

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.2  
Creation Date: July 15, 2019  
Revision Date: August 08, 2025

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name Borax pH Solution Certified Reference Material

### 1.2 Other means of identification

Product number CPRM3831  
Other names Sodium tetraborate decahydrate;neobor;BoraxAr

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.  
Uses advised against no data available

### 1.4 Supplier's details

Company CATO Research Chemicals Inc.  
Address 3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou  
Telephone +86-20-81960175

### 1.5 Emergency phone number

Emergency phone number +86-20-81960175  
Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Not classified.

### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word Danger  
Hazard statement(s) H360 May damage fertility or the unborn child  
Precautionary statement(s)  
Prevention none  
Response none  
Storage none  
Disposal none

### 2.3 Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Chemical name                                  | Common names and synonyms                                                 | CAS number | EC number | Concentration |
|------------------------------------------------|---------------------------------------------------------------------------|------------|-----------|---------------|
| Borax pH Solution Certified Reference Material | Borax (B <sub>4</sub> Na <sub>2</sub> O <sub>7</sub> ·10H <sub>2</sub> O) | 1303-96-4  | 603-411-9 | 100%          |

## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

Rinse and then wash skin with water and soap.

**Following eye contact**

Rinse with plenty of water (remove contact lenses if easily possible).

**Following ingestion**

Rinse mouth. Do NOT induce vomiting. Refer for medical attention.

**4.2 Most important symptoms/effects, acute and delayed**

no data available

**4.3 Indication of immediate medical attention and special treatment needed, if necessary**

no data available

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**SECTION 5: Fire-fighting measures**

**5.1 Suitable extinguishing media**

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

**5.2 Specific hazards arising from the chemical**

Not combustible.

**5.3 Special protective actions for fire-fighters**

In case of fire in the surroundings, use appropriate extinguishing media.

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**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

**6.2 Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

**7.2 Conditions for safe storage, including any incompatibilities**

Well closed. Dry.

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**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational Exposure limit values**

TLV: (inhalable fraction): 2 mg/m<sup>3</sup>, as TWA; 6 mg/m<sup>3</sup> as STEL; A4 (not classifiable as a human carcinogen)

**Biological limit values**

no data available

**8.2 Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

**8.3 Individual protection measures, such as personal protective equipment (PPE)**

**Eye/face protection**

Wear safety spectacles or eye protection in combination with breathing protection.

**Skin protection**

Protective gloves. Protective clothing.

**Respiratory protection**

Use local exhaust or breathing protection.

**Thermal hazards**

no data available

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## SECTION 9: Physical and chemical properties and safety characteristics

|                                                          |                                                                                                                                                              |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical state                                           | Solid. Crystalline.                                                                                                                                          |
| Colour                                                   | White.                                                                                                                                                       |
| Odour                                                    | no data available                                                                                                                                            |
| Melting point/freezing point                             | > 1 000 °C.                                                                                                                                                  |
| Boiling point or initial boiling point and boiling range | 1 575 °C.                                                                                                                                                    |
| Flammability                                             | no data available                                                                                                                                            |
| Lower and upper explosion limit/flammability limit       | no data available                                                                                                                                            |
| Flash point                                              | no data available                                                                                                                                            |
| Auto-ignition temperature                                | Remarks: No change in appearance was noted, but the test substance was reduced slightly in size.<br>It should be classified as not a self-heating substance. |
| Decomposition temperature                                | no data available                                                                                                                                            |
| pH                                                       | no data available                                                                                                                                            |
| Kinematic viscosity                                      | no data available                                                                                                                                            |
| Solubility                                               | In water: 49.74 g/L. Temperature: 20 °C. pH: 9.69. Methanol.; Ethylene glycol.; Formamide.                                                                   |
| Partition coefficient n-octanol/water                    | log Pow = -1.53. Temperature: 22 °C.                                                                                                                         |
| Vapour pressure                                          | 0.213 kPa. Temperature: 20 °C.                                                                                                                               |
| Density and/or relative density                          | 2 354.4 kg/m <sup>3</sup> . Temperature: 26 °C.                                                                                                              |
| Relative vapour density                                  | no data available                                                                                                                                            |
| Particle characteristics                                 | no data available                                                                                                                                            |

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

The solution in water is a weak base.

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

no data available

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 - rat (male) - > 2 500 mg/kg bw.
- Inhalation: LC50 - rat (male/female) - > 2.04 mg/L air (nominal).
- Dermal: LD50 - rabbit (male/female) - > 2 000 mg/kg bw.

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

The substance is irritating to the eyes, skin and respiratory tract. The substance may cause effects on the central nervous system and kidneys. This may result in impaired functions.

**STOT-repeated exposure**

Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the testes. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

**Aspiration hazard**

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly, especially if powdered.

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## SECTION 12: Ecological information

### 12.1 Toxicity

- Toxicity to fish: LC50 - Pimephales promelas - 79.7 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: LC50 - other aquatic mollusc: Lampsilis siliquoidea (Fatmucket mussel) - 137 mg/L - 96 h. Remarks:(Microscopic inspection for movement of foot or cilia).
- Toxicity to algae: EC10 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - 24.5 mg/L - 3 d.
- Toxicity to microorganisms: EC50 - activated sludge of a predominantly domestic sewage - > 10 000 mg/L - 3 h. Remarks:Respiration rate.

### 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 Other adverse effects

no data available

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## SECTION 13: Disposal considerations

### 13.1 Disposal methods

**Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

**Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.) IATA: Not dangerous goods. (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.) IATA: Not dangerous goods. (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.) IATA: Not dangerous goods. (For reference only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

#### 14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

#### 14.6 Special precautions for user

no data available

#### 14.7 Transport in bulk according to IMO instruments

no data available

### SECTION 15: Regulatory information

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

| Chemical name                                                             | Common names and synonyms                                                 | CAS number | EC number   |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------|------------|-------------|
| Borax (B <sub>4</sub> Na <sub>2</sub> O <sub>7</sub> ·10H <sub>2</sub> O) | Borax (B <sub>4</sub> Na <sub>2</sub> O <sub>7</sub> ·10H <sub>2</sub> O) | 1303-96-4  | 603-411-9   |
| European Inventory of Existing Commercial Chemical Substances (EINECS)    |                                                                           |            | Not Listed. |
| EC Inventory                                                              |                                                                           |            | Not Listed. |
| United States Toxic Substances Control Act (TSCA) Inventory               |                                                                           |            | Listed.     |
| China Catalog of Hazardous chemicals 2015                                 |                                                                           |            | Not Listed. |
| New Zealand Inventory of Chemicals (NZIoC)                                |                                                                           |            | Listed.     |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS)        |                                                                           |            | Listed.     |
| Vietnam National Chemical Inventory                                       |                                                                           |            | Listed.     |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)  |                                                                           |            | Listed.     |
| Korea Existing Chemicals List (KECL)                                      |                                                                           |            | Listed.     |

### SECTION 16: Other information

#### Information on revision

Creation Date

July 15, 2019

Revision Date

August 08, 2025

#### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

#### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

#### Other Information

At 75 °C the substance loses crystal water. The anhydrous form has a melting point of 742 °C and decomposes at 1575 °C.

Any questions regarding this SDS, Please send your inquiry to [info@cato-chem.com](mailto:info@cato-chem.com)

*Disclaimer: 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. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.*