

1. Product and company information

1.1. Product identification

BORPower S-250

1.2. Product use

Motor oil additive

1.3. Manufacturer and distributor information

1.3.1. Address of manufacturer and distributor

Distributor: NNT Nanotechnology AG
Sony Center
Potsdamer Strasse 4
10785 Berlin, Germany

Manufacturer: NNT Nanotechnoloji Bor Ürünleri ve Seramik Malzemeler Ar-Ge San. Tic. A.Ş.
Karaca İbrahim Mah. Sancaktar Cad.
Seçkin Sitesi No.2
39100 Kırklareli, Turkey

1.3.2. Responsible for the data sheet

See item 1.3.1.

1.4. Product helpline / emergency aid

Helpline distributor:

Phone: +49 (30) 26 39 39 57 Fax: +49 (30) 26 39 78 79

Emergency aid:

Giftnotruf Berlin – Beratungsstelle für Vergiftungserscheinungen
Spandauer Damm 130, 14050 Berlin, Germany

Phone: +49 (30) 19240

Fax: +49 (30) 30686-721

Email: berlintox@giftnotruf.de

2. Details of composition

2.1. Chemical characterization

Mixture of mineral oil, boron nitride and mono-crystalline diamond powder (MCDP).

2.2. Hazardous ingredients

Chemical name	Weight %	Hazard symbol	Risk phrases	CAS	EINECS, ELINCS
Mineral oil	65%	N	R51,53	92045-45-9	295-426-9
Boron nitride (MCDP)	8%	Xi	R36,37	10043-11-5	233-136-6
Boron nitride	27%	Xi	R36,37	10043-11-5	233-136-6

Notes: Classification and identification of the ingredients, text of the risk and safety phrases: see item 15.

The active ingredient of the product is classified as non-hazardous according to 1999/45/EG, OSHA and ACGIH as well as under EPA or SARA guidelines. No regulations exist regarding its use, transport or disposal.

3. Possible hazards

3.1. For the human being

See item 11 and 15, in particular R-Phrases 36 and 37.

Product can cause allergic reactions.

3.2. For the environment

See item 12 and 15, in particular R-Phrases 51 and 53.

Product can cause a film on water surfaces that inhibits the oxygen exchange.

4. First-aid measures

4.1. Inhaling

High concentrations of spray may be irritating to the respiratory tract, including nose and throat.

Supply person with fresh air immediately.

Consult physician if respiratory problems persist. Carry on safety data sheet.

If there is difficulty breathing or if breathing has stopped, oxygen or artificial respiration should be administered by qualified personnel.

4.2. Eye contact

Contact may cause slight to moderate irritation, including burning, tearing, and redness.

Rinse with water thoroughly for several minutes.

Consult physician if eye irritation persists. Carry on safety data sheet.

4.3 Skin contact

Contact may cause skin irritation.

Prolonged or repeated contact may cause redness, burning, and dermatitis.

Rinse with water and soap thoroughly.

Remove exposed cloth items immediately.

Consult physician if skin irritation such as redness persists. Carry on safety data sheet.

4.4. Swallowing

May cause irritation of the digestive tract, nausea and vomiting.

Rinse mouth and drink water for dilution.

Do not induce regurgitation.

Consult physician immediately. Carry on safety data sheet.

Aspiration during ingestion, gastric lavage or vomiting may cause mild to severe pulmonary injury.

Subsequent monitoring is required for pneumonia and pulmonary edema.

Administration of gastric lavage, if required, should be performed by qualified medical personnel

4.5. Required material for first-aid

n.d.a.

5. Measures during fire fighting

5.1. Suitable extinguishing agents

CO₂, Foam, Water spray, Sand.

5.2. Unsuitable extinguishing agents due to safety reasons

Water jet.

5.3. Possible hazards during product burn-up (combustion residues and/or combustion gases)

In case of fire the following residues and gases can be produced:

carbon oxides, soot, nitrogen oxides, organic combustion residues, inflammable spray-air mixtures.

