



**BUFFER SOLUTION  
PH 9.0 (BORATE)**

**MATERIAL SAFETY DATA SHEET  
SDS/MSDS**

**SECTION 1. Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifier**

Product name : Buffer Solution pH 9.0 (Borate)

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

Identified uses : Laboratory chemicals, Industrial & for professional use only.

**1.3 Details of the supplier of the safety data sheet**

Company : Central Drug House (P) Ltd  
7/28 Vardaan House  
New Delhi -110002  
INDIA

Telephone : +91 11 49404040  
Email : [care@cdhfinechemical.com](mailto:care@cdhfinechemical.com)

**1.4 Emergency telephone number**

Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

**SECTION 2. Hazards identification**

**2.1 Classification of the substance or mixture**

This mixture is not classified as dangerous according to European Union legislation.

**2.2 Label elements**

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Safety data sheet available on request

**2.3 Other hazards**

None known.

**SECTION 3. Composition/information on ingredients**

**3.1 Substance**

Not applicable

**3.2 Mixture**

**Hazardous components (REGULATION (EC) No 1272/2008)**

Component	Classification	(Concentration)
<b>Orthoboric acid, sodium salt</b>		
CAS-No. 13840-56-7		(1:n) (>= 1 % - < 3 %)
<b>boric acid</b>		
CAS-No. 10043-35-3		(>= 1 % - < 3 %)

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**

#### **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. Take victim immediately to hospital. Consult a physician.

#### **In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### **If swallowed**

Do NOT induce vomiting. 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 following applies to boron compounds in general: resorption is followed by nausea and vomiting, agitation, spasms, CNS disorders, cardiovascular disorders. irritant effects

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

No information available.

## **SECTION 5. Firefighting measures**

### **5.1 Extinguishing media**

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### **5.2 Special hazards arising from the substance or mixture**

Not combustible.

Ambient fire may liberate hazardous vapours.

### **5.3 Advice for firefighters**

Special protective equipment for firefighters

In the event of fire, wear self-contained breathing apparatus.

### **5.4 Further information**

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## **SECTION 6. Accidental release measures**

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

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### **6.4 Reference to other sections**

Indications about waste treatment see section 13.

## **SECTION 7. Handling and storage**

### **7.1 Precautions for safe handling**

Advice on safe handling

Observe label precautions.

Hygiene measures

change contaminated clothing. Wash hands after working with substance.

## 7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed.

Recommended storage temperature see product label.

## 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

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of

#### Personal protective equipment

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

#### Eye/face protection

Safety glasses

#### Hand protection

full contact:

Glove material:	Nitrile rubber	Glove thickness:	
0.11 mm	Break through time:	480 min	

splash contact:

Glove material:	Nitrile rubber	Glove thickness:	0.11 mm
Break through time:	480 min		

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

#### Other protective equipment

protective clothing

#### Respiratory protection

required when vapours/aerosols are generated.

#### Environmental exposure controls

Do not let product enter drains.

## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid Colour: colourless
b) Odour	odourless
c) Threshold	Not applicable
d) pH	8.9 at 20 °C
e) Melting point	No information available.
f) Boiling point	No information available.
g) Flash point	Not applicable
h) Evaporation rate	No information available.
i) Flammability (solid, gas)	No information available.
j) Lower explosion limit	No information available.
k) Upper explosion limit	No information available.
l) Vapour pressure	No information available.
m) Relative vapour density	No information available
n) Density	1.00 g/cm <sup>3</sup> at 20 °C
o) Relative density	No information available.
p) Water solubility	at 20 °C soluble
q) Partition coefficient: n- r) octanol/water	No information available
s) Auto-ignition temperature	No information available.
t) Decomposition	No information available.
u) Viscosity, dynamic	1.07 mPa.s at 20 °C
v) Explosive properties	Not classified as explosive.
w) Oxidizing properties	none

### 9.2 Other data

none

## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Because of low concentration of the dissolved substance(s): none; exception: the generally known reaction partners of water.

### 10.4 Conditions to avoid

no information available

### 10.5 Incompatible materials

no information available

### 10.6 Hazardous decomposition products in the event of fire

See section 5.

## **SECTION 11. Toxicological information**

### **11.1 Information on toxicological effects**

Mixture

#### **Acute oral toxicity**

This information is not available.

#### **Acute inhalation toxicity**

This information is not available.

#### **Acute dermal toxicity**

This information is not available.

#### **Skin irritation**

This information is not available.

#### **Eye irritation**

This information is not available.

#### **Sensitisation**

This information is not available.

#### **Germ cell mutagenicity**

This information is not available.

