

Safety Data Sheet

1. Chemical product and company identification

Product name : Disodium tetraborate decahydrate

SDS code : C3-13

Company/undertaking identification :

HAYASHI PURE CHEMICAL IND.,LTD.

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URL : <https://www.hpc-j.co.jp/>

Emergency number : 06-6910-7305

Recommended use : For research and experimental use only.

Restrictions on use : Do not use on a human body or for animal medicines, foods, household products, cosmetics, etc.

2. Hazards identification

GHS classification

| | | | |
|--|--|---------------------------------|-------------------|
| Physical hazards | Explosives | No classification | |
| | Flammable gases | No classification | |
| | Aerosol | No classification | |
| | Oxidizing gases | No classification | |
| | Gases under pressure | No classification | |
| | Flammable liquids | No classification | |
| | Flammable solids | No classification | |
| | Self-reactive substances and mixtures | No classification | |
| | Pyrophoric liquids | No classification | |
| | Pyrophoric solids | No classification | |
| | Self-heating substances and mixtures | No classification | |
| | Substances and mixtures which in contact with water emit flammable gases | No classification | |
| | Oxidizing liquids | No classification | |
| | Oxidizing solids | classification not possible | |
| | Organic peroxides | No classification | |
| | Corrosive to metals | classification not possible | |
| | Desensitized explosives | classification not possible | |
| | Health hazards | Acute toxicity (oral) | No classification |
| | | Acute toxicity (dermal) | No classification |
| | | Acute toxicity (inhalation:gas) | No classification |
| Acute toxicity (inhalation:vapors) | | No classification | |
| Acute toxicity (inhalation:dust/mist) | | classification not possible | |
| Skin corrosion/irritation | | Category 2 | |
| Serious eye damage/eye irritation | | Category 2 | |
| Respiratory sensitization | | classification not possible | |
| Skin sensitization | | classification not possible | |
| Germ cell mutagenicity | | classification not possible | |
| Carcinogenicity | classification not possible | | |
| Reproductive toxicity | Category 1B | | |
| Specific target organ toxicity (single exposure) | Category 1 (central nervous system, digestive tract) | | |

| | | |
|-----------------------|---|---|
| | Specific target organ toxicity (single exposure) | Category 3 (Respiratory tract irritation.) |
| | Specific target organ toxicity (repeated exposure) | Category 1 (respiratory system, nervous system) |
| | Aspiration hazard | classification not possible |
| Environmental hazards | Hazardous to the aquatic environment, short-term (acute) | No classification |
| | Hazardous to the aquatic environment, long-term (chronic) | Category 4 |
| | Hazardous to the ozone layer | classification not possible |

Hazard pictograms (GHS JP)



GHS07



GHS08

| | | |
|-----------------------------------|---|--|
| Signal word (GHS JP) | : | Danger |
| Hazard statements (GHS JP) | : | Causes skin irritation (H315) Causes serious eye irritation (H319) May cause respiratory irritation (H335) May damage fertility or the unborn child (H360) Causes damage to organs (central nervous system, digestive tract) (H370) Causes damage to organs (respiratory system, nervous system) through prolonged or repeated exposure (H372) May cause long lasting harmful effects to aquatic life (H413) |
| Precautionary statements (GHS JP) | : | |
| Prevention | : | Obtain special instructions before use. (P201) Do not handle until all safety precautions have been read and understood. (P202) Do not breathe dust/fume/gas/mist/vapors/spray. (P260) Wash hands, forearms and face thoroughly after handling. (P264) Do not eat, drink or smoke when using this product. (P270) Use only outdoors or in a well-ventilated area. (P271) Avoid release to the environment. (P273) Wear protective gloves/protective clothing/eye protection/face protection. (P280) |
| Response | : | IF ON SKIN: Wash with plenty of water. (P302+P352) IF INHALED: Remove person to fresh air and keep comfortable for breathing (P304+P340) IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338) IF exposed or concerned: Call a POISON CENTER or doctor. (P308+P311) Get medical advice/attention if you feel unwell. (P314) If skin irritation occurs: Get medical advice/attention. (P332+P313) If eye irritation persists: Get medical advice/attention. (P337+P313) Take off contaminated clothing and wash it before reuse. (P362+P364) |
| Storage | : | Store in a well-ventilated place. Keep container tightly closed. (P403+P233) Store locked up. (P405) |
| Disposal | : | Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. (P501) |

3. Composition/information on ingredients

Distinction of substance or mixture : Substance

| Name | Concentration or Concentration range | Formula | Kanpo number | | CAS RN |
|----------------------------------|--------------------------------------|---|--------------|-----------------------------|-----------|
| | | | CSCL no | ISHL no | |
| Disodium tetraborate decahydrate | ≥99.0%、≤100% | Na ₂ B ₄ O ₇ ·10H ₂ O | (1)-69 | Existing Chemical Substance | 1303-96-4 |

The above concentration or concentration range are not product specification.