5.4. Required protective equipment for fire fighting

Self-contained breathing apparatus.

Inherent protection for large fires.

5.5. Other advices

Dispose contaminated fire water according to the regulatory instructions.

6. Measures in case of accidental release

See item 13. Individual protective equipment see item 8.

6.1. Person-related preventive measures

Avoid eye and skin contact as well as inhalation.

Maintain adequate ventilation.

Keep out ignition sources.

Wear protective clothing.

Slip hazard due to leaking or spilled product.

Do not put cloths soaked with product into trouser pockets

6.2. Environmental preventive measures

Confine the release of large product quantities.

Do not let the product leak into the sewer system.

Do not let the product contaminate surface and ground water as well as the soil.

Inform responsible authorities in case of accidental release of large product quantities.

Contain released product with liquid binding material.

6.3. Cleaning procedures

Contain released product with liquid binding material and dispose according to item 13.

7. Handling and storage

7.1. Handling

See item 6.1.

Maintain adequate ventilation.

Avoid eating, drinking, smoking as well as the storage of food in the workspace.

Wash hands thoroughly when leaving the workspace.

Apply the general hygiene measures when handling chemicals.

If applicable, apply measures against electro-static charging.

Follow the advices on the product label and the user manual.

If applicable, monitor exposed workers medically regularly.

Keep the product containers closed if they are not in use or empty.

7.2. Storage

7.2.1. Requirements on storage rooms and containers

Do not store product in passage ways and stairways.

Store the product in original containers, only.

Material safety data sheet according to 91/155/EWG

Written: 08/11/07 Replaces data sheet from: 05/26/07 Printed: -

Product: BORPower S-250



7.2.2. Remarks

See item 10.2.

Keep away from moisture.

Keep the product containers closed.

8. Exposition limitation and personal protective equipment

Maintain adequate ventilation using local or room-wide off-take system. If these measures do not keep the concentration below the AGW- or MAK-limit, wear a suitable inhalation protection.

Country	Chemical name	AGW-value	BGW-value
Germany	Mineral oil fog	5 mg/m ³ (TLV-ACGIH)	

Country	Chemical name	MAK-value	BAT-value
Switzerland	Mineral oil fog	0.2 mg/m ³ (TLV-ACGIH)	

8.1. Inhalation protection

Keep away from heat, sparks and flames. Avoid contact with eyes and skin, and avoid breathing vapors or mists. Avoid generating oil sprays. If the AGW- or MAK-limit is exceeded, use filter A - P2 (EN 141).

8.2. Hand protection

Use latex, neoprene, nitrile rubber, or equivalent protective gloves to prevent contact with the skin (EN 374). Use of protective hand lotion is recommended.

8.3. Eye protection

If there is a likelihood of a spill or splash, wear safety goggles (EN 166), tight, with sides protection against splatter.

8.4. Body protection

Protective clothing (e.g. safety shoes EN 344, long-sleeved workwear) where spills and splashes are possible. Clean water should be available in work areas for rinsing the eyes and skin if necessary.

Additional information for hand protection: No further tests were carried out. The information in this section was collected to the best of the manufacturer's knowledge about the type and amount of the product's ingredients. The protective equipment was selected according to the data provided by the glove manufacturer. The final equipment selection (glove material) must take into account the break-through time, permeation rates and degradation rate. The selection of a suitable protective glove depends as well on the quality of the glove manufacturing process, which may alter over time as well as in between the manufacturers. For each preparation, the durability of the glove material must be tested before use, since it cannot be easily predicted. The exact break-through time of the glove material must be obeyed as indicated by the glove manufacturer.

9. Physical and chemical properties

Parameter	Typical value	Measurement method
Consistency	viscous	ASTM D97
Color	cream-colored	ASTM D1500
Odor	oily	
pH value (10% solution)	n.a.	

