

SAFETY DATA SHEET

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.



Section 1. Identification

Product name : **Granubor®**
Chemical name : Disodium tetraborate pentahydrate
Other means of identification : Borax pentahydrate, Sodium tetraborate pentahydrate, Borax 5 mol
Product type : Solid.

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

Material uses : Micronutrient fertiliser

Supplier's details : U.S. Borax Inc.
14486 Borax Road
Boron, CA 93516-2000
USA
+1 (760) 762 7000

e-mail address of person responsible for this SDS : rtb.sds@riotinto.com

Emergency telephone number : Toll Free (24 Hr)
+1 866 928 0789
Non-Toll Free (24 Hr)
+1 215 207 0061 (Rio Tinto Borates)

For advice on chemical emergencies, spillages, fires or first aid.

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : EYE IRRITATION - Category 2A
TOXIC TO REPRODUCTION - Category 2

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : Causes serious eye irritation.
 Suspected of damaging fertility or the unborn child.

Precautionary statements

General : Do not handle until all safety precautions have been read and understood.

Section 2. Hazards identification

- Prevention** : Wear eye protection.
- Response** : If exposed or concerned: 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.
- Storage** : Not applicable.
- Disposal** : Dispose of contents/container in accordance with local regulation.
- Hazards not otherwise classified** : None.

Section 3. Composition/information on ingredients

- Substance/mixture** : Substance
- Chemical name** : Disodium tetraborate pentahydrate

CAS number/other identifiers

- CAS number** : 12179-04-3

| Ingredient name | % | CAS number |
|---|-----|------------|
| <input checked="" type="checkbox"/> Disodium tetraborate pentahydrate | >99 | 12179-04-3 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Use eye wash fountain or fresh water to cleanse the eye. If irritation persists for more than 30 minutes, seek medical attention.
- Inhalation** : If symptoms such as nose or throat irritation are observed, remove to fresh air.
- Skin contact** : No treatment necessary.
- Ingestion** : Swallowing small quantities (one teaspoon) will cause no harm to healthy adults. If larger amounts are swallowed, give two glasses of water to drink and seek medical attention.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Symptoms of accidental over-exposure to high doses of inorganic borate salts have been associated with ingestion or absorption through large areas of severely damaged skin. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling.
- Ingestion** : This product is not intended for ingestion. Small amounts (e.g., a teaspoon) swallowed accidentally are not likely to cause effects; swallowing amounts larger than that may cause gastrointestinal symptoms. Symptoms of accidental over-exposure to high doses of inorganic borate salts have been associated with ingestion or absorption through large areas of severely damaged skin. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling.

Over-exposure signs/symptoms

Section 4. First aid measures

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Symptoms of accidental over-exposure to high doses of inorganic borate salts have been associated with ingestion or absorption through large areas of severely damaged skin. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling.
- Ingestion** : Symptoms of accidental over-exposure to high doses of inorganic borate salts have been associated with ingestion or absorption through large areas of severely damaged skin. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling.

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

- Notes to physician** : Supportive care only is required for adult ingestion of less than a few grams of the product. For ingestion of larger amounts, maintain fluid and electrolyte balance and maintain adequate kidney function. Gastric lavage is only recommended for heavily exposed, symptomatic patients in whom emesis has not emptied the stomach. Hemodialysis should be reserved for patients with massive acute absorption, especially for patients with compromised renal function. Boron analyses of urine or blood are only useful for verifying exposure and are not useful for evaluating severity of poisoning or as a guide in treatment.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No special protective clothing is required.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use extinguishing media that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : None. The product is not flammable, combustible or explosive.

Hazardous thermal decomposition products : None.

Special protective actions for fire-fighters : None.

Special protective equipment for fire-fighters : Not applicable.

Remark : Non-flammable. The product is not flammable, combustible or explosive.

Remark : Not explosive.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : Specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : The product is a water-soluble white powder that may cause damage to trees or vegetation by root absorption. Avoid contamination of water bodies during clean up and disposal. Advise local water authority that none of the affected water should be used for irrigation or for the abstraction of potable water until natural dilution returns the boron value to its normal environmental background level or meets local water quality standards.

Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Good housekeeping procedures should be followed to minimise dust generation and accumulation. Avoid spills.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : No special handling precautions are required, but dry, indoor storage is recommended. To maintain package integrity and to minimise caking of the product, bags should be handled on a first-in first-out basis.

Storage temperature: Ambient temperature
 Storage pressure: Ambient pressure
 Special sensitivity: Moisture (Caking)

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|-----------------------------------|---|
| Disodium tetraborate pentahydrate | NIOSH REL (United States, 10/2020). TWA: 1 mg/m ³ 10 hours. ACGIH TLV (United States, 1/2022). [Borate compounds, Inorganic] TWA: 2 mg/m ³ 8 hours. Form: Inhalable fraction STEL: 6 mg/m ³ 15 minutes. Form: Inhalable fraction |

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : In the absence of a national OEL, Rio Tinto Borates recommends and applies internally an Occupational Exposure Limit (OEL) of 1 mg B/m³. To convert product into equivalent boron (B) content, multiply by 0.1484.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: Eye protection according to ANSI Z.87.1 or other national standards are required.

Skin protection

Hand protection : Standard work gloves (cotton, canvas or leather) may be warranted if environment is excessively dusty.

Body protection : No special protective clothing is required.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

| | |
|--|--|
| Physical state | : Solid. [Crystalline] |
| Color | : White. |
| Odor | : Odorless. |
| Odor threshold | : <input checked="" type="checkbox"/> Not applicable. [Odourless.] |
| pH | : 9.23 [Conc. (% w/w): 3.5%] |
| Melting point/freezing point | : <input checked="" type="checkbox"/> 1000°C (>1832°F) |
| Boiling point, initial boiling point, and boiling range | : <input checked="" type="checkbox"/> Not applicable. [melting point >300°C] |
| Flash point | : <input checked="" type="checkbox"/> Not applicable. Inorganic substance. |
| Evaporation rate | : <input checked="" type="checkbox"/> Not applicable (solid). [Non-volatile.] |
| Flammability | : <input checked="" type="checkbox"/> Non-flammable. The product is not flammable, combustible or explosive. |
| Lower and upper explosion limit/flammability limit | : <input checked="" type="checkbox"/> Not applicable. Non-flammable. |
| Vapor pressure | : <input checked="" type="checkbox"/> Not applicable. Melting point >300°C |
| Relative vapor density | : <input checked="" type="checkbox"/> Not applicable. Melting point >300 °C |
| Relative density | : <input checked="" type="checkbox"/> 2.35 @ 26°C (anhydrous); 1.72 @ 23°C (decahydrate) |
| Bulk density | : <input checked="" type="checkbox"/> Not available. Depends on batch. |
| Density | : <input checked="" type="checkbox"/> 1.72 g/cm ³ [23°C (73.4°F)] |
| Granulometry | : <input checked="" type="checkbox"/> Not available. Depends on batch. |
| Solubility in water | : <input checked="" type="checkbox"/> 9.74 g/l |
| Partition coefficient: n-octanol/water | : <input checked="" type="checkbox"/> 1.53 @ 22 °C (decahydrate) |
| Auto-ignition temperature | : <input checked="" type="checkbox"/> Not applicable (solid). [Not self-heating.] |
| Decomposition temperature | : <input checked="" type="checkbox"/> Not applicable. Melting point >300°C |
| Viscosity | : <input checked="" type="checkbox"/> Dynamic: Not applicable (not liquid). [solid substance] Kinematic: Not applicable (not liquid). [solid substance] |
| Molecular weight | : 291.35 |
| Particle characteristics | |
| Median particle size | : <input checked="" type="checkbox"/> Not available. |

Section 10. Stability and reactivity

| | |
|---|---|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : <input checked="" type="checkbox"/> Under ambient temperatures, the product is stable. When heated it loses water, eventually forming anhydrous borax (Na ₂ B ₄ O ₇). |
| Possibility of hazardous reactions | : <input checked="" type="checkbox"/> Reaction with strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas which could create an explosive hazard. |
| Conditions to avoid | : Avoid contact with strong reducing agents by storing according to good industrial practice. |
| Incompatible materials | : Strong reducing agents |

Section 10. Stability and reactivity

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Absorption : Absorption of borates via the oral route is nearly 100 %. For the inhalation route also 100 % absorption is assumed as worst case scenario. Dermal absorption through intact skin is very low with a percent dose absorbed of < 0.5 %.

