder. dry sand. carbon dioxide (CO₂).
Unsuitable extinguishing media : Nothing in particular.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : When fire, only authorized personnel can access to this area. When exposed to water in high temperature atmosphere, having be involved the risk of hydrolyzation forms and generates NH₃ gas. Must pay attention, when watering to a lot of products in high temperature.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Wear suitable protective clothing, gloves and eye or face protection.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Avoid generation of dust. Pay attention that products never flow out to river etc. and never cause influence to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Dispose after raking up by scoops and cleaners, etc..

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Treat to avoid forming an aerosol and a powder dust. Operate the local exhaust ventilation. Wear the dust mask, protective glasses, protective glove, working jacket etc..

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store under the dry condition in cool and dark space.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

SHOBN™ UHP-1K		
ACGIH	Not applicable	
OSHA	Not applicable	
Boron nitride (10043-11-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
Diboron trioxide (1303-86-2)		
ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³

8.2. Exposure controls

Appropriate engineering controls : Install the local exhaust ventilation in handling area.

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Hand protection	: protective gloves.
Eye protection	: In case of dust production: protective goggles. Goggles.
Skin and body protection	: Normal overalls.
Respiratory protection	: Approved dust respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Colour	: white light yellow
Odour	: odourless slight ammonia
Odour threshold	: No data available
pH	: not applicable
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: no data available
Freezing point	: No data available
Boiling point	: no data available
Flash point	: no data available
Auto-ignition temperature	: no data available
Decomposition temperature	: no data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 50 Pa (1800 degree C)
Relative vapour density at 20 °C	: No data available
Relative density	: 2.27
Solubility	: Poorly-soluble in water. And no data available in the case of other solvent.
Log Pow	: no data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: no data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Oxidative reaction starts with more than 950 degree C in the atmosphere.

10.3. Possibility of hazardous reactions

NH₃ is formed by hydrolytic cleavage with damp air, boiling water or dilute acid. Not decompose under the inert atmosphere below about 3000 degree C. Boracic acid is formed by oxidation reaction gradually more than a few hundred degree C in the oxidant atmosphere.

10.4. Conditions to avoid

Store away from heat/moisture.

10.5. Incompatible materials

Water. Oxidizing agent.

10.6. Hazardous decomposition products

Ammonia water and boracic acid are formed by the hydrolytic cleavage.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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Acute toxicity : Not classified

Diboron trioxide (1303-86-2)

LD50 oral rat	3150 mg/kg
ATE US (oral)	3150.000 mg/kg bodyweight

Skin corrosion/irritation : Not classified
pH: not applicable

Serious eye damage/irritation : Not classified
pH: not applicable

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Diboron trioxide (1303-86-2)

LC50 fishes 1	321 mg/kg
EC50 Daphnia 1	208 mg/l

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

SHOBN™ UHP-1K

Log Pow	no data available
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Ecology - waste materials : Dispose of contents/container under national government /prefectural and city governments /cities, towns and villages regulations. Treat as industrial waste 'sludge'.

SECTION 14: Transport information

In accordance with DOT
Not regulated for transport

Additional information

Other information : No supplementary information available.

Special transport precautions : Must pay attention, not falling down, not falling and no damage in loading, and never unloading package and liquid spilling when shipping.

ADR

No additional information available

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Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Boron nitride (10043-11-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Diboron trioxide (1303-86-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Boron nitride (10043-11-5)

Listed on the Canadian DSL (Domestic Substances List)

Diboron trioxide (1303-86-2)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

Boron nitride (10043-11-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Diboron trioxide (1303-86-2)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

15.2.2. National regulations

Boron nitride (10043-11-5)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Pollutant Release and Transfer Register Law (PRTR Law)

Diboron trioxide (1303-86-2)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

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Diboron trioxide (1303-86-2)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
 U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
 U.S. - Hawaii - Occupational Exposure Limits - STELs
 U.S. - Hawaii - Occupational Exposure Limits - TWAs
 U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
 U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
 U.S. - Idaho - Occupational Exposure Limits - TWAs
 U.S. - Massachusetts - Right To Know List
 U.S. - Michigan - Occupational Exposure Limits - TWAs
 U.S. - Minnesota - Hazardous Substance List
 U.S. - Minnesota - Permissible Exposure Limits - TWAs
 U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
 U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
 U.S. - New Jersey - Right to Know Hazardous Substance List
 U.S. - New York - Occupational Exposure Limits - TWAs
 U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
 U.S. - Oregon - Permissible Exposure Limits - TWAs
 U.S. - Pennsylvania - RTK (Right to Know) List
 U.S. - Tennessee - Occupational Exposure Limits - TWAs
 U.S. - Texas - Effects Screening Levels - Long Term
 U.S. - Texas - Effects Screening Levels - Short Term
 U.S. - Vermont - Permissible Exposure Limits - TWAs
 U.S. - Washington - Permissible Exposure Limits - STELs
 U.S. - Washington - Permissible Exposure Limits - TWAs

