Safety data sheet

according to regulation (EU) Nr. 1907/2006

Date: 03.11.2015
Product: BORPower® NANOLUBE INDUSTRY

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

1.1. Product identifier

Nano Boron internal coating

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Nano Boron internal coating for industry

1.3. Details of the supplier of the safety data sheet

Supplier **NNT BORPower GmbH**
Pechhüttenstraße 6, A-2320 Schwechat/Austria

Manufacturer **NNT Nanotechnologie Bor AR-GE**
Organize Sanayi Bölgesi-Kirklareli/Turkey

Internet www.borpower.net
E-Mail info@borpower.net
Hotline Mo-Fr from 09.00 to 17.00
Tel.: +43 1 342 852 Fax: +43 1 342 852-52

1.4. Emergency telephone number

Austria +43 1 406 43 43 (Gesundheit Österreich GmbH, 24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Indications of danger: Xn-Harmful, N-Dangerous for environment
R phrases: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause harm to breastfed babies.
Repeated exposure may cause skin dryness or cracking.

GHS classification

Hazard categories:
Hazardous to the aquatic environment: Aquatic Acute 1
Reproductive toxicity: Lact.
Hazardous to the aquatic environment: Aquatic chron. 1

Hazard Statements

May cause harm to breast-fed children.
Very toxic to aquatic life with long lasting effects.
May be fatal if swallowed and enters airways.

2.2. Label elements

Hazardous components which must be listed on the label

Mixture of mineral oil and nanostructured hydroboron

Signal word: **Danger**
Pictograms: **GHS07-GHS08-GHS09**

Irritant

Hazardous

Dangerous for the environment

Hazard Statements

H304	May be fatal if swallowed and enters airways.
H410	Very toxic to aquatic life with long-lasting effects.

Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P263	Avoid contact during pregnancy/while nursing.
P270	Do no eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P313+P337	If eye irritation persists: Get medical advice/attention.
P501	Do not discharge into drains or the environment, dispose to an authorised waste collection point.

Special labelling of certain mixtures

EUH066	Repeated exposure may cause skin dryness or cracking

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical characterization

Mixture of mineral oil and nanostrucutred hydroboron

3.2. Mixtures

Hazardous components

EC-No.	Chemical name	Quantity
CAS-No.	Classification	
Index-No.	GHS-Classification	
REACH-No.		
233-136-6	**Nanostructured hydroboron**	**1-5%**
10043-11-5	Xi-Irritant, R36, R37	
	Eye Irrit. 2, H304, H315, H319, H332, EUH 066	
295-426-9	**Mineral oil**	**1-30%**
92045-45-9	Xn-Harmful, R51, R53	
	Aquatic chronic 1, H362, H400, H410	

Full text of R-, H- and EUH-phrases see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation

Supply person with fresh air immediately.
Consult physician if respiratory problems persist.
If victim is at risk of losing consciousness, position and transport on their side.

After contact with skin

Take off immediately all contaminated clothing, including underwear and shoes. After contact with skin, wash immediately with plenty of water and soap.

After contact with eyes

Remove contact lenses.
Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart.
Contact a doctor.

After ingestion

Rinse mouth thoroughly with water. Do not induce vomiting. Consult a doctor.

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

Irritation of eyes: Irritant effect possible.
After ingestion: Harmful: May cause lung damage if swallowed.
Harmful: Danger of serious damage to health by prolonged exposure through inhalation.

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

Warning about danger of aspiration. Contact the poison center.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Extinguishing powder, sand, carbon dioxide (CO_2)

Extinguishing media which must not be used for safety reasons

High power water jet.

5.2. Special hazards arising from the substance or mixture

Formation of decomposition products possible.
In case of fire and/or explosion do not breathe fumes.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Cool endangered container in case of fire.
Beat down gas/vapours/mist with water spray.
Contaminated fire-fighting water must be collected separately.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

In case of fire: Wear a self-contained breathing apparatus and chemical resistant suit.
Keep away from sources of ignition and do not smoke.
High skid risk because of leaking or spilled product.

6.2. Environmental precautions

Do not empty into drains or the aquatic environment.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid-or universal binding agents).
Prevent spread over a wide area (e.g. by containment or oil barriers).

6.4. Reference to other sections

See section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used.
Avoid contact with skin and eyes.
Maintain adequate ventilation.
Avoid eating , drinking , smoking as well as the storage of food in the workspace.
Follow the advices on the product label and the user manual.
Keep the product container closed if They are not in use or empty.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store product in the original packaging.
Keep container tightly closed.
Storage class: TRGS 510: 3

7.3. Specific use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Country	Chemical name	AGW-value	BGW-value
Austria	Mineral oil fog	5 mg/m³ (TLV-ACGIH)	
Germany	Mineral oil fog	5 mg/m³ (TLV-ACGIH)	
Country	**Chemical name**	**MAK-value**	**BAT-value**
Switzerland	Mineral oil fog	0,2 mg/m³ (TLV-ACGIH)	

8.2. Exposure controls

Protective and hygiene measures

Take off immediately all contaminated clothing
Avoid contact with skin and eyes.
Keep away from food, drink and animal feeding stuffs.
When using do not eat, drink or smoke.
Wash hands before breaks and after work.

