

*SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006*

**Boric acid**

Version 3.0

Print Date 2012/05/22

Revision Date 2012/05/22

**MSDS code: MBAC100**

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

**1.1. Product identifier**

Trade name : Boric acid  
 Substance name : boric acid  
 Index-No. : 005-007-00-2  
 CAS-No. : 10043-35-3  
 EC-No. : 233-139-2  
 Registration number : 01-2119486683-25-xxxx

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

Use of the Substance/Mixture : At this time we do not yet have information on identified uses. They will be included in this safety data sheet when available.

Uses advised against : At this moment we have not identified any uses advised against

**1.3. Details of the supplier of the safety data sheet**

Company : Brenntag UK & Ireland  
 Albion House, Rawdon Park  
 GB LS19 7XX Leeds Yeadon  
 Telephone : 0113 3879 200  
 Telefax : 0113 3879 280  
 E-mail address : msds@brenntag.co.uk

**1.4. Emergency telephone number**

Emergency telephone number : Emergency only telephone number (open 24 hours):  
 01865 407333 (N.C.E.C. Culham)

**2. Hazards identification**

**2.1. Classification of the substance or mixture**

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

REGULATION (EC) No 1272/2008			
Hazard class	Hazard category	Target Organs	Hazard statements
Reproductive toxicity	Category 1B	---	H360FD

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For the full text of the H-Statements mentioned in this Section, see Section 16.

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Directive 67/548/EEC or 1999/45/EC	
Hazard symbol / Category of danger	Risk phrases
Toxic to Reproduction Category 2 (Repr.Cat.2)	R60, R61


For the full text of the R-phrases mentioned in this Section, see Section 16.

**Most important adverse effects**

- Human Health : See section 11 for toxicological information.
- Physical and chemical hazards : See section 9 for physicochemical information.
- Potential environmental effects : See section 12 for environmental information.

**2.2. Label elements**

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

- Hazard symbols : 
- Signal word : Danger
- Hazard statements : H360FD May damage fertility. May damage the unborn child.
- Precautionary statements
- Prevention : P202 Do not handle until all safety precautions have been read and understood.  
P281 Use personal protective equipment as required.
- Response : P308 + P313 IF exposed or concerned: Get medical

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Storage : P405 advice/ attention.  
Store locked up.

**Additional Labelling:**

Restricted to professional users.

**Hazardous components which must be listed on the label:**

- boric acid

**2.3. Other hazards**

For Results of PBT and vPvB assessment see section 12.5.

**3. Composition/information on ingredients**

**3.1. Substances**

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)		Classification (67/548/EEC)
		Hazard class / Hazard category	Hazard statements	
<b>boric acid</b>				
Index-No. : 005-007-00-2		Repr.1B	H360FD	Repr.Cat.2; R60- R61
CAS-No. : 10043-35-3				
EC-No. : 233-139-2	<= 100			
Registration : 01-2119486683-25-xxxx				
C&L-No. : 02-2119752829-22-0000				

Remarks : This product contains a substance included on the candidate list according to article 59 (1, 10) of regulation EC No. 1907/2006 ('REACH') in a concentration  $\geq 0.1\%$  w/w.

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

**4. First aid measures**

**4.1. Description of first aid measures**

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General advice	: Take off all contaminated clothing immediately.
If inhaled	: Move to fresh air. If symptoms persist, call a physician.
In case of skin contact	: Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. If eye irritation persists, consult a specialist.
If swallowed	: Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. After swallowing of large quantities induce vomiting. Call a physician immediately.

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

Symptoms	: Vomiting, Dizziness, Diarrhoea
Effects	: No information available.

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

Treatment	: Treat symptomatically.No further information available.
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**5. Firefighting measures**

**5.1. Extinguishing media**

Suitable extinguishing media	: The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	: No information available.