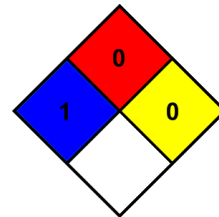
SECTION 16: Other information

Revision date : 06/12/2015

Full text of H-phrases:

Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
 NFPA fire hazard : 0 - Materials that will not burn.
 NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating
 Health : 0 Minimal Hazard - No significant risk to health
 Flammability : 0 Minimal Hazard
 Physical : 1 Slight Hazard
 Personal Protection : F

(For SDK) SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product



SHOBN™ UHP-2

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 04/15/2011

Revision date: 07/09/2015

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

Trade name	: SHOBN™ UHP-2
Recommended use	: Industrial use
Restrictions on use	: Not to be used for any purpose other than the one the product was designed for
Importer / Distributor Name	: SHOWA DENKO AMERICA, INC
Address	: 420 Lexington Avenue, Suite 2335A, New York, NY 10170, U.S.A.
Phone number	: +1 212 370 0033 (Monday - Friday 9:00-17:00)
E-mail	: sales@showadenko.us
Emergency phone numbers	: U.S.A.: +1 212 370 0033 (Monday – Friday, 9:00–17:00). +81-263-52-0180 (Shiojiri Plant 24-hour) .
Manufacturer	: SHOWA DENKO K.K. Ceramics Division 13-9, Shiba Daimon 1-Chome, Minato-ku, Tokyo Tel. +81-3-5470-3434 ;Fax +81-3-3431-6924
Transportation Emergency phone numbers	: CHEMTREC, USA (Customer number : CCN20146) U.S.A. Domestic call: 1-800-424-9300, International call : +1-703-527-3887
Reference no.	: CE-US307EN

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labelling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

Mixture

Name	Product identifier	%	GHS-US classification
Boron nitride	(CAS No) 10043-11-5	>= 99.5	Not classified
Diboron trioxide	(CAS No) 1303-86-2	<= 0.5	Eye Irrit. 2A, H319 STOT SE 3, H335

(Calcium oxide and carbon are included in a small amount(<0.1%) in addition to the above mentioned major component.)

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical advice.
First-aid measures after skin contact	: Wash off immediately with soap and plenty of water.
First-aid measures after eye contact	: Wash immediately with plenty water (during 20 minutes), also under eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Ask for urgent medical help even if there are no visible symptoms.
First-aid measures after ingestion	: Rinse mouth with water, do not induce vomiting, call a doctor.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : ABC-powder. dry sand. carbon dioxide (CO₂).
Unsuitable extinguishing media : Nothing in particular.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : When fire, only authorized personnel can access to this area. When exposed to water in high temperature atmosphere, having be involved the risk of hydrolyzation forms and generates NH₃ gas. Must pay attention, when watering to a lot of products in high temperature.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Wear suitable protective clothing, gloves and eye or face protection.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Avoid generation of dust. Pay attention that products never flow out to river etc. and never cause influence to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Dispose after raking up by scoops and cleaners, etc..

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Treat to avoid forming an aerosol and a powder dust. Operate the local exhaust ventilation. Wear the dust mask, protective glasses, protective glove, working jacket etc..

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store under the dry condition in cool and dark space.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

SHOBN™ UHP-2		
ACGIH	Not applicable	
OSHA	Not applicable	
Boron nitride (10043-11-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
Diboron trioxide (1303-86-2)		
ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³

8.2. Exposure controls

Appropriate engineering controls : Install the local exhaust ventilation in handling area.

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Hand protection	: protective gloves.
Eye protection	: Goggles. Safety glasses.
Skin and body protection	: Normal overalls.
Respiratory protection	: Approved dust respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Colour	: white light yellow
Odour	: odourless slight ammonia
Odour threshold	: No data available
pH	: not applicable
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 50 Pa (1800 degree C)
Relative vapour density at 20 °C	: No data available
Relative density	: 2.27
Solubility	: Poorly-soluble in water. And no data available in the case of other solvent.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Oxidative reaction starts with more than 950 degree C in the atmosphere.

