Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name/designation	Boric acid
Product No.	PRD5116
Substance name	ortho-Boric acid
CAS No.	10043-35-3
INDEX no.	005-007-00-2
REACH registration No.	01-2119486683-25
other means of identification	Boric acid

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

Relevant identified uses	for laboratory use and chemical production.

1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

: Better Equipped,
Wrenbury Business Park,
Wrenbury Road,
Wrenbury,
Nantwich, Cheshire,
CW5 8EB, UK

Telephone	+44 (0) 800 9707142
Fax	+44 (0) 800 066 4443
E-mail address	sales@betterequipped.co.uk

1.4 Emergency telephone

Telephone	+44 (0)1270 781238

2. Hazards identification

2.1 Classification of the substance or mixture

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

hazard classes and hazard categories	Hazard Statements	classification procedure	remark
Reproductive toxicity, catagory 1B	H360FD		

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

Hazard symbols:	R-phrases
T	R60
T	R61

2.2 Label elements

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

Signal word Danger

Hazard Statements

H360FD	May damage fertility. May damage the unborn child.

Precautionary statements

P201	Obtain special instructions before use.
P281	Use personal protective equipment as required.
P308+P313	IF exposed or concerned: Get medical advice/attention.

2.2.2 Labelling (67/548/EEC or 1999/45/EC)

Hazard symbols:

T

R-phrases

R60	May impair fertility.
R61	May cause harm to the unborn child.

S-phrases

S53	Avoid exposure - obtain special instructions before use.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3 Other hazards

SVHC Yes

---

3. Composition/ Information on ingredients

Molecular formula	$B(OH)_3$
Molecular weight (g/mol)	61.83 g/mol
CAS No.	10043-35-3

EC No	233-139-2
INDEX no.	005-007-00-2

---

4. First-aid measures

4.1 General information

IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

4.2 After inhalation

Call a POISON CENTER or doctor/physician. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

4.3 In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

4.4 After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

4.5 After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do not induce vomiting. Give nothing to eat or drink.

4.6 Self-protection of the first aider

First aider: Pay attention to self-protection!

4.7 Information to physician:

Symptoms	No data available
Hazards	No data available
Treatment	No data available

---

5. Firefighting measures

5.1 Suitable extinguishing media

The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

5.2 Extinguishing media which must not be used for safety reasons:

no restriction

5.3 Special hazards arising from the substance or mixture

In case of fire may be liberated: Pyrolysis products, toxic

5.4 Advice for firefighters

DO NOT fight fire when fire reaches explosives. In case of fire: Wear self-contained breathing apparatus.

5.5 Additional information

Do not allow run-off from fire-fighting to enter drains or water courses. Do not inhale explosion and combustion gases. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen. Use water spray jet to protect personnel and to cool endangered containers.

---

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid generation of dust. Do not breathe dust. Provide adequate ventilation. Use personal protection equipment.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. Make sure spills can be contained, e.g. in sump pallets or kerbed areas. Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Take up dust-free and set down dust-free. Collect in closed and suitable containers for disposal.

6.4 Additional information

Clear spills immediately.

---

7. Handling and storage

7.1 Precautions for safe handling

All work processes must always be designed so that the following is as low as possible: Inhalation. skin contact eye contact. If handled uncovered, arrangements with local exhaust ventilation have to be used. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means. Handle under (Gas): Protective gas, dry.

7.2 Conditions for safe storage, including any incompatibilities

storage temperature	15-25°C

Keep container tightly closed in a cool, well-ventilated place.

7.3 Specific end use(s)

No data available

---

8. Exposure controls / Personal protection

8.1 Control parameters

Does not contain substances above concentration limits fixing an occupational exposure limit.

8.2 Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

8.3 Personal protective equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn.

8.3.1 Eye / face protection

Eye glasses with side protection DIN-/EN-Norms: DIN EN 166

8.3.2 Skin protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. Recommended glove articles DIN-/EN-Norms: DIN EN 374 In the case of wanting to use the gloves again, clean them before taking off and air them well.