Respiratory protection

In case of accumulation of fumes/aerosols.
In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/face protection

Wear tightly sealed safety glasses against possible splashes into the eyes. (EN 166)

Skin protection

Wear suitable protective clothing according to EN 465.

Hand protection

Tested protective gloves are to be worn: NBR (Nitrile rubber). FKM (Fluoroelastomer (Viton)). (EN374)

Other information

See section 6 and 7.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Parameter	Typical Value	Test method
Physical state	liquid	ASTM D97
Color	Cream -colored	ASTM D1500
Odour	characteristic	
Vapour pressure (at 20° C)	Not determined	
pH as is	n.a.	
Flash point	320° C (C.O.C)	ASTM D92
Melting point	Not determined	
Boiling point	420° C	
Lower explosion limits	1 Vol.% (spray)	
Upper explosion limits	10 Vol.% (spray)	
Vapour density	Not determined	
Ignition temperature	n.a.	DIN 51794
Density (at 20°C)	02,2 g/cm³	ASTM D6683-01
Water solubility	insoluble	ASTM D1401
Thermal resistance	Max. 1340° C	ASTM C1045-01
Hardness	9-10 Mohs	Mohs hardness
Chemical reactivity	Inert	ASTM D4636
Vapour oft he mineral oil	0,88 g/cm³	ASTM D6683-01
Vapour of the product	1,1 g/cm³	ASTM D6683-01

9.2. Other information

No data

SECTION 10: Stability and reactivity

10.1. Reactivity
No information available.

10.2. Chemical stability
No decomposition when used as intended.

10.3. Possibility of hazardous reactions
No dangerous reactions are known.

10.4. Conditions to avoid
Only use the material in places where open light, fire and flammable sources can be kept away. No decomposition when used as intended.

10.5. Incompatible materials
Strong oxidants and other chemicals. See also item 7.

10.6. Hazardous decomposition products
No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Exposure routes	Method	Dose	Species	Source
Oral	LD50	>50000 mg/kg	Rat	
dermal	LD50	n.d.a (mg/kg)	Rat	
Inhalative	LC50	n.d.a (mg/l/4h)	Rat	
Eye contact		n.d.a		

11.2. Delayed impacts and chronic effects

Sensitizing effects	n.d.a
Carcinogenic effects	No ingredients of the product are listed by OSHA, NTP or IARC as suspected carcinogens.
Mutagenic effects	n.d.a
Teratogenic effects	n.d.a.
Narcotic effects	n.d.a

11.3. Irritation and corrosivity
After skin contact: Frequently or prolonged contact with skin may cause dermal irritation.

11.4. Sensitising effects
No danger of sensitization.

SECTION 12: Ecological information

12.1. Toxicity

Water hazard class	WGK2
Self-classification	Yes (according to VwVwS)
Persistency and biodegradability	Heavily biologically degradable
Measures in sewage processing plants	Mechanical is possibly
Aquatic toxicity	See item 3
Ecological toxicity	n.d.a

12.2. Persistence and degradability
No information available.

12.3. Bioaccumulative potential
No information available.

12.4. Mobility in soil
No information available.

12.5. Results of PBT and vPvB assesment
No information available.

12.6. Other adverse effects
Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Arrange about the exact waste code with the local waste disposal expert.

Contaminated packaging

Container must be completely emptied.
Do not allow to enter into surface water or drains.

SECTION 14: Transport information

General information

This product does not contain toxic chemicals subject to the reporting requirements of section 313 of title III of the SARA of 1986 and the directive 40CFR372.

Land transport (ADR/RID)

14.1. UN number	n.a.
14.2. UN proper shipping name	n.a.
14.3. Transport hazard class(es)	n.a.
14.4. Packing group	n.a.
Hazard label	n.a.
Classification code	n.a.
Special Provisions	n.a.
Limited quantity	n.a.
Transport category	n.a.
Hazard No.	n.a.
Tunnel restriction code	n.a.

No hazardous product according to these transportation regulations

Inland waterways transport (ADN)

No hazardous product according to these transportation regulations

Marine transport (IMDG)

No hazardous product according to these transportation regulations

Air transport (ICAO)

No hazardous product according to these transportation regulations

14.5. Environmental hazards

Dangerous for the environment: Yes

14.6. Special precautions for user

No information available.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No information available.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

Contains: 1-30% mineral oil and 1-5% of nano hydroboron

National regulatory information

Water contaminating class (D): 2-water contaminating

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Full text of R phrases (Number and full text)

R20	Harmful by inhalation.
R22	Harmful if swallowed.
R36/R37/R38	Irritating to eyes, respiratory system and skin.
R51	Can yield long-term hazardous effects in water.
R53	Poisonous for water organisms.
R65	Harmful: May cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.