10.3. Possibility of hazardous reactions

NH₃ is formed by hydrolytic cleavage with damp air, boiling water or dilute acid. Not decompose under the inert atmosphere below about 3000 degree C. Boracic acid is formed by oxidation reaction gradually more than a few hundred degree C in the oxidant atmosphere.

10.4. Conditions to avoid

Store away from heat/moisture.

10.5. Incompatible materials

Water. Oxidizing agent.

10.6. Hazardous decomposition products

Ammonia water and boracic acid are formed by the hydrolytic cleavage.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Diboron trioxide (1303-86-2)	
LD50 oral rat	3150 mg/kg
ATE US (oral)	3150.000 mg/kg bodyweight
Skin corrosion/irritation	: Not classified pH: not applicable
Serious eye damage/irritation	: Not classified pH: not applicable
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No information available.
Ecology - air : No information available.
Ecology - water : No information available.

Diboron trioxide (1303-86-2)	
LC50 fish 1	321 mg/kg
EC50 Daphnia 1	208 mg/l

12.2. Persistence and degradability

SHOBN™ UHP-2	
Persistence and degradability	No information available.

12.3. Bioaccumulative potential

SHOBN™ UHP-2	
Bioaccumulative potential	No information available.

12.4. Mobility in soil

SHOBN™ UHP-2	
Ecology - soil	No information available.

12.5. Other adverse effects

Other adverse effects : No information available.
Effect on ozone layer : No additional information available
Effect on the global warming : No known ecological damage caused by this product.
Other information : No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Ecology - waste materials : Treat as industrial waste 'sludge'. Dispose of contents/container under national government /prefectural and city governments /cities, towns and villages regulations.

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SECTION 14: Transport information

In accordance with DOT

Not regulated for transport

Additional information

- Other information : No supplementary information available.
- Special transport precautions : Must pay attention, not falling down, not falling and no damage in loading, and never unloading package and liquid spilling when shipping.

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Boron nitride (10043-11-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Diboron trioxide (1303-86-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Boron nitride (10043-11-5)

Listed on the Canadian DSL (Domestic Substances List)

Diboron trioxide (1303-86-2)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

Boron nitride (10043-11-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Diboron trioxide (1303-86-2)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

15.2.2. National regulations

Boron nitride (10043-11-5)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Diboron trioxide (1303-86-2)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)

SHOBN™ UHP-2

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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

15.3. US State regulations

Diboron trioxide (1303-86-2)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Hawaii - Occupational Exposure Limits - STELs
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

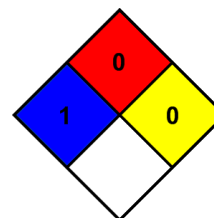
SECTION 16: Other information

Revision date : 07/09/2015

Full text of H-statements:

Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard : 0 - Materials that will not burn.
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating
Health : 0 Minimal Hazard - No significant risk to health
Flammability : 0 Minimal Hazard
Physical : 1 Slight Hazard
Personal Protection : F

(For SDK) SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product



SHOBN™ UHP-G1

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 04/15/2011

Revision date 06/11/2015

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

Trade name	: SHOBN™ UHP-G1
Recommended use	: Industrial:
Restrictions on use	: Not to be used for any purpose other than the one the product was designed for
Importer / Distributor Name	: SHOWA DENKO AMERICA, INC
Address	: 420 Lexington Avenue, Suite 2335A, New York, NY 10170, U.S.A.
Phone number	: +1 212 370 0033 (Monday - Friday 9:00-17:00)
E-mail	: sales@showadenko.us
Emergency phone numbers	: U.S.A.: +1 212 370 0033 (Monday – Friday, 9:00–17:00). +81-263-52-0180 (Shiojiri Plant 24-hour) (Shiojiri Plant).
Manufacturer	: SHOWA DENKO K.K. Ceramics Division 13-9, Shiba Daimon 1-Chome, Minato-ku, Tokyo Tel. +81-3-5470-3434 ;Fax +81-3-3431-6924
Transportation Emergency phone numbers	: CHEMTREC, USA (Customer number : CCN20146) U.S.A. Domestic call: 1-800-424-9300, International call : +1-703-527-3887
Reference no.	: CE-US315EN

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labelling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

Mixture

Name	Product identifier	%	GHS-US classification
Boron nitride	(CAS No) 10043-11-5	>= 99.5	Not classified
Diboron trioxide	(CAS No) 1303-86-2	<= 0.5	Eye Irrit. 2A, H319 STOT SE 3, H335

(Calcium oxide and carbon are included in a small amount (<0.1%) in addition to the above mentioned major component.)

