

Material Safety Data Sheet

Version:01
Revision Date 15/4/2025

| Section 1. Product Information and Company Identification | | | |
|---|---|----------------|------------|
| Product name | Boric acid | | |
| Mol. formula | H ₃ BO ₃ | CAS No. | 10043-35-3 |
| Mol.wt | 61.83 g/mol | | |
| manufacturer name | Pioneers for laboratory chemicals | | |
| Brand name | Piochem | | |
| Address | Area 540, Industrial Zone 6 th October city Giza, Egypt. | | |
| Website | www.piochem.com | | |
| E-mail | info@piochem.com | | |
| Phone number | +201225728304 , +201023932115 | | |

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.

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

Obtain special instructions before use.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

Supplemental Hazard Statements

none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Formula : H_3BO_3
Molecular weight : 61.83 g/mol
CAS-No. : 10043-35-3
EC-No. : 233-139-2
Index-No. : 005-007-00-2

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

| Component | Classification | Concentration |
|---|----------------|----------------------------------|
| Boric acid 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 |
| EC-No. | 233-139-2 | Concentration limits: |
| Index-No. | 005-007-00-2 | $\geq 5.5\%$: Repr. 1B, H360FD; |

For the full text of the H-Statements 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 firefighting if necessary.

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.

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.

Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 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.

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 (EN 143) respirator cartridges as a backup to engineering controls. If th full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

- | | |
|---|------------------------------------|
| 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 | 2.6 mmHg at 20 °C |
| l) Vapour density | No data available |
| m) Relative density | 1.440 g/cm ³ |
| n) Water solubility | soluble |
| o) Partition coefficient: n-octanol/water | No data available |
| p) Auto-ignition temperature | No data available |
| 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

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

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

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 2,660 mg/kg(Boric acid)

Skin corrosion/irritation

No data available(Boric acid)

Serious eye damage/eye irritation

No data available(Boric acid)

Respiratory or skin sensitisation

No data available(Boric acid)

Germ cell mutagenicity

No data available(Boric acid)

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(Boric acid)

Presumed human reproductive toxicant(Boric acid)

Presumed human reproductive toxicant(Boric acid)

Specific target organ toxicity - single exposure

No data available(Boric acid)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available(Boric acid)

Additional Information

RTECS: ED4550000

Toxicity reported for borates in humans: ingestion or absorption may cause anderythematous lesions on the skin and mucous membranes. Other symptoms delirium, convulsions, and coma. Death has been reported to occur in infa grams.(Boric acid)

Liver - Irregularities - Based on Human Evidence(Boric acid)

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish

LC50 - Ptychocheilus lucius - 279 mg/l - 96 h(Boric acid)

LC0 - Lepomis macrochirus (Bluegill) - > 1,021 mg/l - 96 h(Boric acid)

Toxicity to daphnia and
other aquatic
invertebrates

LC50 - Daphnia magna (Water flea) - 53.2 mg/l - 21 d(Boric acid)

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

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available(Boric acid)

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations
13.1 Waste treatment methods
Product

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

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information
14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

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: -

14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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

Authorisations and/or restrictions on use
15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out