



Safety Data Sheet

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

Product identifier:

Product name: pH 9.0 Buffer solution

SDS No. : D0004E-2

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Safety Management Dept. of Chemicals

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product**Classification of the substance or mixture****Label elements**

No GHS label element

No Signal word

3. Composition/information on ingredients

Mixture/Substance selection:**Mixture**

Ingredient name: Boric acid

Content (%): 0.035

Chemical formula: H₃BO₃

Chemicals No, Japan: 1-63

CAS No.: 10043-35-3

MW: 61.83

ECNO: 233-139-2

Ingredient name: Sodium tetraborate

Content (%): 0.22

Chemical formula: Na₂B₄O₇

Chemicals No, Japan: 1-69

CAS No.: 1330-43-4

MW: 201.22

ECNO: 215-540-4

Ingredient name: Water

Content (%): 99

Chemical formula: H₂O

CAS No.: 7732-18-5

MW: 18.02

ECNO: 231-791-2

Note : The figures shown above are not the specifications of the product.



4. First-aid measures

Descriptions of first-aid measures

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth.
Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.
Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident

Collect spillage.



7. Handling and storage

Precautions for safe handling

Preventive measures

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Wear protective gloves, protective clothing or face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Storage

Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Container and packaging materials for safe handling

Polyethylene

8. Exposure controls/personal protection

Control parameters

Adopted value

(Boric acid)

ACGIH(2004) TWA: 2mg/m³(l);

STEL: 6mg/m³(l) (URT irr)

(Sodium tetraborate)

ACGIH(2004) TWA: 2mg/m³(l);

STEL: 6mg/m³(l) (URT irr)

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless

Odor: None

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.



Boiling range data is not available.
Flammability (gases, liquids and solids) data is not available.
Lower and upper explosion limit/flammability limit data is not available.
Flash point data is not available.
Auto-ignition temperature data is not available.
Decomposition temperature data is not available.
pH: about 9.0 (25°C)
Kinematic viscosity data is not available.
Solubility:
 Solubility in water: Soluble
n-Octanol/water partition coefficient data is not available.
Vapor pressure data is not available.
Density and/or relative density: 1.0
Relative vapor density (Air=1) data is not available.
No Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

(Boric acid)

Decomposes above 100° C . This produces water and irritant boric anhydride. The solution in water is a weak acid. Attacks metals. This produces hydrogen. This generates fire and explosion hazard. (ICSC 0991)

(Sodium tetraborate)

Decomposes at 1575° C. This produces toxic fumes including sodium oxide. (ICSC 1229)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Metals

Hazardous decomposition products

Boric anhydride, Hydrogen, Sodium oxide

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Boric acid)

rat LD50=2660-5140mg/kg (NITE risk assessment, 2008)

(Sodium tetraborate)

rat LD50=2660mg/kg (HSDB, Access on May 2017)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Boric acid)

guinea pig/rabbit mild to moderate irritation (PATTY 6th, 2012)

Serious eye damage/irritation

[GHS Cat. Japan, base data]



(Boric acid)
human irritation (ACGIH 7th, 2005et al)
(Sodium tetraborate)
human irritation (ECETOC TR63, 1995)
Allergenic and sensitizing effects data is not available.
Mutagenic effects data is not available.
Carcinogenicity
(Sodium tetraborate)
ACGIH-A4(2004) : Not Classifiable as a Human Carcinogen
(Boric acid)
ACGIH-A4(2004) : Not Classifiable as a Human Carcinogen
Reproductive toxicity
[GHS Cat. Japan, base data]
(Sodium tetraborate)
cat. 1B; boric acid and borax, NITE primary risk assessment, 2008; ATSDR, 2010
STOT
STOT-single exposure
[cat.3 (resp. irrit.)]
[GHS Cat. Japan, base data]
(Boric acid)
respiratory tract irritation (ECETOC TR 63, 1995)
(Sodium tetraborate)
respiratory tract irritation (ATSDR, 2010; NITE primary risk assessment, 2008; ACGIH 7th,
2005; DFGOT, 2013, Access on May 2017)
STOT-repeated exposure data is not available.
Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity
Aquatic toxicity
Hazardous to the aquatic environment (Acute)
[GHS Cat. Japan, base data]
(Boric acid)
Algae (*Pseudokirchneriella subcapitata*) ErC50=290mg/L/72hr (MOE Japan, 2008)
(Sodium tetraborate)
Fish (*Danio rerio*) LC50=66mg/L/96hr (14.2mg-B/L/96hr) (EHC, 1998)
Hazardous to the aquatic environment (Long-term)
[GHS Cat. Japan, base data]
(Boric acid)
Fish (rainbow trout) NOEC=2.1mg/L/87days (MOE Japan, 2008)
Water solubility
(Boric acid)
5 g/100 ml (PHYSROP_DB, 2005)
(Sodium tetraborate)
2.56 g/100 ml (ICSC, 2014)
Persistence and degradability
Persistence and degradability data is not available.
Bioaccumulative potential
(Boric acid)
log Pow=-1.09 (ICSC, 2014)
Mobility in soil
Mobility in soil data is not available.
Other adverse effects



Ozone depleting chemical data is not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No. or ID No.: Not applicable

Not applicable to IMDG Code

Not applicable to IATA Dangerous Goods Regulations

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

Maritime transport in bulk according to IMO instruments

Non Noxious Liquid ; Cat. OS

Water

15. Regulatory Information

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

Chemicals listed in TSCA Inventory

Sodium tetraborate; Water; Boric acid

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

The product is not applicable to GHS classifications.

Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (62nd Edition) 2021

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2020 TLVs and BEIs. (ACGIH)

Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2019).