

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.4 Revision Date 17.05.2013

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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 anhydride
Product Number	:	339075
Brand	:	Sigma-Aldrich
REACH No.	:	A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No.	:	1303-86-2

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

Identified uses : Laboratory chemicals, Manufacture of substances

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

Company :

**1.4 Emergency telephone number**

Emergency Phone # :

**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**

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : Boron trioxide

Formula : B<sub>2</sub>O<sub>3</sub>

Molecular Weight : 69,62 g/mol

CAS-No. : 1303-86-2

EC-No. : 215-125-8

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

Component	Classification	Concentration
<b>Diboron trioxide</b> Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
CAS-No. 1303-86-2 EC-No. 215-125-8	Repr. 1B; H360FD	<= 100 %

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

Component	Classification	Concentration
<b>Diboron trioxide</b> Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
CAS-No. 1303-86-2 EC-No. 215-125-8	T, Repr.Cat.2, R60 - R61	<= 100 %

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

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## 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

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## 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.
- 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: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact  
Material: Nitrile rubber  
Minimum layer thickness: 0,11 mm  
Break through time: 480 min  
Material tested: Dermatril® (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: crystalline<br>Colour: white                    |
| b) Odour  | odourless   |
| c) Odour Threshold                              | no data available                                     |
| d) pH   | 5,46 at 25 °C   |
| e) Melting point/freezing point                 | Melting point/range: 450 °C - lit.                    |
| f) Initial boiling point and boiling range      | no data available                                     |
| g) Flash point                                  | not applicable  |
| h) Evaporation rate                             | no data available                                     |
| i) Flammability (solid, gas)                    | The product is not flammable. - Flammability (solids) |
| j) Upper/lower flammability or explosive limits | no data available                                     |
| k) Vapour pressure                              | no data available                                     |
| l) Vapour density                               | no data available                                     |
| m) Relative density                             | 2,46 g/cm <sup>3</sup> at 25 °C                       |
| n) Water solubility                             | no data available                                     |
| 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

Dissociation constant 8,94 at 20 °C

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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 may affect product quality.

### 10.5 Incompatible materials

acids, Strong oxidizing agents

### 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 - male - 2.600 mg/kg  
(OECD Test Guideline 401)

LC50 Inhalation - rat - male and female - 4 h - > 2,12 mg/l  
(OECD Test Guideline 403)

LD50 Dermal - rabbit - male and female - > 2.000 mg/kg

LD50 Intravenous - rat - 1.330 mg/kg

#### Skin corrosion/irritation

Skin - rabbit

Result: No skin irritation - 24 h

#### Serious eye damage/eye irritation

Eyes - rabbit

Result: No eye irritation - 24 h

#### Respiratory or skin sensitisation

Buehler Test - guinea pig

Result: Does not cause skin sensitisation.  
(OECD Test Guideline 406)

#### Germ cell mutagenicity

Hamster

ovary

Result: negative

Ames test  
S. typhimurium  
Result: negative

Mutagenicity (micronucleus test)  
mouse - male and female  
Result: negative

### **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**

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**

Repeated dose toxicity - rat - male and female - No observed adverse effect level - 100 mg/kg - Lowest observed adverse effect level - 334 mg/kg

RTECS: Not available

Cough, Difficulty in breathing, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Toxicity to fish static test LC50 - Pimephales promelas (fathead minnow) - 79,7 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates static test LC50 - Daphnia dubia - 115 mg/l - 48 h (OECD Test Guideline 202)

static test LC50 - Daphnia magna (Water flea) - 133 mg/l - 48 h

Toxicity to algae static test EC50 - Selenastrum capricornutum (green algae) - 52,5 mg/l - 74,5 h (OECD Test Guideline 201)

Toxicity to bacteria Respiration inhibition EC50 - Sludge Treatment - > 175 mg/l - 3 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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