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical advice.
First-aid measures after skin contact	: Wash off immediately with soap and plenty of water.
First-aid measures after eye contact	: Wash immediately with plenty water (during 20 minutes), also under eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Ask for urgent medical help even if there are no visible symptoms.
First-aid measures after ingestion	: Rinse mouth with water, do not induce vomiting, call a doctor.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

SHOBN™ UHP-G1

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : ABC-powder. dry sand. carbon dioxide (CO₂).
Unsuitable extinguishing media : Nothing in particular.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : When exposed to water in high temperature atmosphere, having be involved the risk of hydrolyzation forms and generates NH₃ gas. Must pay attention, when watering to a lot of products in high temperature.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Wear suitable protective clothing, gloves and eye or face protection.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Avoid generation of dust. Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

For containment : Dispose after raking up by scoops and cleaners, etc..

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Operate the local exhaust ventilation. Wear the dust mask, protective glasses, protective glove, working jacket etc..

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store under the dry condition in cool and dark space.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

SHOBN™ UHP-G1		
ACGIH	Not applicable	
OSHA	Not applicable	
Boron nitride (10043-11-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
Diboron trioxide (1303-86-2)		
ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³

8.2. Exposure controls

Appropriate engineering controls : Provide appropriate exhaust ventilation at places of dust forming.

SHOBN™ UHP-G1

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hand protection	: protective gloves.
Eye protection	: In case of dust production: protective goggles. Goggles.
Skin and body protection	: Normal overalls.
Respiratory protection	: Approved dust respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: white light yellow
Odour	: odourless slight ammonia
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 50 Pa (1800 degree C)
Relative vapour density at 20 °C	: No data available
Relative density	: 2.27
Solubility	: Poorly-soluble in water. And no data available in the case of other solvent.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Oxidative reaction starts with more than 950 degree C in the atmosphere.

10.3. Possibility of hazardous reactions

NH₃ is formed by hydrolytic cleavage with damp air, boiling water or dilute acid. Not decompose under the inert atmosphere below about 3000 degree C. Boracic acid is formed by oxidation reaction gradually more than a few hundred degree C in the oxidant atmosphere.

10.4. Conditions to avoid

Store away from heat/moisture.

10.5. Incompatible materials

Wet. Oxidizing agent.

10.6. Hazardous decomposition products

Ammonia water and boracic acid are formed by the hydrolytic cleavage.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
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SHOBN™ UHP-G1

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Diboron trioxide (1303-86-2)	
LD50 oral rat	3150 mg/kg
ATE US (oral)	3150.000 mg/kg bodyweight
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: No information available.
Ecology - air	: No information available.
Ecology - water	: No information available.

Diboron trioxide (1303-86-2)	
LC50 fishes 1	321 mg/kg
EC50 Daphnia 1	208 mg/l

12.2. Persistence and degradability

SHOBN™ UHP-G1	
Persistence and degradability	No information available.

12.3. Bioaccumulative potential

SHOBN™ UHP-G1	
Bioaccumulative potential	No information available.

12.4. Mobility in soil

SHOBN™ UHP-G1	
Ecology - soil	No information available.

12.5. Other adverse effects

Effect on ozone layer	: No additional information available
Effect on the global warming	: No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Ecology - waste materials	: Treat as industrial waste 'sludge'. Dispose of contents/container under national government /prefectural and city governments /cities, towns and villages regulations.
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SECTION 14: Transport information

In accordance with DOT
Not regulated for transport

Additional information

Other information	: No supplementary information available.
Special transport precautions	: Must pay attention, not falling down, not falling and no damage in loading, and never unpling package and liquid spilling when shipping.