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-----------------------------------|---------------------------------|---------|-------------------------|----------|
| Disodium tetraborate pentahydrate | LC50 Inhalation Dusts and mists | Rat | >2 mg/l | 4 days |
| | LD50 Dermal | Rabbit | >2000 mg/kg body weight | - |
| | LD50 Oral | Rat | 3305 mg/kg body weight | - |

Conclusion/Summary : Based on available data, the classification criteria are not met.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-----------------------------------|-----------------------|--------------------------|-------|-----------------------------|-------------|
| Disodium tetraborate pentahydrate | Eyes - Irritant | New Zealand White Rabbit | - | 0.08 ml equivalent | - |
| | Skin - No irritation. | New Zealand White Rabbit | - | 0.5 g moistened with saline | - |

Conclusion/Summary

Skin : Non-irritating to the skin. Based on the available data, the classification criteria are not met.

Eyes : Causes serious eye irritation. Irritating, fully reversible within 14 days. Many years of occupational exposure indicate no adverse effects on human eye.

Respiratory : Based on the available data, the classification criteria are not met.

Sensitization

| Product/ingredient name | Route of exposure | Species | Result |
|-----------------------------------|-------------------|------------|-----------------|
| Disodium tetraborate pentahydrate | skin | Guinea pig | Not sensitizing |

Conclusion/Summary

Skin : Not a skin sensitizer. Based on the available data, the classification criteria are not met.

Respiratory : No respiratory sensitization studies have been conducted. There are no data to suggest that disodium tetraborates are respiratory sensitizers. Based on the available data, the classification criteria are not met.

Mutagenicity

| Product/ingredient name | Test | Experiment | Result |
|-----------------------------------|------------------------|---|----------|
| Disodium tetraborate pentahydrate | (based on boric acid). | Experiment: In vitro Subject: Mammalian-Animal Cell: Germ | Negative |

Section 11. Toxicological information

Conclusion/Summary : Not mutagenic (based on boric acid). Based on the available data, the classification criteria are not met.

Carcinogenicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-----------------------------------|------------------------|---------|--|---|
| Disodium tetraborate pentahydrate | Negative - Oral - NOEL | Rat | 446 to 1150 mg/kg mg Boric acid/kg bw/ day | Oral feeding study (based on boric acid). |

Conclusion/Summary : No evidence of carcinogenicity (based on boric acid). Based on the available data, the classification criteria are not met.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|-----------------------------------|-------|------|-----|
| Disodium tetraborate pentahydrate | None. | - | - |

Reproductive toxicity

| Product/ingredient name | Maternal toxicity | Fertility Effects | Developmental effects | Species | Effects | Exposure |
|-----------------------------------|-------------------|-------------------|-----------------------|---------|--|---|
| Disodium tetraborate pentahydrate | Negative | Negative | Negative | Human | No adverse fertility effects in male workers. Epidemiological studies of human developmental effects have shown an absence of effects in exposed borate workers and populations living in areas with high environmental levels of boron. | Combined oral ingestion and inhalation. |
| | Positive | - | Positive | Rat | NOAEL in rats for developmental effects on the foetus including foetal weight loss and minor skeletal variations is 9.6 mg B/kg body weight; NOAEL in rats for maternal toxicity is 13.3 mg B/kg body weight | Oral feeding study |
| | - | Positive | - | Rat | NOAEL in rats for effects on fertility in males | Oral feeding study |

Section 11. Toxicological information

| | | | | | | |
|--|--|--|--|--|---------------------------------|--|
| | | | | | is 17.5 mg B/kg body weight. | |
|--|--|--|--|--|---------------------------------|--|

Conclusion/Summary : Reprotoxicity studies have been conducted with boric acid and disodium tetraborate. A multigeneration study in the rat gave a NOAEL for fertility in males of 17.5 mg B/kg/day. Developmental effects have been observed in laboratory animals, the most sensitive species being the rat with a NOAEL of 9.6 mg B/kg bw/day. While boron has been shown to adversely affect male reproduction in laboratory animals, there was no clear evidence of male reproductive effects attributable to boron in studies of highly exposed workers.