#### **Carcinogenicity**

This information is not available.

#### **Reproductive toxicity**

This information is not available.

#### **Teratogenicity**

This information is not available.

#### **Specific target organ toxicity - single exposure**

This information is not available.

#### **Specific target organ toxicity - repeated exposure**

This information is not available.

#### **Aspiration hazard**

This information is not available.

### **11.2 Further information**

The following applies to boron compounds in general: resorption is followed by nausea and vomiting, agitation, spasms, CNS disorders, cardiovascular disorders.

Hazardous properties cannot be excluded, but are relatively improbable due to the low concentration of the dissolved substance(s).

Handle in accordance with good industrial hygiene and safety practice.

Components

orthoboric acid, sodium salt (1:n)

No information available.

boric acid

#### **Acute oral toxicity**

LD50 Rat: 3,450 - 4,080 mg/kg  
(ECHA)

#### **Acute inhalation toxicity**

LC50 Rat: > 2.03 mg/l; 4 h ; dust/mist  
OECD Test Guideline 403  
(highest concentration to be prepared)

**Acute dermal toxicity**

LD50 Rabbit: > 2,000 mg/kg  
(ECHA)

**Skin irritation**

Rabbit  
Result: No skin irritation  
(ECHA)

**Eye irritation**

Rabbit  
Result: slight irritation  
OECD Test Guideline 405

**Sensitisation**

Buehler Test Guinea pig  
Result: negative  
Method: OECD Test Guideline 406

**Germ cell mutagenicity**

Genotoxicity in vivo  
In vivo micronucleus test  
Mouse  
male and  
female oral  
Result: negative  
Method: OECD Test Guideline 474

**Genotoxicity in vitro**

Ames test  
Salmonella typhimurium  
Result: negative  
Method: OECD Test Guideline 471

**Mutagenicity (mammal cell test):**

Mouse lymphoma test  
Result: negative  
Method: OECD Test Guideline 476

**Mutagenicity (mammal cell test):**

Chinese hamster ovary cells Result:  
negative  
Method: OECD Test Guideline 482

**Teratogenicity**

Application Route:  
Oral Rat  
Number of exposures: daily  
Method: OECD Test Guideline 414

## SECTION 12. Ecological information

### 12.1 Toxicity

No information available.

### 12.2 Persistence and degradability

No information available.

### 12.3 Bioaccumulative potential

No information available.

### 12.4 Mobility in soil

No information available.

### 12.5 Results of PBT and vPvB assessment

Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII, or a PBT/vPvB assessment was not conducted.

### 12.6 Other adverse effects

Discharge into the environment must be avoided.

Components

orthoboric acid, sodium salt (1:n)

No information available.

boric acid

#### Toxicity to fish

flow-through test LC50 *Oncorhynchus mykiss* (rainbow trout): 79 mg/l; 96 h  
(ECOTOX Database)

#### Toxicity to daphnia and other aquatic invertebrates

static test EC50 *Daphnia magna* (Water flea): 133 mg/l; 48 h  
(ECOTOX Database)

#### Toxicity to algae

static test EC50 *Pseudokirchneriella subcapitata* (green algae): 52.4 mg/l; 74.5 h  
Analytical monitoring: yes  
OECD Test Guideline 201

#### Toxicity to fish (Chronic toxicity)

semi-static test NOEC *Danio rerio* (zebra fish): 6.4 mg/l; 34 d  
OECD Test Guideline 210  
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)  
semi-static test NOEC *Daphnia magna* (Water flea): 34.2 mg/l; 21 d  
OECD Test Guideline 211

#### Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

Partition coefficient: n-octanol/water

log Pow: -0.2 (25

°C) EPI Suite™

Bioaccumulation is not expected. (Lit.)

PBT/vPvB: Not applicable for inorganic substances

## **SECTION 13. Disposal considerations**

### **Waste treatment methods**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

## **SECTION 14. Transport information**

### **Land transport (ADR/RID)**

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Inland waterway transport (ADN)

Not relevant

### **Air transport (IATA)**

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

### **Sea transport (IMDG)**

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

## **SECTION 15. Regulatory information**

### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

National legislation

Storage class 10 - 13

### **15.2 Chemical safety assessment**

For this product a chemical safety assessment was not carried out.

## **SECTION 16. Other information**

Full text of H-Statements referred to under sections 2 and 3.

H360FD May damage fertility. May damage the unborn child.

Training advice

Provide adequate information, instruction and training for operators.

### **Further information**

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. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.cdhfinechemical.com](http://www.cdhfinechemical.com) for additional terms and conditions of sale.