SHOBN™ UHP-G1

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Boron nitride (10043-11-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Diboron trioxide (1303-86-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Boron nitride (10043-11-5)

Listed on the Canadian DSL (Domestic Substances List)

Diboron trioxide (1303-86-2)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

Boron nitride (10043-11-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Diboron trioxide (1303-86-2)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

15.2.2. National regulations

Boron nitride (10043-11-5)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Pollutant Release and Transfer Register Law (PRTR Law)

Diboron trioxide (1303-86-2)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

SHOBN™ UHP-G1

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Diboron trioxide (1303-86-2)

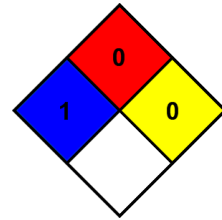
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
 U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
 U.S. - Hawaii - Occupational Exposure Limits - STELs
 U.S. - Hawaii - Occupational Exposure Limits - TWAs
 U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
 U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
 U.S. - Idaho - Occupational Exposure Limits - TWAs
 U.S. - Massachusetts - Right To Know List
 U.S. - Michigan - Occupational Exposure Limits - TWAs
 U.S. - Minnesota - Hazardous Substance List
 U.S. - Minnesota - Permissible Exposure Limits - TWAs
 U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
 U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
 U.S. - New Jersey - Right to Know Hazardous Substance List
 U.S. - New York - Occupational Exposure Limits - TWAs
 U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
 U.S. - Oregon - Permissible Exposure Limits - TWAs
 U.S. - Pennsylvania - RTK (Right to Know) List
 U.S. - Tennessee - Occupational Exposure Limits - TWAs
 U.S. - Texas - Effects Screening Levels - Long Term
 U.S. - Texas - Effects Screening Levels - Short Term
 U.S. - Vermont - Permissible Exposure Limits - TWAs
 U.S. - Washington - Permissible Exposure Limits - STELs
 U.S. - Washington - Permissible Exposure Limits - TWAs

SECTION 16: Other information

Full text of H-phrases:

Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
 NFPA fire hazard : 0 - Materials that will not burn.
 NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating
 Health : 0 Minimal Hazard - No significant risk to health
 Flammability : 0 Minimal Hazard
 Physical : 1 Slight Hazard
 Personal Protection : F

(For SDK) SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product



SHOBN™ UHP-S2

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 04/10/2015

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

Trade name : SHOBN™ UHP-S2
Recommended use : Industrial use
Restrictions on use : Not to be used for any purpose other than the one the product was designed for
Importer / Distributor Name : SHOWA DENKO AMERICA, INC
Address : 420 Lexington Avenue, Suite 2335A, New York, NY 10170, U.S.A.
Phone number : +1 212 370 0033 (Monday - Friday 9:00-17:00)
E-mail : sales@showadenko.us
Emergency phone numbers : U.S.A.: +1 212 370 0033 (Monday – Friday, 9:00–17:00).
+81-263-52-0180 (Shiojiri Plant 24-hour) (Shiojiri Plant).
Manufacturer : SHOWA DENKO K.K. Ceramics Division
13-9, Shiba Daimon 1-Chome, Minato-ku, Tokyo
Tel. +81-3-5470-3434 ;Fax +81-3-3431-6924
Transportation Emergency phone numbers : CHEMTREC, USA (Customer number : CCN20146)
U.S.A. Domestic call:1-800-424-9300, International call : +1-703-527-3887
Reference no. : CE-US318EN

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labelling applicable

2.3. Other hazards

Other hazards not contributing to the classification : Ammonia water and boracic acid are formed by the hydrolytic cleavage.

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

Mixture

Name	Product identifier	%	GHS-US classification
Boron nitride	(CAS No) 10043-11-5	>= 99.5	Not classified
Diboron trioxide	(CAS No) 1303-86-2	<= 0.5	Eye Irrit. 2A, H319 STOT SE 3, H335

(Calcium oxide and carbon are included in a small amount(<0.1%) in addition to the above mentioned major component.)

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical advice.
First-aid measures after skin contact : Wash off immediately with soap and plenty of water.
First-aid measures after eye contact : Wash immediately with plenty water (during 20 minutes), also under eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Ask for urgent medical help even if there are no visible symptoms.
First-aid measures after ingestion : Rinse mouth with water, do not induce vomiting, call a doctor.

SHOBN™ UHP-S2

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : ABC-powder. dry sand. carbon dioxide (CO2).
Unsuitable extinguishing media : Nothing in particular.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : When exposed to water in high temperature atmosphere, having be involved the risk of hydrolyzation forms and generates NH3 gas. Must pay attention, when watering to a lot of products in high temperature. When fire, only authorized personnel can access to this area.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Wear suitable protective clothing, gloves and eye or face protection.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Avoid generation of dust. Pay attention that products never flow out to river etc. and never cause influence to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Dispose after raking up by scoops and cleaners, etc..

