

SECTION 1 – IDENTIFICATION

Product Identifier: Boric Acid
ACS Grade

Catalogue Number: 1140

Other means of identification: Not available

Recommended use of the chemical and restrictions on use:

Suitable for electrophoresis of nucleic acids in agarose and polyacrylamide gels. Used both as a running buffer and as a gel preparation buffer.

For R&D use only. Not for pharmaceutical, household or other uses.

Supplier Information:

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SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification:

Reproductive toxicity: Category 1B

GHS Hazard Pictogram(s):



Signal Word: Danger

Hazards statements:

H360: May damage fertility or the unborn child.

Precautionary statements:

Prevention:

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.

Response

P308+P313: IF exposed or concerned: Get medical advice/attention.

Storage

P405: Store locked up.

Disposal

P501: Dispose of contents/container in accordance with federal, state and local environmental regulations.

SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Identity: Boric Acid
Synonyms: Basilit B
 Orthoboric Acid
 Boron Trihydroxide
 Borofax
 Bortrac
Molecular Formula: H₃BO₃
Molecular Weight: 61.83 g/mol

Component	Classification	Concentration
Boric Acid		
CAS-No. 10043-35-3 EC-No. 233-139-2	Repr. 1B	≤ 100 %

SECTION 4 – FIRST-AID MEASURES

General Advice

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

Eye Contact

Flush eyes with water as a precaution.

Skin Contact

Immediately wash skin thoroughly with soap and copious amounts of water. Consult a physician.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration or if breathing is difficult, give oxygen. Consult a physician.

Ingestion

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

Most important symptoms and effects, both acute and delayed

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.

Indication of immediate medical attention and special treatment needed

Data not available.

SECTION 5 – FIRE-FIGHTING MEASURES

Extinguishing Media

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

Special Exposure Hazards

Borane/boron oxides

Special Fire-fighting Procedures

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions

Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not allow material into sewers and drainage systems.

Methods for Cleaning Up

Clean up spills immediately, observing precautions in the safety data sheet and label. Minimize dust generation. Dispose into a chemical waste container.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Follow all SDS/ label precautions. Avoid contact with skin and eyes. Avoid raising dust.

Conditions for safe storage, including any incompatibilities

Store in tightly closed container in a cool, dry and well-ventilated area.

SECTION 8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION

Occupational Exposure Limits

We are not aware of any national exposure limit.

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.

Eye/ Face Protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin/ 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.

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

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.

Body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. 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.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

- | | | |
|----|----------------------------------|--------------------------|
| a) | Appearance | White powder |
| b) | Odour | Odorless |
| c) | Odour Threshold | Not available |
| d) | pH | 3.8 – 4.8 (33g/l, 20 °C) |
| e) | Melting/freezing point | 185 °C (decomposition) |
| f) | Initial boiling point and | 300 °C |

boiling range

g)	Flash point	Not available
h)	Evaporation rate	Not available
i)	Flammability (solid, gas)	Not available
j)	Upper/lower flammability or explosive limits	Not available
k)	Vapour pressure	Negligible (3.5 hPa at 20 °C)
l)	Vapour density	Not available
m)	Relative density	1.44 g/cm ³ at 15 °C
n)	Water solubility	50 g/l (water, 20 °C)
o)	Partition coefficient: n-octanol/water	Not available
p)	Autoignition temperature	Not available
q)	Decomposition temperature	Not available
r)	Viscosity	Not available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity

Data not available.

Chemical stability

Data not available.

Possibility of hazardous reactions

Data not available.

Conditions to avoid

Exposure to moisture.

Incompatible material

Potassium, Acid anhydrides.

Hazardous decomposition products

Data not available.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 (Oral): 2,660 mg/kg [Rat]

Skin corrosion/irritation

Data not available.

Serious eye damage/eye irritation

Data not available.

Respiratory or skin sensitization

Data not available.

Germ cell mutagenicity

Data not 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.

May damage the unborn child.

Specific target organ toxicity – single exposure

Data not available.

Specific target organ toxicity – repeated exposure

Data not available.

Aspiration hazard

Data not available.

Other information

RTECS: ED4550000

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish

(LC50): 279 mg/l – 96h [Ptychocheilus lucius]

(LC0): > 1,021 mg/l – 96h [Lepomis macrochirus]

Toxicity to daphnia and other aquatic invertebrates

(LC50): 53.2 mg/l – 21d [Daphnia magna]

(EC50): 133 mg/l – 48h [Daphnia magna]

Persistence and degradability

Data not available.

Bioaccumulative potential

Data not available.

Mobility in soil

Data not available.

Other adverse effect

Data not available.

SECTION 13 – DISPOSAL CONSIDERATIONS**Product**

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

Contaminated packaging

Dispose off as unused product.

SECTION 14 – TRANSPORT INFORMATION**UN Number**

ADR/RID: -

IMDG: -

IATA-DGR: -

UN Proper Shipping Name:

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA-DGR: Not dangerous goods

Transport Hazard Class(es)

ADR/RID: -

IMDG: -

IATA-DGR: -

Packing Group

ADR/RID: -

IMDG: -

IATA-DGR: -

Environmental Hazards

ADR/RID: no

IMDG: marine pollutant: no

IATA-DGR: no

Special Precaution for Users

Data not available

SECTION 15 – REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Data not available

SECTION 16 – OTHER INFORMATION

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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. Axil Scientific Pte Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.