



Safety Data Sheet

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

Product identifier:

Product name: Sodium tetraborate,10-hydrate

SDS No. : 7303E-3

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

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Division: Safety Management Dept. of Chemicals

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2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2

Reproductive toxicity: Category 1B

Specific target organ toxicity – single exposure: Category 1(digestive apparatus; CNS)

Specific target organ toxicity – single exposure: Category 3 (Respiratory tract irritation)

Specific target organ toxicity – repeated exposure: Category 1(nerve/nervous system; respiratory apparatus)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Long-term): Category 4

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

Causes skin irritation

Causes serious eye irritation

May damage fertility or the unborn child

Causes damage to organs after single exposure(digestive apparatus; CNS)

May cause respiratory irritation

Causes damage to organs through prolonged or repeated exposure(nerve/nervous system; respiratory apparatus)

May cause long lasting harmful effects to aquatic life

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

Wear protective gloves.



Wear eye protection/face protection.

Do not eat, drink or smoke when using this product.

Response

Get medical advice/attention if you feel unwell.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

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.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Disposal

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

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name: Sodium tetraborate, 10-hydrate

Content (%): 99(min)

Chemical formula: $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$

Chemicals No, Japan: 1-69

CAS No.: 1303-96-4

MW: 381.37

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

4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical attention/advice if you feel unwell.

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.

Wash with plenty of soap and water.

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 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.

Avoid raising dust.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(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

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.



Take off contaminated clothing and wash it before reuse.

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

Glass

Polyethylene

8. Exposure controls/personal protection

Control parameters

Adopted value

(Sodium tetraborate, 10-hydrate)

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: Crystals or crystalline powder

Color: White

Odor: Odorless

pH data is not available.

Boiling point or initial boiling point: 75°C (loses crystal water)

Boiling range data is not available.

Melting point/Freezing point: 742°C(anhydrous form); 1575°C (decomposes)

Decomposition temperature data is not available.

Flammability (gases, liquids and solids) data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Vapor pressure data is not available.

Relative vapor density (Air=1) data is not available.

Density and/or relative density: 1.7

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 5.1 g/100 ml (20°C)

n-Octanol/water partition coefficient data is not available.

No Particle characteristics data is not available.



10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Effloresce in air.

Possibility of hazardous reactions

The solution in water is a weak base. (ICSC 0567)

Conditions to avoid

Contact with fire source.

Incompatible materials

Not available.

Hazardous decomposition products

Boron compounds

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]
(Sodium tetraborate, 10-hydrate)
rat LD50=3493-4980mg/kg (EHC 204, 1998)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]
(Sodium tetraborate, 10-hydrate)
rabbit LD50>10000mg/kg (HSDB, Access on Aug. 2017)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]
(Sodium tetraborate, 10-hydrate)
dust: rat LC50=>2mg/L/4hr (PATTY 6th, 2012)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]
(Sodium tetraborate, 10-hydrate)
human dermatitis (ACGIH, 7th, 2001); rabbit/guinea pig irritation (ECETOC TR63, 1995; NITE primary risk assessment, 2008)

Serious eye damage/irritation

[GHS Cat. Japan, base data]
(Sodium tetraborate, 10-hydrate)
human eyes irritating (ATSDR, 2010; EHC 204, 1998); rabbit irritation (PATTY 6th, 2012);
rabbit conjunctival discoloration, blister formation, thickening, corneal irritation
recovered on 8 to 21 days (ECETOC TR63, 1995)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

(Sodium tetraborate, 10-hydrate)
ACGIH-A4(2004) : Not Classifiable as a Human Carcinogen

Reproductive toxicity

[GHS Cat. Japan, base data]
(Sodium tetraborate, 10-hydrate)
cat. 1B; NITE primary risk assessment, 2008; ATSDR, 2010; ECHA CL Invt.; Accesss on Aug. 2017

STOT



STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Sodium tetraborate, 10-hydrate)

digestive apparatus; CNS (Boric acid; ATSDR, 2010; NITE primary assessment, 2008; ACGIH 7th, 2005; ECETOC TR63, 1995)

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]

(Sodium tetraborate, 10-hydrate)

respiratory tract irritation (Boric acid or Tetraboron disodium heptaoxide pentahydrate; ACGIH 7th, 2005; ATSDR, 2010; DFGOT, 2013; Access on May 2017)

STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]

(Sodium tetraborate, 10-hydrate)

nerve/nervous system; respiratory apparatus (MOE risk assessment, 2016; EHC 204, 1998; NITE primary risk assessment, 2008; ATSDR, 2010)

Aspiration hazard data is not available.

Additional data

May cause lung disorders by massive inhalation of powdered substance.

-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

12. Ecological Information

Ecotoxicity

Aquatic toxicity

May cause long lasting harmful effects to aquatic life

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

(Sodium tetraborate, 10-hydrate)

Fish (Danio rerio) LC50=14.2mg-B/L/96hr (cal.) (EHC204, 1998); Crustacea (Daphnia magna) LC50 =73mg-B/L/24hr (cal.) (EHC204, 1998)

Water solubility

(Sodium tetraborate, 10-hydrate)

0.593 g/100 ml (HSDB, 2004); 5.1 g/100 ml (20°C) (ICSC, 2014)

Persistence and degradability

(Sodium tetraborate, 10-hydrate)

Not degrade rapidly (metal element)

Bioaccumulative potential

Bioaccumulative potential data is not available.

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

Avoid release to the environment (- if this is not the intended use).

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



14. Transport Information

Not applicable to UN No., UN CLASS

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

MARPOL Annex V – Prevention of pollution by garbage discharge

Reproductive toxicity: cat.1, 1A, 1B

Sodium tetraborate, 10-hydrate

Specific target organ toxicity – repeated exposure: cat.1

Sodium tetraborate, 10-hydrate

15. Regulatory Information

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

US major regulations

TSCA

Sodium tetraborate, 10-hydrate

Other regulatory information

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

16. Other information

GHS classification and labelling

Skin Irrit. 2: H315 Causes skin irritation

Eye Irrit. 2: H319 Causes serious eye irritation

Repr. 1B: H360 May damage fertility or the unborn child

STOT SE 1: H370 Causes damage to organs after single exposure

STOT SE 3: H335 May cause respiratory irritation

STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure

Aquatic Chronic 4: H413 May cause long lasting harmful effects to aquatic life

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (6th ed., 2015), UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN

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

IATA Dangerous Goods Regulations (60th Edition) 2019

Classification, labelling and packaging of substances and mixtures (table3–1 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2019 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

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 2018).