Material safety data sheet according to 91/155/EWG

Written: 08/11/07 Replaces data sheet from: 05/26/07 Printed: -

Product: BORPower S-250



Parameter	Typical value	Measurement method
Viscosity at 40°C	12,02 mm ² /s	ASTM D-445
Viscosity at 100°C	2,88 mm ² /s	ASTM D-445
Viscosity class	SAE 20W-50	ASTM D4683
Melting point	n.a.	
Boiling point	420 °C	ASTM D1120
Flashing point	320 °C (C.O.C)	ASTM D92
Auto ignition	n.a.	
Lower explosion limit	1 vol.% (spray)	
Upper explosion limit	10 vol.% (spray)	
Thermal resistance of active ingredient	at most 1340 °C	ASTM C1045-01
Hardness of active ingredient	9-10 Mohs	Mohs hardness scale
Chemical reactivity	inert	ASTM D4636
Density of active ingredient	2,2 g/cm ³	ASTM D6683-01
Density of oil base (mineral oil)	0,88 g/cm ³	ASTM D6683-01
Density of product	1,1 g/cm ³	ASTM D6683-01
Water solubility	insoluble	ASTM D1401

10. Stability and reactivity

10.1. Avoidable conditions

No avoidable conditions exist in case of proper handling and storage (product is stable).

Keep away from moisture, open fire and ignition sources.

Keep the product containers closed.

See also item 7.

10.2. Avoidable materials

Strong oxidants and other chemicals.

See also item 7.

10.3. Hazardous decomposition residues

See item 5.3.

10.4. Remarks

Produkt is stable and not reactive with water.

Hazardous polymerization or decomposition do not occur under normal temperatures and pressures.

11. Toxicology

11.1. Acute toxicity and immediate impacts

Swallowing, LD50 rat oral (mg/kg): >50000 mg/kg

Inhaling, LC50 rat inhaled (mg/l/4h): n.d.a.

Skin contact, LD50 rat dermal (mg/kg): n.d.a.

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.

Material safety data sheet according to 91/155/EWG

Written: 08/11/07 Replaces data sheet from: 05/26/07 Printed: -

Product: BORPower S-250



Mutagenic effects: n.d.a.
Teratogenic effects: n.d.a.
Narcotic effects: n.d.a.

11.3. Remarks

The following may occur:

Dry-up or irritation of skin. Allergic sensitization through skin exposure.

12. Ecological information

Water hazard class: WGK2.
Self-classification: Yes (according to VwVwS).
Persistency and biodegradability: Not easily biodegradable.
Measures in sewage processing plants: Mechanical interception is possible.
Aquatic toxicity: See item 3 and 12.
Ecological toxicity: n.d.a.

13. Disposal information

13.1. For the product / preparation / remaining quantity

Contaminated cloths, paper and other organic material pose a fire hazard and must be collected and disposed in a controlled manner.

The following disposal EG disposal key numbers are recommendations for the intended product use:

07 06 99: Litter e.n.m.

13 02 05: Non-chlorinated machine-, engine- and lubricant oils with mineral oil basis.

If the end user has other means of using the product it may be possible that other key numbers apply.

Follow laws of local disposal authorities (e.g., dispose at suitable dumpsite or combuster).

13.2. For contaminated package material

See item 13.1.

Follow laws of local disposal authorities.

14. Transport information

14.1. General information

UN-Number: n.a.

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.

14.2. Street and railway transport (GGVSE/ADR/RID)

Class/Package group: n.a.

Classification code: n.a.

LQ: n.a.

14.3. Transport with seagoing vessels

GGVSee/IMDG-Code: n.a. (Class/Package group)

EmS-Nr.: n.a.

Marine Pollutant: n.a.