Full text of H- and EUH-phrases (Number and full text)

H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H362	May cause harm to breast-fed children.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.
The receiver of our product is singulary responsible for adhering to existing laws and regulations.

Legends

ACGIH	American Conference of Gouvernement and Industrial Hygienists
ADR	Accord europeen relatif au Transport international des marchandises Dangereuses par Route (Europäisches Übereinkommen über die internationale Beförderung gefährlicher Güter auf der Straße)
AGW	Arbeitsplatzgrenzwert
ARW	Arbeitsplatzrichtwert
Alkoholbest	Alkoholbeständig
Anm.	Anmerkung
allg.	allgemein
AOEL	Acceptable Operator Expo Sure Level
ATE	Acute Toxicity Estimate (Schätzwert Akuter Toxizität gemäß der Verordnung (EG) Nr. 1272/2008 (CLP))
BG	Berufsgenossenschaft
BGV	Berufsgenossenschaftliche Vorschrift
BGW	Biologischer Grenzwert (TRGS 903, BRD)
BGW/VLB	Biologisch grenswaarde/Valerur limite bioloique (Belgien)
BGW/VGÜ	Biologischer Grenzwert, Verordnung des Bundesministers für Arbeit und Soziales über die Gesundheits-überwachung am Arbeitsplatz (Österreich)
BOD	Biochemical oxygen demend (biochemischer Sauerstoffbedarf –BSB)
BSEF	Bromine Science and Environmental Forum
Bw	Body weight (Körpergewicht)
bzw.	beziehungsweise
ca.	circa/zirka
CAS	Chemical Abstract Services
CLP	Classification, Lebelling and Packaging (Verordnung (EG) Nr. 1272/2008 über die Einstufung, Kennzeichnung und Verpackung von Stoffen und Gemischen)
GefStoffV	Gefahrstoffverordnung
HMIS	Hazardous Material Identification System
IARC	International Agency for Research on Cancer
JArbSchG	Jugendarbeitsschutzgesetz
LC	Lethal concentration
LD	Lethal dosage
MAK	Maximal workspace concentration
MuSchG	Mutterschutzgesetz

n.a.	Not applicable (nicht anwendbar)
n.g.	nicht geprüft
n.v.	nicht verfügbar
n.d.a.	No data available
n.t.	Not tested
NOAEL	No Observed Adverse Effect Level (Dosis ohne beobachtete schädigende Wirkung)
NOEC	No Observed Effect Level (Tierexperimentell festgelegte höchste Konzentration, bei der keine Wirkung (schädigender Effekt) mehr nachweisbar ist)
OECD	Organisation for Economic Cooperation and Development (Organisation für wirtschaftliche Zusammenarbeit und Entwicklung)
Org.	organisch
PVC	Polyvinylchlorid
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (Verordnung (EG) Nr. 1907/2006 zur Registrierung, Bewertung, Zulassung und Beschränkung chemischer Stoffe)
TRbF	Technical rules for handling flammable liquids
TVA	Technische Verordnung über Abfälle (Schweiz)
TWA	Time Weighted Average
UEV	Eidgenössisches Department für Umwelt, Verkehr, Energie und Kommunikation (Schweiz)
UN RTDG	United Nations Recommendations on the Transport of Dangerous Goods (die Empfehlungen der Vereinten Nationen für die Beförderung gefährlicher Güter)
UV	Ultraviolett
VbF	Directives for flammable liquids Verordnung über brennbare Flüssigkeiten (Österreichische Verordnung)
VeVA	Verordnung über den Verkehr mit Abfällen (Schweiz)
VOC	Volatile organic compounds (flüchtige organische Verbindung)
vPvB	very persistent and very bioaccumulative (sehr persistent und sehr bioakkumulierbar)
WGK	Water hazard class according to VwVwS (Wassergefährdungsklasse gemäß Verwaltungsvorschrift wassegefährdender Stoffe –VwVwS)
WGK3	severely hazardous to waters (stark wassergefährdend)
WGK2	hazardous to waters (wassergefährdend)
WGK1	low hazardous to waters (schwach wassergefährdend)
VCI	Chemical industry alliance (Verband der Chemischen Industrie e.V)
Wwt	wet weight (Feuchtmasse)
VwVwS	Verwaltungsvorschrift für wassergefährdende Stoffe
z. Zt.	Zu Zeit
z.B.	zum Beispiel

This data sheet was written according to 2001/58/EG and TRGS 220. The information in this data sheet shall describe the product with respect to the required safety aspects. The information is not intended to assure certain product properties. The information was collected to the best of the manufacturer's knowledge. They shall not be modified nor applied to other products. No liability.