

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Boric acid 4%, pH 4.65

Version number: 1.0

Date of compilation: 2024-03-20

SECTION 1: Identification

1.1 Product identifier

Trade name **Boric acid 4%, pH 4.65**
Product code(s) BA3140SS

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

Relevant identified uses laboratory and analytical use

1.3 Details of the supplier of the safety data sheet

AquaPhoenix Scientific, Inc
860 Gitts Run Road
Hanover PA 17331
United States

Telephone: (717) 632-1291
e-mail: info@aquaphoenixsci.com

1.4 Emergency telephone number

Emergency information service ChemTel Inc. (800) 255-3924 (North America)
+1 (813) 248-0585 (International)

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

| Section | Hazard class | Category | Hazard class and category | Hazard statement |
|---------|-----------------------|----------|---------------------------|------------------|
| A.7 | reproductive toxicity | 1B | Repr. 1B | H360FD |

For full text of abbreviations: see SECTION 16.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word **danger**

- Pictograms

GHS08



- Hazard statements

H360FD May damage fertility. May damage the unborn child.

- Precautionary statements

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 industrial combustion plant.

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Boric acid 4%, pH 4.65

Version number: 1.0

Date of compilation: 2024-03-20

- Hazardous ingredients for labelling boric acid

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$.


SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

| Name of substance | Identifier | Wt% | Classification acc. to GHS | Pictograms |
|-------------------|----------------------|-----|--|--|
| Deionized water | CAS No 7732-18-5 | 96 | not classified | none |
| Boric acid | CAS No 10043-35-3 | 4 | Acute Tox. 4 / H332 Repr. 1B / H360FD |  |

For full text of abbreviations: see SECTION 16.

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Boric acid 4%, pH 4.65

Version number: 1.0

Date of compilation: 2024-03-20

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Boric acid 4%, pH 4.65

Version number: 1.0

Date of compilation: 2024-03-20

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Control of the effects

Protect against external exposure, such as

frost

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

| Occupational exposure limit values (Workplace Exposure Limits) | | | | | | | | | | | |
|--|---------------|------------|------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|-------------|
| Country | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/m ³] | STEL [ppm] | STEL [mg/m ³] | Ceiling-C [ppm] | Ceiling-C [mg/m ³] | Notation | Source |
| US | boric acid | 10043-35-3 | TLV® | | 2 | | 6 | | | i | ACGIH® 2023 |

Notation

Ceiling-C

i

STEL

TWA

ceiling value is a limit value above which exposure should not occur

inhalable fraction

short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

| Relevant DNELs of components | | | | | | |
|------------------------------|------------|----------|-----------------------|------------------------------------|-------------------|----------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| boric acid | 10043-35-3 | DNEL | 8.3 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| boric acid | 10043-35-3 | DNEL | 392 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Boric acid 4%, pH 4.65

Version number: 1.0

Date of compilation: 2024-03-20

| Relevant PNECs of components | | | | | | |
|------------------------------|------------|----------|-----------------|-----------------------|------------------------------|------------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Organism | Environmental compartment | Exposure time |
| boric acid | 10043-35-3 | PNEC | 2.9 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| boric acid | 10043-35-3 | PNEC | 2.9 mg/l | aquatic organisms | marine water | short-term (single instance) |
| boric acid | 10043-35-3 | PNEC | 10 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| boric acid | 10043-35-3 | PNEC | 5.7 mg/kg | terrestrial organisms | soil | short-term (single instance) |

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

| | |
|----------------|-----------------------|
| Physical state | liquid |
| Color | colorless |
| Particle | not relevant (liquid) |
| Odor | characteristic |

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Boric acid 4%, pH 4.65

Version number: 1.0

Date of compilation: 2024-03-20

Other safety parameters

| | |
|---|---|
| pH (value) | 4.65 |
| Melting point/freezing point | not determined |
| Initial boiling point and boiling range | > 100 °C |
| Flash point | not determined |
| Evaporation rate | not determined |
| Flammability (solid, gas) | not relevant, (fluid) |
| Vapor pressure | < 23.7 mmHg at 25 °C |
| Density | not determined |
| Vapor density | this information is not available |
| Relative density | information on this property is not available |
| Solubility(ies) | not determined |

Partition coefficient

| | |
|-----------------------------|-----------------------------------|
| - n-octanol/water (log KOW) | this information is not available |
| Auto-ignition temperature | not determined |
| Viscosity | not determined |
| Explosive properties | none |
| Oxidizing properties | none |

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

There is no additional information.