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Treat to avoid forming an aerosol and a powder dust. Operate the local exhaust ventilation. Wear the dust mask, protective glasses, protective glove, working jacket etc..

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store under the dry condition in cool and dark space.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

SHOBN™ UHP-S2		
ACGIH	Not applicable	
OSHA	Not applicable	
Boron nitride (10043-11-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
Diboron trioxide (1303-86-2)		
ACGIH	ACGIH TWA (mg/m³)	10 mg/m³
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³

SHOBN™ UHP-S2

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

8.2. Exposure controls

Appropriate engineering controls	: Install the local exhaust ventilation in handling area.
Hand protection	: protective gloves.
Eye protection	: Goggles. Safety glasses.
Skin and body protection	: Normal overalls.
Respiratory protection	: Approved dust respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Colour	: white light yellow
Odour	: odourless slight ammonia
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 50 Pa (1800 degree C)
Relative vapour density at 20 °C	: No data available
Relative density	: 2.27
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Oxidative reaction starts with more than 950 degree C in the atmosphere.

10.3. Possibility of hazardous reactions

NH₃ is formed by hydrolytic cleavage with damp air, boiling water or dilute acid. Not decompose under the inert atmosphere below about 3000 degree C. Boracic acid is formed by oxidation reaction gradually more than a few hundred degree C in the oxidant atmosphere.

10.4. Conditions to avoid

Store away from heat/moisture.

10.5. Incompatible materials

Water. Oxidizing agent.

10.6. Hazardous decomposition products

Ammonia water and boracic acid are formed by the hydrolytic cleavage.

SHOBN™ UHP-S2

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Diboron trioxide (1303-86-2)

LD50 oral rat	3150 mg/kg
ATE US (oral)	3150.000 mg/kg bodyweight

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Diboron trioxide (1303-86-2)

LC50 fishes 1	321 mg/kg
EC50 Daphnia 1	208 mg/l

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Ecology - waste materials : Treat as industrial waste 'sludge'. Dispose of contents/container under national government /prefectural and city governments /cities, towns and villages regulations.

SECTION 14: Transport information

In accordance with DOT
Not regulated for transport

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

No additional information available

SHOBN™ UHP-S2

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Boron nitride (10043-11-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Diboron trioxide (1303-86-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Boron nitride (10043-11-5)

Listed on the Canadian DSL (Domestic Substances List)

Diboron trioxide (1303-86-2)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

Boron nitride (10043-11-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Diboron trioxide (1303-86-2)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

15.2.2. National regulations

Boron nitride (10043-11-5)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Pollutant Release and Transfer Register Law (PRTR Law)

Diboron trioxide (1303-86-2)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

SHOBN™ UHP-S2

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Diboron trioxide (1303-86-2)

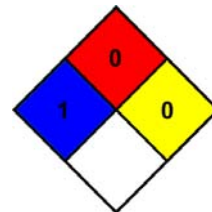
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
 U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
 U.S. - Hawaii - Occupational Exposure Limits - STELs
 U.S. - Hawaii - Occupational Exposure Limits - TWAs
 U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
 U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
 U.S. - Idaho - Occupational Exposure Limits - TWAs
 U.S. - Massachusetts - Right To Know List
 U.S. - Michigan - Occupational Exposure Limits - TWAs
 U.S. - Minnesota - Hazardous Substance List
 U.S. - Minnesota - Permissible Exposure Limits - TWAs
 U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
 U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
 U.S. - New Jersey - Right to Know Hazardous Substance List
 U.S. - New York - Occupational Exposure Limits - TWAs
 U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
 U.S. - Oregon - Permissible Exposure Limits - TWAs
 U.S. - Pennsylvania - RTK (Right to Know) List
 U.S. - Tennessee - Occupational Exposure Limits - TWAs
 U.S. - Texas - Effects Screening Levels - Long Term
 U.S. - Texas - Effects Screening Levels - Short Term
 U.S. - Vermont - Permissible Exposure Limits - TWAs
 U.S. - Washington - Permissible Exposure Limits - STELs
 U.S. - Washington - Permissible Exposure Limits - TWAs

SECTION 16: Other information

Full text of H-phrases:

Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
 NFPA fire hazard : 0 - Materials that will not burn.
 NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating
 Health : 0 Minimal Hazard - No significant risk to health
 Flammability : 0 Minimal Hazard
 Physical : 1 Slight Hazard
 Personal Protection : F

(For SDK) SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product