**5.2. Special hazards arising from the substance or mixture**

Specific hazards during firefighting	: Hazardous decomposition products formed under fire conditions.
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**5.3. Advice for firefighters**

Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus.Use personal protective equipment.
Further information	: Collect contaminated fire extinguishing water separately. This

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must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment. Avoid contact with the skin and the eyes. Do not breathe dust.

**6.2. Environmental precautions**

Environmental precautions : Should not be released into the environment. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

**6.3. Methods and materials for containment and cleaning up**

Methods and materials for containment and cleaning up : Use mechanical handling equipment. Keep in suitable, closed containers for disposal.

Further information : Treat recovered material as described in the section "Disposal considerations".

**6.4. Reference to other sections**

See Section 1 for emergency contact information.  
See Section 8 for information on personal protective equipment.  
See Section 13 for waste treatment information.

**7. Handling and storage****7.1. Precautions for safe handling**

Advice on safe handling : Keep container tightly closed. Use personal protective equipment. Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with the skin and the eyes. Avoid dust formation. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area.

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Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately. Keep working clothes separately. Avoid contact with skin, eyes and clothing. Do not breathe dust.

**7.2. Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Store in a place accessible by authorized persons only. Store in original container.

Advice on protection against fire and explosion : Normal measures for preventive fire protection. The product is not flammable.

Further information on storage conditions : Keep tightly closed in a dry and cool place.

Advice on common storage : Keep away from food, drink and animal feedingstuffs. Materials to avoid: Oxidizing and spontaneously flammable products

**7.3. Specific end uses**

Specific use(s) : No information available.

**8. Exposure controls/personal protection**

**8.1. Control parameters**

**Other Occupational Exposure Limit Values**

(Additional) Information : Contains no substances with occupational exposure limit values.

**Component: boric acid**

**CAS-No.  
10043-35-3**

**Derived No Effect Level (DNEL)**

Workers, Long-term - systemic effects, Inhalation : 8.3 mg/m<sup>3</sup>

Workers, Long-term - systemic effects, Skin contact : 392 mg/kg bw/day

Consumers, Acute - systemic effects, Ingestion : 0.98 mg/kg bw/day

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Consumers, Long-term - systemic effects, Skin contact	:	196 mg/kg bw/day
Consumers, Long-term - systemic effects, Inhalation	:	4.15 mg/m <sup>3</sup>
Consumers, Long-term - systemic effects, Ingestion	:	0.98 mg/kg bw/day

**Predicted No Effect Concentration (PNEC)**

Fresh water	:	1.35 mg/l
Marine water	:	1.35 mg/l
Intermittent releases	:	9.1 mg/l
Sewage treatment plant (STP)	:	1.75 mg/l
Sediment (Fresh water) Related to, dry weight	:	1.8 mg/kg
Sediment (Marine water) Related to, dry weight	:	1.8 mg/kg
Soil Related to, dry weight	:	5.4 mg/kg

**8.2. Exposure controls**

**Appropriate engineering controls**

Refer to protective measures listed in sections 7 and 8.

**Personal protective equipment**

*Respiratory protection*

Advice : Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).  
Recommended Filter type:  
Particle filter:P2  
Particle filter:P3

*Hand protection*

Advice : The glove material has to be impermeable and resistant to the product / the substance / the preparation.  
Take note of the information given by the producer concerning permeability and break through times, and of special workplace

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conditions (mechanical strain, duration of contact).  
Protective gloves should be replaced at first signs of wear.  
The following information applies to aqueous, saturated solutions.

Material : Natural Rubber  
Break through time :  $\geq 8$  h  
Glove thickness : 0.5 mm

Material : polychloroprene  
Break through time :  $\geq 8$  h  
Glove thickness : 0.5 mm

Material : Nitrile rubber  
Break through time :  $\geq 8$  h  
Glove thickness : 0.35 mm

Material : butyl-rubber  
Break through time :  $\geq 8$  h  
Glove thickness : 0.5 mm

Material : Fluorinated rubber  
Break through time :  $\geq 8$  h  
Glove thickness : 0.4 mm

Material : Polyvinylchloride  
Break through time :  $\geq 8$  h  
Glove thickness : 0.5 mm

*Eye protection*

Advice : Safety glasses

*Skin and body protection*

Advice : Wear suitable protective clothing.