All percentages listed in the above concentration or concentration range are wt%, unless otherwise specified.

4. First aid measures

First aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
Get immediate medical advice/attention.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing.
Gently wash with plenty of soap and water.
Get immediate medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Get immediate medical advice/attention.
- First-aid measures after ingestion : Rinse mouth.
Get immediate medical advice/attention.

5. Fire fighting measures

- Suitable extinguishing media : Use proper extinguishing media depending on peripheral fire.
- Unsuitable extinguishing media : Do not use a heavy water stream.
- Fire hazard : This product is unburnable.
- Hazardous decomposition products in case of fire : In case of fire, product may produce irritative or toxic fumes/gases.
- Firefighting instructions : If ignited, for the initial fire-fighting, cut off combustion sources, extinguish fire at a stroke using appropriate fire-extinguishers.
In the case of peripheral fire, quickly remove movable containers to safe places.
If unable to be moved containers, sprinkle water to containers and surrounding equipment, etc. to cool.
- Protection during firefighting : Wear appropriate fire-resistant clothing including self contained-compressed air breathing apparatus.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

- General measures : Before entering, ventilate the area.
Do not let unauthorized persons come close to the area.
Immediately place the leakage area in isolation, with taking proper distances for all directions.
Wear appropriate personal protective devices to prevent inhalation and contact with eye, skin, and clothing, and never attempt to work on the lee.

Environmental precautions

- Environmental precautions : Avoid release to the environment.
Prevent entry to sewers and public waters.

Methods and Equipment for Containment and Cleaning up

- Methods for cleaning up : Take care not to generate dust, sweep it up as much as possible, collect it in an empty container that can be sealed, and move it to a safe place.
Wash out the spilled area with large amounts of water.

7. Handling and storage

Handling

- Technical measures : Work with appropriate personal protective equipment to prevent inhalation or contact to eyes, skin, and clothing.
Handle with care to prevent leakage, overflowing, or scattering, minimize generation of mist or vapor, and thoroughly ventilate.
- Precautions for safe handling : Do not eat, drink or smoke when using this product.
Thoroughly wash your hands and gargle after handling.
Ensure good ventilation of the work station.
Do not contact, breathe or swallow.
- Prevents handling of incompatible substances or mixtures : Avoid prolonged or repeated exposure.

Storage

- Storage conditions : Store locked up.
Store in a well-ventilated place, away from direct sunlight. Keep container tightly closed and keep away from fire and heat sources.
- Material used in packaging/containers : Airtight container.
- Technical measures : Comply with applicable regulations.
- Storage temperature : Cool and dark place

8. Exposure controls / Personal protection equipment

| Component name | Concentration standard value (MHLW) | | |
|----------------------------------|-------------------------------------|---------------------------------|-------|
| | OEL TWA | OEL STEL | OEL C |
| Disodium tetraborate decahydrate | 0.1 mg/m ³ as boron | 0.75 mg/m ³ as boron | - |

- Appropriate engineering controls : Cover up tightly the generation source at the handling place or install local exhaust equipment or overall ventilation equipment. Install safety showers and eye-fountains near a handling place. Clearly indicate the location.

Protective equipment

- Respiratory protection : Dustproof mask
- Hand protection : Impervious protective gloves
- Eye protection : Protective glasses (general glasses, glasses with side-shields, goggles)
- Skin and body protection : Impervious aprons, Impervious work clothing, Impervious long boots

9. Physical and chemical properties

- Physical state : Solid
- Appearance : Crystals ~ Crystalline powder
- Color : white
- Odor : Odorless
- pH : No data available
- Melting point : 75 °C
- Freezing point : No data available
- Boiling point : 320 °C
- Flash point : Not inflammable
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available
- Flammability : No data available
- Vapor pressure : No data available
- Relative density : No data available
- Density : 1.73 g/cm³ (20°C)
- Relative gas density : No data available
- Solubility : Soluble in water. Insoluble in ethanol. Slightly soluble in glycerol.
- Partition coefficient n-octanol/water (Log Pow) : No data available
- Explosive limits (vol %) : No data available

Viscosity, kinematic : No data available
 Particle characteristics : No data available

10. Stability and reactivity

Reactivity : No data available
 Chemical stability : Stable under normal handling conditions.
 Possibility of hazardous reactions : Reacts with acids and strong oxidizing agents.
 Conditions to avoid : Sunlight, heat. Contact with acids and strong oxidizing agents.
 Incompatible materials : Acids, Strong oxidizing agents
 Hazardous decomposition products : Boron compounds, Sodium oxides

11. Toxicological information

The information in this section is based on the "GHS Classification Results" by NITE.

