

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006  
Version 1.0 Revision Date 20.08.2014  
GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

### 1.1 Product identifiers

Product name : Boric acid

Product Number : 147

Brand : Zeus

Index-No. : 005-007-00-2

REACH No. : 01-2119486683-25-XXXX

CAS-No. : 10043-35-3

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

Identified uses : Restoration, Laboratory chemicals, Manufacture of substances

### 1.3 Details of the supplier of the safety data sheet

Company : Zentrum für Energie- und Umweltstudien GmbH  
Siemensstrasse 19  
I-39100 Bozen

Telephone : +39 0471 068190

Fax : +39 0471 06891

E-mail address : [info@zeus-bz.it](mailto:info@zeus-bz.it)

### 1.4 Emergency telephone number

Emergency Phone # : +49 3019240 (Giftnotruf Universitätsmedizin Berlin)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

Reproductive toxicity (Category 1B), H360FD

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

R60, R61

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

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008

Pictogram	
Signal word	Danger
Hazard statement(s) H360FD	May damage fertility. May damage the unborn child.
Precautionary statement(s) P201 P308 + P313	Obtain special instructions before use. IF exposed or concerned: Get medical advice/ attention.
Supplemental Hazard Statements	none

Restricted to professional users.

## 2.3 Other hazards - none

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Formula :  $\text{H}_3\text{BO}_3$   
Molecular Weight : 61,83 g/mol  
CAS-No. : 10043-35-3  
EC-No. : 233-139-2  
Index-No. : 005-007-00-2  
Registration number : 01-2119486683-25-XXXX

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
<b>Boric acid</b> Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
CAS-No. 10043-35-3	Repr. 1B; H360FD	<= 100 %
EC-No. 233-139-2		
Index-No. 005-007-00-2		
Registration number 01-2119486683-25-XXXX		

#### Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
<b>Boric acid</b> Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
CAS-No. 10043-35-3	T, Repr.Cat.2, R60 - R61	<= 100 %
EC-No. 233-139-2		
Index-No. 005-007-00-2		
Registration number 01-2119486683-25-XXXX		

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

##### In case of eye contact

Flush eyes with water as a precaution.

##### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

no data available

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

- 5.2 Special hazards arising from the substance or mixture**  
Borane/boron oxides
- 5.3 Advice for firefighters**  
Wear self contained breathing apparatus for fire fighting if necessary.
- 5.4 Further information**  
no data available

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## **SECTION 6: Accidental release measures**

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.  
For personal protection see section 8.
- 6.2 Environmental precautions**  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
- 6.3 Methods and materials for containment and cleaning up**  
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
- 6.4 Reference to other sections**  
For disposal see section 13.

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## **SECTION 7: Handling and storage**

- 7.1 Precautions for safe handling**  
Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.  
Provide appropriate exhaust ventilation at places where dust is formed.  
For precautions see section 2.2.
- 7.2 Conditions for safe storage, including any incompatibilities**  
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.  
  
Moisture sensitive.
- 7.3 Specific end use(s)**  
A part from the uses mentioned in section 1.2 no other specific uses are stipulated

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## **SECTION 8: Exposure controls/personal protection**

- 8.1 Control parameters**  
**Components with workplace control parameters**
- 8.2 Exposure controls**  
**Appropriate engineering controls**  
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
- Personal protective equipment**  
**Eye/face protection**  
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- Skin protection**  
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.  
  
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.  
  
Full contact  
Material: Nitrile rubber

Minimum layer thickness: 0,11 mm  
Break through time: 480 min  
Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact  
Material: Nitrile rubber  
Minimum layer thickness: 0,11 mm  
Break through time: 480 min  
Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de,  
test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### **Body Protection**

impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

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|---|------------------------------------|
| a) Appearance                                   | Form: solid                        |
| b) Odour  | no data available                  |
| c) Odour Threshold                              | no data available                  |
| d) pH   | 5,1 at 1,8 g/l at 25 °C            |
| e) Melting point/freezing point                 | Melting point/range: 160 °C - dec. |
| f) Initial boiling point and boiling range      | 300 °C                             |
| g) Flash point                                  | no data available                  |
| h) Evaporation rate                             | no data available                  |
| i) Flammability (solid, gas)                    | no data available                  |
| j) Upper/lower flammability or explosive limits | no data available                  |
| k) Vapour pressure                              | 3,5 hPa at 20 °C                   |
| l) Vapour density                               | no data available                  |
| m) Relative density                             | 1,440 g/cm <sup>3</sup>            |
| n) Water solubility                             | soluble                            |
| o) Partition coefficient: n-octanol/water       | no data available                  |
| p) Auto-ignition                                | no data available                  |

temperature

- |    |                           |                   |
|----|---------------------------|-------------------|
| q) | Decomposition temperature | no data available |
| r) | Viscosity                 | no data available |
| s) | Explosive properties      | no data available |
| t) | Oxidizing properties      | no data available |

## 9.2 Other safety information

no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

Exposure to moisture.

### 10.5 Incompatible materials

Potassium, Acid anhydrides

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - 2.660 mg/kg

#### Skin corrosion/irritation

no data available

#### Serious eye damage/eye irritation

no data available

#### Respiratory or skin sensitisation

no data available

#### Germ cell mutagenicity

no data available

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### Reproductive toxicity

fetotoxicity

Presumed human reproductive toxicant

Presumed human reproductive toxicant

#### Specific target organ toxicity - single exposure

no data available

#### Specific target organ toxicity - repeated exposure

no data available

**Aspiration hazard**

no data available

**Additional Information**

RTECS: ED4550000

Toxicity reported for borates in humans: ingestion or absorption may cause nausea, vomiting, diarrhea, abdominal cramps, and erythematous lesions on the skin and mucous membranes. Other symptoms include: circulatory collapse, tachycardia, cyanosis, delirium, convulsions, and coma. Death has been reported to occur in infants from less than 5 grams and in adults from 5 to 20 grams.

Liver - Irregularities - Based on Human Evidence

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**SECTION 12: Ecological information****12.1 Toxicity**

Toxicity to fish	LC50 - <i>Ptychocheilus lucius</i> - 279 mg/l - 96 h
	LC0 - <i>Lepomis macrochirus</i> (Bluegill) - > 1.021 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	LC50 - <i>Daphnia magna</i> (Water flea) - 53,2 mg/l - 21 d
	EC50 - <i>Daphnia magna</i> (Water flea) - 133 mg/l - 48 h

**12.2 Persistence and degradability**

no data available

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

no data available

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information****14.1 UN number**

ADR/RID: -	IMDG: -	IATA: -
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**14.2 UN proper shipping name**

ADR/RID:	Not dangerous goods
IMDG:	Not dangerous goods
IATA:	Not dangerous goods

**14.3 Transport hazard class(es)**

ADR/RID: -	IMDG: -	IATA: -
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**14.4 Packaging group**

ADR/RID: -	IMDG: -	IATA: -
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**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

**14.6 Special precautions for user**

no data available

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**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Authorisations and/or restrictions on use**

Boric acid

CAS-No.: 10043-35-3

Candidate List of Substances of Very High Concern for Authorisation

Toxic for reproduction (article 57c)

ED/30/2010

**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out

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**SECTION 16: Other information****Full text of H-Statements referred to under sections 2 and 3.**

H360FD	May damage fertility. May damage the unborn child.
Repr.	Reproductive toxicity

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

T	Toxic
R60	May impair fertility.
R61	May cause harm to the unborn child.
Repr.Cat.2	Toxic to Reproduction Category 2

**Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. ZEUS and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.zeus-bz.it](http://www.zeus-bz.it) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.