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Boric acid 4%, pH 4.65

Version number: 1.0

Date of compilation: 2024-03-20

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity estimate (ATE) of components

| Name of substance | CAS No | Exposure route | ATE |
|-------------------|------------|-----------------------|---------------|
| boric acid | 10043-35-3 | inhalation: dust/mist | >2.12 mg/l/4h |

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

May damage the unborn child. May damage fertility.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Boric acid 4%, pH 4.65

Version number: 1.0

Date of compilation: 2024-03-20

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

| | |
|-----------------------------------|---|
| 14.1 UN number | not subject to transport regulations |
| 14.2 UN proper shipping name | not relevant |
| 14.3 Transport hazard class(es) | none |
| 14.4 Packing group | not assigned |
| 14.5 Environmental hazards | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 Special precautions for user | There is no additional information. |

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Boric acid 4%, pH 4.65

Version number: 1.0

Date of compilation: 2024-03-20

14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Not subject to transport regulations.

International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA)

all ingredients are listed (ACTIVE) or exempt from listing

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

- Specific Toxic Chemical Listings (EPCRA Section 313)

none of the ingredients are listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

none of the ingredients are listed

Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

- Hazardous Substance List (NJ-RTK)

none of the ingredients are listed

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Boric acid 4%, pH 4.65

Version number: 1.0

Date of compilation: 2024-03-20

| Category | Rating | Description |
|---------------------|--------|--|
| Chronic | * | chronic (long-term) health effects may result from repeated overexposure |
| Health | 0 | no significant risk to health |
| Flammability | 0 | material that will not burn under typical fire conditions |
| Physical hazard | 0 | material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive |
| Personal protection | - | |

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

| Category | Degree of hazard | Description |
|----------------|------------------|---|
| Flammability | 0 | material that will not burn under typical fire conditions |
| Health | 0 | material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material |
| Instability | 0 | material that is normally stable, even under fire conditions |
| Special hazard | | |

National inventories

| Country | Inventory | Status |
|---------|------------|-------------------------------------|
| AU | AIIC | all ingredients are listed |
| CA | DSL | all ingredients are listed |
| CN | IECSC | all ingredients are listed |
| EU | ECSI | all ingredients are listed |
| EU | REACH Reg. | all ingredients are listed |
| JP | CSCL-ENCS | all ingredients are listed |
| JP | ISHA-ENCS | not all ingredients are listed |
| KR | KECI | all ingredients are listed |
| MX | INSQ | all ingredients are listed |
| NZ | NZIoC | all ingredients are listed |
| PH | PICCS | all ingredients are listed |
| TR | CICR | not all ingredients are listed |
| TW | TCSI | all ingredients are listed |
| VN | NCI | all ingredients are listed |
| US | TSCA | all ingredients are listed (ACTIVE) |

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Boric acid 4%, pH 4.65

Version number: 1.0

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Legend

| | |
|------------|---|
| AIIC | Australian Inventory of Industrial Chemicals |
| CICR | Chemical Inventory and Control Regulation |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS) |
| DSL | Domestic Substances List (DSL) |
| ECSI | EC Substance Inventory (EINECS, ELINCS, NLP) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ | National Inventory of Chemical Substances |
| ISHA-ENCS | Inventory of Existing and New Chemical Substances (ISHA-ENCS) |
| KECI | Korea Existing Chemicals Inventory |
| NCI | National Chemical Inventory |
| NZIoC | New Zealand Inventory of Chemicals |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| REACH Reg. | REACH registered substances |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|----------------|--|
| 49 CFR US DOT | 49 CFR U.S. Department of Transportation |
| ACGIH® 2023 | From ACGIH®, 2023 TLVs® and BEIs® Book. Copyright 2023. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement |
| Acute Tox. | Acute toxicity |
| ATE | Acute Toxicity Estimate |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| ED | Endocrine disruptor |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods Code |
| NLP | No-Longer Polymer |
| NPCA-HMIS® III | National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition |
| OSHA | Occupational Safety and Health Administration (United States) |

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Boric acid 4%, pH 4.65

Version number: 1.0

Date of compilation: 2024-03-20

| Abbr. | Descriptions of used abbreviations |
|-------|--|
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| Repr. | Reproductive toxicity |
| STEL | Short-term exposure limit |
| TLV® | Threshold Limit Values |
| TWA | Time-weighted average |
| vPvB | Very Persistent and very Bioaccumulative |

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|--------|--|
| H332 | Harmful if inhaled. |
| H360FD | May damage fertility. May damage the unborn child. |

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.