**Environmental exposure controls**

General advice : Should not be released into the environment.  
If the product contaminates rivers and lakes or drains inform  
respective authorities.



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If material reaches soil inform authorities responsible for such cases.

**9. Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Form	:	solid
Colour	:	white
Odour	:	odourless
Odour Threshold	:	no data available
pH	:	3.7 (47 g/l; 20 °C)
Melting point/range	:	171 °C
Boiling point/boiling range	:	not applicable
Flash point	:	not applicable
Evaporation rate	:	not applicable
Flammability (solid, gas)	:	The product is not flammable.
Upper explosion limit	:	not applicable
Lower explosion limit	:	not applicable
Vapour pressure	:	not applicable
Relative vapour density	:	not applicable
Density	:	ca. 1.51 g/cm <sup>3</sup> (20 °C)
Water solubility	:	47 g/l (20 °C)
Partition coefficient: n-octanol/water	:	not applicable
Ignition temperature	:	not applicable

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Thermal decomposition	:	169 °C
Viscosity, kinematic	:	not applicable
Explosive properties	:	EU legislation: Not explosive
Explosivity	:	Product is not explosive.
Oxidizing properties	:	no data available

**9.2. Other information**

Molecular Weight	:	61.83 g/mol
Bulk density	:	ca. 900 kg/m <sup>3</sup>

**10. Stability and reactivity****10.1. Reactivity**

Advice : Stable under recommended storage conditions.

**10.2. Chemical stability**

Advice : No decomposition if stored and applied as directed.

**10.3. Possibility of hazardous reactions**

Hazardous reactions : May release hydrogen by reaction with alkali metals. Risk of explosion.

**10.4. Conditions to avoid**

Conditions to avoid : At heating water will be lost.  
Thermal decomposition : 169 °C

**10.5. Incompatible materials**

Materials to avoid : strong reducing agents, Alkali metals

**10.6. Hazardous decomposition products**

Hazardous decomposition : Decomposes on heating. boric oxide, Water

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products

**11. Toxicological information****11.1. Information on toxicological effects****Acute toxicity****Oral**

Please find this information in the listing of the component/components below in the MSDS.

**Inhalation**

Please find this information in the listing of the component/components below in the MSDS.

**Dermal**

Please find this information in the listing of the component/components below in the MSDS.

**Irritation****Skin**

Please find this information in the listing of the component/components below in the MSDS.

**Eyes**

Please find this information in the listing of the component/components below in the MSDS.

**Sensitisation**

Please find this information in the listing of the component/components below in the MSDS.

**CMR effects**

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**MSDS code: MBAC100****CMR Properties**

- Carcinogenicity : Please find this information in the listing of the component/components below in the MSDS.
- Mutagenicity : Please find this information in the listing of the component/components below in the MSDS.
- Teratogenicity : Please find this information in the listing of the component/components below in the MSDS.
- Reproductive toxicity : Please find this information in the listing of the component/components below in the MSDS.

**Specific Target Organ Toxicity****Single exposure**

- remark : The substance or mixture is not classified as specific target organ toxicant, single exposure.

