



# SAFETY DATA SHEET

[Required under safety and health regulations for shipping and handling]

Version: 2020  
Date Updated: October 28, 2020

## SECTION 1. ----- PRODUCT AND COMPANY IDENTIFICATION-----

**Product Name** Boric Acid  
**Product Code(s)** BB0044  
**Recommended Use** For Laboratory Research Use Only  
Not for Human or Animal Drug Use  
**Synonyms** BOROFAX\* BORSAURE (GERMAN) \* THREE ELEPHANT

**Supplier** Bio Basic Inc.  
**Address** 20 Konrad Crescent, Markham, Ontario,  
Canada, L3R 8T4  
**Telephone** (905) 474 4493  
**Fax** (905) 474 5794  
**For Chemical Emergency Phone#** (416) 995 9730

## SECTION 2. ----- HAZARDS IDENTIFICATION -----

### GHS Classification

Reproductive toxicity (Category 1B), H360

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

### GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)  
H360 May damage fertility or the unborn child

Precautionary statement(s)  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

**Hazards not otherwise classified (HNOC) or not covered by GHS - none**

## SECTION 3. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

Chemical Name	EC No.	CAS-No	Weight %
H3BO3	233-139-2	10043-35-3	<100

## SECTION 4. ----- FIRST-AID MEASURES-----

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**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.

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

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

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

no data available

**SECTION 5. ----- FIRE FIGHTING MEASURES -----****Special hazards arising from the substance or mixture**

Borane/boron oxides

**Suitable extinguishing media**

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

**Special protective equipment for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products****Explosion data - sensitivity to mechanical impact**

no data available

**Explosion data - sensitivity to static discharge**

no data available

**SECTION 6. ----- ACCIDENTAL RELEASE MEASURES -----****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

**Environmental precautions**

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

**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

**Reference to other sections**

For disposal see section 13

**SECTION 7. ----- HANDLING AND STORAGE -----****Precautions for safe handling**

Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place. Moisture sensitive. Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

**Specific end use(s)**

Apart from the uses mentioned in section 1 no other specific uses are stipulated

**SECTION 8. - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - -****Control parameters****Components with workplace control parameters**

Component s	CAS-No.	Value	Control parameters	Basis
Boric acid	10043-35- 3	TWA	2 mg/m3	Canada. British Columbia OEL
<b>Remarks</b>				
		STEL	6 mg/m3	Canada. British Columbia OEL
		TWA	2 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		STEL	6 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

**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****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a fullface 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).

**Hand 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.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm  
Break through time: 480 min

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.

#### **Eye 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 and 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.

#### **Control of environmental exposure**

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

### **SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -**

#### **Appearance**

Form crystalline  
Colour white

#### **Safety data**

pH	5.1 at 1.8 g/l at 25 °C (77 °F)
Melting point/freezing point	Melting point/range: 160 °C (320 °F) - dec
Boiling point	300 °C 572 °F
Flammability (solid , gas)	The product is not flammable. - Flammability (solids)
Flash point	no data available
Ignition temperature	no data available
Auto-ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	< 0.1 hPa at 25 °C (77 °F) - Regulation (EC) No. 440/2008, Annex, A.4 7 hPa (5 mmHg) at 92 °C (198 °F)
Vapour density	No data available
Relative Density	1.49 g/cm <sup>3</sup> at 23 °C (73 °F) -
Water solubility	49.2 g/l at 20 °C (68 °F) - Regulation (EC) No. 440/2008, Annex, A.6 - completely soluble
Partition coefficient: octanol/water	og Pow: -1.09 at 22 °C (72 °F) - Regulation (EC) No. 440/2008, Annex, A.8 - n- Bioaccumulation is not expected.
Relative vapour	no data available

density  
Odour odourless  
Odour Threshold no data available  
Evaporation rate no data available

**Other safety information**

Dissociation constant 8.94 at 20 °C (68 °F) - OECD Test Guideline 112

**SECTION 10. -----STABILITY AND REACTIVITY -----**

**Reactivity**

No data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

no data available

**Conditions to avoid**

Exposure to moisture

**Incompatible Materials**

Potassium, Acid anhydrides, Strong oxidizing agents

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Borane/boron oxides  
Other decomposition products - No data available In the event of fire: see section 5

**SECTION 11. ----- TOXICOLOGICAL INFORMATION -----**

**Acute toxicity**

**Oral LD50**

LD50 Oral - Rat - male and female - 3,450 mg/kg

Remarks: (ECHA)

**Inhalation LC50**

LC50 Inhalation - Rat - male and female - 4 h - > 2.12 mg/l (OECD Test Guideline 403)

**Dermal LD50**

LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg

Remarks: (ECHA)

**Other information on acute toxicity**

no data available

**Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation - 24 h

Remarks: (ECHA)

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: No eye irritation - 24 h

(OECD Test Guideline 405)

**Respiratory or skin sensitisation**

Buehler Test - Guinea pig

Result: negative (OECD Test Guideline 406)

**Germ cell mutagenicity**

sister chromatid exchange assay  
 Chinese hamster ovary cells  
 Result: negative  
 (ECHA)  
 Ames test  
 S. typhimurium  
 Result: negative  
 In vitro mammalian cell gene mutation test  
 mouse lymphoma cells  
 Result: negative  
 OECD Test Guideline 474  
 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.  
 ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**Reproductive toxicity**

May damage fertility.  
 May damage the unborn child

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

**Aspiration hazard**

no data available

**Synergistic effects**

no data available

**Additional Information**

Repeated dose toxicity - Rat - male and female - Oral - 2 yr - No observed adverse effect level - 17.5 mg/kg -  
 Lowest observed adverse effect level - 58.5 mg/kg

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. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Liver - Irregularities - Based on Human Evidence

**SECTION 12. ----- ECOLOGICAL INFORMATION -----****Toxicity**

Toxicity to fish	LC50 - Ptychocheilus lucius - 279 mg/l - 96 h Remarks: (ECOTOX Database)
Toxicity to daphnia	

and other aquatic  
invertebrates

EC50 - Daphnia magna (Water flea) - 133 mg/l - 48 h

**Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

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

**Other adverse effects**

no data available

**SECTION 13. ----- DISPOSAL CONSIDERATIONS -----**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. 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.

**SECTION 14. ----- TRANSPORT INFORMATION -----**

**DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

**SECTION 15. ----- REGULATORY INFORMATION -----**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

**SECTION 16. ----- OTHER INFORMATION -----**

Further information: no limited for paper copy, just for internal uses.  
For research use only. Not intended for human or animal diagnostic or therapeutic uses.

**Disclaimer**

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information 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.

**Issuing Date:** 28-Oct-2020

**End of SDS**