| Disodium tetraborate decahydrate | |
|---------------------------------------|---|
| Acute toxicity (oral) | No classification |
| Acute toxicity (dermal) | No classification |
| Acute toxicity (gas) | No classification |
| Acute toxicity (vapour) | No classification |
| Acute toxicity (inhalation:dust/mist) | classification not possible |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/irritation | Category 2 |
| Respiratory sensitization | classification not possible |
| Skin sensitization | classification not possible |
| Germ cell mutagenicity | classification not possible |
| Carcinogenicity | classification not possible |
| Reproductive toxicity | Category 1B |
| STOT-single exposure | Category 1 Category 3 (Respiratory tract irritation.) |
| STOT-repeated exposure | Category 1 |
| Aspiration hazard | classification not possible |

12. Ecological information

The information in this section is based on the "GHS Classification Results" by NITE.

| Disodium tetraborate decahydrate | |
|---|-----------------------------|
| Hazardous to Aquatic Environment - Acute Hazard | No classification |
| Hazardous to Aquatic Environment - Chronic Hazard | Category 4 |
| Persistence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| Hazardous to the ozone layer | classification not possible |

13. Disposal considerations

Ecology - waste materials : With the detail information of the waste, subcontract its disposal to a waste disposer authorized by a Prefectural Governor.
 Contaminated container and packaging : Empty the packaging completely prior to disposal.
 Empty containers should be taken for recycle, recovery or waste in accordance with local regulation.

14. Transport information

International Regulations

Transport by sea(IMDG)

| | |
|-----------------------------------|------------------|
| UN-No. (IMDG) | : Not applicable |
| Proper Shipping Name (IMDG) | : Not applicable |
| Packing group (IMDG) | : Not applicable |
| Transport hazard class(es) (IMDG) | : Not applicable |

Air transport(IATA)

| | |
|-----------------------------------|------------------|
| UN-No. (IATA) | : Not applicable |
| Proper Shipping Name (IATA) | : Not applicable |
| Packing group (IATA) | : Not applicable |
| Transport hazard class(es) (IATA) | : Not applicable |

| | |
|-------------------------|------------------|
| Marine pollutant | : Not applicable |
|-------------------------|------------------|

Regulations in Japan

| | |
|-------------------------------|------------------|
| Regulatory information by sea | : Not applicable |
| Regulatory information by air | : Not applicable |

| | |
|--------------------------------------|--|
| Special transport precautions | : When transporting, load containers so that they do not tip over, damage, drop or collapse. Make sure there is no leak in containers. |
|--------------------------------------|--|

15. Regulatory information

National law

| | |
|---|---|
| Industrial Safety and Health Law | : Not applicable |
| Japanese Poisonous and Deleterious Substances Control Law | : Not applicable |
| Water Pollution Prevention Law | : Hazardous Substances (Act, Art.2, Enforcement Order Art.2, Ministerial Ordinance to Provide for Effluent Standards, Art.1) |
| Fire Service Law | : Not applicable |
| Air Pollution Control Law | : Hazardous Air Pollutants (Central Environment Council Report No. 9) |
| Foreign Exchange and Foreign Trade Control Act | : Export Trade Control Ordinance appendix 1-16 |
| Waterworks Law | : Hazardous Substances (Act Article 4 paragraph 2), Standard for Water Quality (Ministry Order No.101 of 2003) |
| Sewerage Law | : Substances for Water Quality Standard (Act Art.12-2 Para.2, Enforcement Order Art.9-4) |
| Japanese Pollutant Release and Transfer Register Law (PRTR Law) | : Class 1 Designated Chemical Substances (Act Art.2 para.2, Enforcement Order Art.1 Appended Table No.1) Boron compounds as boron(11%) |
| Soil Contamination Countermeasures Law | : Designated Hazardous Substances (Act Art.2 Para.3, Enforcement Order Art.1) |

16. Other information

| | |
|-------------------|---|
| Data sources | : Handbook of 17524 Chemical Products, The Chemical Daily Co, Ltd. International Chemical Safety Cards. National Institute of Technology and Evaluation (NITE). 2020 Emergency Response Guidebook (ERG 2020). |
| Other information | : The SDS is copyrighted material of Hayashi Pure Chemical Ind, Ltd. This Safety Data Sheet is intended to be provided for business operators who handle chemical substance products of the relevant product and is not intended to assure safety in any way. The Safety Data Sheet does not verify all the information on the applicable chemical substance in the present time. With the recognition in that unknown danger constantly exists in the relevant chemical substance, the product shall be used in the principle of self-responsibility of the user with the highest priority to safety from transport and unpacking to disposal. When the relevant chemical substance is used, the user him/herself shall collect safety information and shall investigate laws and regulations at the place, organizations, countries, etc. where the substance is actually used and give the highest priority to them. The Company shall take no responsibility for investigating state and local regulations and the user shall handle this problem on his/her own responsibility. In the event that SDS in Japanese and SDS translated into other languages exist, the document described in Japanese is |

prior to all other documents whether or not there is any difference in contents, and documents in other languages shall be references.