**Repeated exposure**

- remark : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Other toxic properties****Aspiration toxicity**

No aspiration toxicity classification

**Component: boric acid****CAS-No.  
10043-35-3****Acute toxicity****Oral**

- LD50 Oral : > 2600 mg/kg (rat) (OECD Test Guideline 401)

**Inhalation**

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no data available

**Dermal**

LD50 Dermal : &gt; 2000 mg/kg (rabbit)

**Irritation****Skin**

No skin irritation

**Eyes**

No eye irritation

**Sensitisation**

not sensitizing (Buehler Test; guinea pig) (OECD Test Guideline 406)

**CMR effects****CMR Properties**

Carcinogenicity : no data available

Mutagenicity : no data available

Teratogenicity : no data available

Reproductive toxicity : May damage fertility. May damage the unborn child.  
Toxic to reproduction**Other toxic properties****Aspiration toxicity**

No aspiration toxicity classification

**12. Ecological information**

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**12.1. Toxicity**

Component: boric acid		CAS-No. 10043-35-3
<b>Acute toxicity</b>		
<b>Fish</b>		
LC50	:	456 mg/l (Pimephales promelas (fathead minnow); 96 h)
<b>Toxicity to daphnia and other aquatic invertebrates</b>		
EC50	:	760 mg/l (Daphnia magna; 48 h)
<b>algae</b>		
EC50	:	229 mg/l (Pseudokirchneriella subcapitata (green algae); 72 h)

**12.2. Persistence and degradability**

Persistence and degradability		
<b>Persistence</b>		
Result	:	no data available
Component: boric acid		CAS-No. 10043-35-3
<b>Persistence and degradability</b>		
<b>Biodegradability</b>		
Result	:	The methods for determining the biological degradability are not applicable to inorganic substances.

**12.3. Bioaccumulative potential**

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**MSDS code: MBAC100****Component: boric acid****CAS-No.****10043-35-3****Bioaccumulation**

Result : Bioaccumulation is not expected.

**12.4. Mobility in soil****Component: boric acid****CAS-No.****10043-35-3****Mobility**

Water : The product is water soluble.

Soil : Not expected to adsorb on soil.

**12.5. Results of PBT and vPvB assessment****Component: boric acid****CAS-No.****10043-35-3****Results of PBT and vPvB assessment**

Result : not applicable

**12.6. Other adverse effects****Additional ecological information**

Result : Do not flush into surface water or sanitary sewer system.

**13. Disposal considerations****13.1. Waste treatment methods**

Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let

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product enter drains. Contact waste disposal services.

Contaminated packaging : Dispose of contaminated packaging in the same way as the product.

European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

**14. Transport information**

Not dangerous goods for ADR, RID and IMDG.

**14.1. UN number**

Not applicable.

**14.2. UN proper shipping name**

Not applicable.

**14.3. Transport hazard class(es)**

Not applicable.

**14.4. Packaging group**

Not applicable.

**14.5. Environmental hazards**

Not applicable.

**14.6. Special precautions for user**

Note : not applicable

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

IMDG : Not applicable.

**15. Regulatory information**



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

UK ISR : boric acid: Annual reporting level threshold: 5,000 kg  
 Other regulations : Occupational restrictions: Take note of Dir 92/85/EEC on the safety and health of pregnant workers at work and of Dir 94/33/EC on the protection of young people at work.

**boric acid**

EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC)  
 Decision Number: ED/30/2010 EC Number/Date of inclusion: 18/06/2010  
 Reproductive toxicity

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC)  
 Listed Point Nos.: 3

**Notification status**

**boric acid:**

Regulatory List	Notification	Notification number
AICS	YES	
DSL	YES	
EINECS	YES	233-139-2
ENCS (JP)	YES	(1)-63
INV (CN)	YES	
ISHL (JP)	YES	(1)-63
JEX (JP)	YES	(1)-63
KECI (KR)	YES	KE-03499
NZIOC	YES	HSR002995
PICCS (PH)	YES	
TSCA	YES	

**15.2. Chemical Safety Assessment**

Currently we do not have any information from our supplier about this.

**16. Other information**

**Full text of R-phrases referred to under sections 2 and 3.**

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

**Full text of H-Statements referred to under sections 2 and 3.**

H360FD May damage fertility. May damage the unborn child.

**Further information**

Other information : Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text

|| Indicates updated section.