By short-term hand contact	
Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material	0,12 mm
Breakthrough time (maximum wearing time)	>480 min
Recommended glove articles	VWR 112-0998
By long-term hand contact	
Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material	0,38 mm
Breakthrough time (maximum wearing time)	>480 min
Recommended glove articles	VWR 112-3717 / 112-1381

8.3.3 Protective clothing

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

8.3.4 Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Suitable respiratory protection apparatus:	Filtering Half-face mask (DIN EN 149)
Recommendation	VWR 111-0451
Suitable material:	P3
Recommendation	No data available

8.4 Additional information

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

---

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a) Appearance	
Physical state	solid
Colour	white
(b) Odour	No data available
(c) Odour threshold	No data available

Safety relevant basic data

(d) pH	No data available
(e) Melting point/freezing point	185°C
(f) Initial boiling point and boiling range	185°C (1013 hPa)
(g) Flash point	No data available
(h) Evaporation rate	No data available
(i) Flammability (solid, gas)	not applicable
(j) Upper/lower flammability or explosive limits	
Lower explosion limit (Vol-%)	No data available
Upper explosion limit (Vol-%)	No data available
(k) Vapour pressure	2,7 hPa (20°C)
(l) Vapour density	No data available
(m) Relative density	1.44 g/cm³ (25°C)
(n) Solubility(ies)	
Water solubility (g/l)	46,5 g/l (20°C)
at °C:	20
Soluble (g/l) in	No data available
(o) Partition coefficient: n-octanol/water	0.757 (25°C)
(p) Auto-ignition temperature	No data available
(q) Decomposition temperature	No data available
(r) Viscosity	
Kinematic viscosity	No data available
Dynamic viscosity	No data available
(s) Explosive properties	not applicable
(t) Oxidising properties	not applicable

9.2 Other information

Bulk density	No data available
refraction index	1.462 (589 nm, 25°C)
dissociation constant	No data available
Surface tension	No data available
Henry constant	No data available

10. Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

No data available

10.7 Additional information

No data available

11. Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity	
Effective dose	LD50: 2660 mg/kg
species:	rat
Exposure time	
remark	
source	RTECS

Acute dermal toxicity	
Effective dose	LD50: Min. 2000 mg/kg
species:	rat
Exposure time	
remark	
source	IUCLID

Acute inhalation toxicity

Effective dose	No data available
species:	No data available
Exposure time	
remark	
source	

Irritant and corrosive effects

Primary irritation to the skin

Exposure time	
species:	
Result	

Irritation to eyes

Exposure time	
species:	
Result	

Irritation to respiratory tract

Exposure time	
species:	
Result	

Sensitisation

In case of skin contact	not sensitising.
After inhalation	not sensitising.

Specific target organ toxicity (single exposure)

not relevant

Specific target organ toxicity (repeated exposure)

not relevant

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

No indication of human carcinogenicity.

Germ cell mutagenicity/Genotoxicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

May damage fertility. May damage the unborn child.

Aspiration hazard

not relevant

11.2 Other adverse effects

No data available

11.3 Additional information

No data available

---

12. Ecological information

12.1 Ecotoxicity

Acute (short-term) fish toxicity

LC50:	No data available
EC50	
species:	
Exposure time	

Chronic (long-term) fish toxicity

LC50:	No data available
EC50	
species:	
Exposure time	

Acute (short-term) daphnia toxicity

LC50:	No data available
EC50	
species:	
Exposure time	

Chronic (long-term) daphnia toxicity

LC50:	No data available
EC50	
species:	
Exposure time	

Acute (short-term) algae toxicity

LC50:	No data available
EC50	
species:	
Exposure time	

Chronic (long-term) algae toxicity

LC50:	No data available
EC50	
species:	
Exposure time	

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

(o) Partition coefficient: n-octanol/water	0.757 (25°C)

12.4 Mobility in soil

No data available

12.5 Results of PBT assessment

No data available

12.6 Other adverse effects

No data available

---

13. Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product	No data available

Appropriate disposal / Package

13.2 Additional information

No data available

---

14. Transport information

14.1 Land transport (ADR/RID)

No dangerous good in sense of these transport regulations.

14.2 Sea transport (IMDG)

No dangerous good in sense of these transport regulations.

14.3 Air transport (ICAO-TI / IATA-DGR)

No dangerous good in sense of these transport regulations.

14.4 Additional information

No data available

---

15. Regulatory information

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

Water hazard class (WGK) 1

15.2 Chemical Safety Assessment

No data available

---

16. Other information

16.1 Relevant R-, H- and EUH-phrases (Number and full text)

R60	May impair fertility.
R61	May cause harm to the unborn child.

H360FD	May damage fertility. May damage the unborn child.

16.2 Additional information

Indication of changes

general update

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.