Material safety data sheet according to 91/155/EWG

Written: 08/11/07 Replaces data sheet from: 05/26/07 Printed: -

Product: BORPower S-250



14.4. Transport with plains

IATA: n.a. (Class/Hazard/Package group)

14.5. Remarks

Not identifies as a hazardous good.

15. Regulatory information

15.1. Identification according to 67/548/EWG and 1999/45/EG

Identification is required: Yes.

Exceptions are applicable: Yes.

Hazard identification according to HMIS:

0 = Minimal

1 = Slight

2 = Moderate

3 = Serious

4 = Severe

Health:	1
Fire:	1
Reactivity:	0

Hazard symbol(s):



Dangerous for the environment.



Irritant.

Risk phrases:

R 20/22: Harmful by inhalation and if swallowed.

R 36/37/38: Irritates the eyes, the respiratory system and the skin.

R 51: Poisonous for water organisms.

R 53: Can yield long-term hazardous effects in water.

Safety phrases:

S 2: Keep out of the reach of children.

S 23: Do not breathe spray.

S 24: Avoid contact with skin.

S 25: Avoid contact with eyes.

S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 27: Take off immediately all contaminated clothing.

S 28: After contact with skin, wash immediately with plenty of water.

S 29: Do not empty into drains.

S 33: Take precautionary measures against static discharges.

S 35: This material and its container must be disposed of in a safe way.

S 36: Wear suitable protective clothing.

S 37: Wear suitable gloves.

S 38: In case of insufficient ventilation, wear suitable respiratory equipment.

S 39: Wear eye/face protection.

S 46: If swallowed, seek medical advice immediately and show this container or label.

S 61: Avoid release to the environment. Refer to special instructions/ safety data sheets.

The identification shown above applies to the private and commercial end user.

15.2. National regulations

Employment limitation according to MuSchG/JArbSchG applicable: Yes.

Savekeeping obligation according to §24 GefStoffV applicable: Yes.

Statutory order on hazardous incidents applicable: No.

Material safety data sheet according to 91/155/EWG

Written: 08/11/07 Replaces data sheet from: 05/26/07 Printed: -

Product: BORPower S-250



Technical manual air:	Class number range m%.
Water hazard class:	WGK2 according to VwVwS.
TRGS 514 applicable:	No.
TRGS 515 applicable:	No.
TRG 300 applicable:	No.
WRMG applicable:	No.
Harmful according to §2 Abs. 3 of packaging ordinance:	No.
Other regulations:	Waste oil directive.

16. Miscellaneous information

All information in this data sheet applies to the product right after shipping.

Changed or replaced items: n.a.

Legend

ACGIH	American Conference of Government and Industrial Hygienists
AGW	Arbeitsplatzgrenzwert
ARW	Arbeitsplatzrichtwert
BAT	Biological workspace tolerance
BEI	Biological Exposure Indices
BGW	Biologischer Grenzwert
CAS	Chemical Abstract Services
EPA	Environmental Protection Agency
EINECS	European Index for New and Existing Chemical Substances
ELINCS	European List of Notified Chemical Substances
e.n.m.	elsewhere not mentioned
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
MCDP	Mono-crystalline diamond powder
MuSchG	Mutterschutzgesetz
n.a.	Not applicable
n.d.a.	No data available
n.t.	Not tested
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
SARA	Superfund Amendments and Reauthorization Act
TRK	Technical benchmark concentration
TLV	Threshold Limit Values
TRbF	Technical rules for handling flammable liquids
TWA	Time Weighted Average
VbF	Directives for flammable liquids
WGK	Water hazard class according to VwVwS
	WGK3: severely hazardous to waters
	WGK2: hazardous to waters
	WGK1: low hazardous to waters

Material safety data sheet according to 91/155/EWG

Written: 08/11/07 Replaces data sheet from: 05/26/07 Printed: -

Product: BORPower S-250



VCI Chemical industry alliance
VwVwS Verwaltungsvorschrift für wassergefährdende Stoffe

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.

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