Teratogenicity

Conclusion/Summary : See Reproductive toxicity.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|---|----------|-------------------|---------------|
| Based on the available data, the classification criteria are not met. | | | |

Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|---|----------|-------------------|---------------|
| Based on the available data, the classification criteria are not met. | | | |

Aspiration hazard

| Name | Result |
|-----------------------------------|---|
| Disodium tetraborate pentahydrate | Physical form of solid powder indicates no aspiration hazard potential. |

Information on the likely routes of exposure : Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern because product is poorly absorbed through intact skin. **Product is not intended for ingestion.**

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Symptoms of accidental over-exposure to high doses of inorganic borate salts have been associated with ingestion or absorption through large areas of severely damaged skin. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling.

Ingestion : This product is not intended for ingestion. Small amounts (e.g., a teaspoon) swallowed accidentally are not likely to cause effects; swallowing amounts larger than that may cause gastrointestinal symptoms. Symptoms of accidental over-exposure to high doses of inorganic borate salts have been associated with ingestion or absorption through large areas of severely damaged skin. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 11. Toxicological information

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Symptoms of accidental over-exposure to high doses of inorganic borate salts have been associated with ingestion or absorption through large areas of severely damaged skin. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling.
- Ingestion** : Symptoms of accidental over-exposure to high doses of inorganic borate salts have been associated with ingestion or absorption through large areas of severely damaged skin. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid and sodium borate dust. Human epidemiological studies indicate no effect on fertility in occupational populations with chronic exposures to borate dust and indicate no effect to a general population with high exposures to borates in the environment.

Potential chronic health effects

| Product/ingredient name | Result | Species | Dose | Exposure |
|-----------------------------------|--------------------|---------|--|--------------------|
| Disodium tetraborate pentahydrate | Chronic NOAEL Oral | Rat | 17.5 mg/kg 0; 33 (5.9); 100 (17.5); 334 (58.5) mg boric acid (B)/kg bw per day (nominal in diet); and 0; 52 (5.9); 155 (17.5); 516 (58.5) mg borax (B)/kg/day (nominal in diet) | Oral feeding study |

Conclusion/Summary : A NOAEL of 17.5 mg B/kg bw/day equivalent to 118 mg sodium tetraborate pentahydrate/kg bw/day was determined in a chronic feeding study (2 years) in rats and is based on testes effects. Other effects (renal, hematopoietic systems) are only observed at even higher doses.

Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid and sodium borate dust. Human epidemiological studies indicate no effect on fertility in occupational populations with chronic exposures to borate dust and indicate no effect to a general population with high exposures to borates in the environment.

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.

Section 11. Toxicological information

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|-------------------------|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| None. | | | | | |

Toxicokinetics

- Distribution** : Boric acid is distributed rapidly and evenly through the body, with concentrations in bone 2-3 higher than in other tissues.
- Metabolism** : In the blood boric acid is the main species present and is not further metabolised.
- Elimination** : Boric acid is excreted rapidly, with elimination half-lives of 1 h in the mouse, 3 h in the rat and <27.8 h in humans, and has low potential for accumulation. Boric acid is mainly excreted in the urine.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-----------------------------------|---------------------------|--|-----------------------|
| Disodium tetraborate pentahydrate | EC50 52.4 mg/l (as Boron) | <i>Pseudokirchneriella subcapitata</i> | Fresh water - Acute |
| | LC50 91 mg/l (as Boron) | <i>Ceriodaphnia dubia</i> | Fresh water - Acute |
| | LC50 79.7 mg/l (as Boron) | <i>Pimephales promelas</i> | Fresh water - Acute |
| | NOEC 6.4 mg/l (as Boron) | <i>Brachydanio rerio</i> | Fresh water - Chronic |
| | NOEC 14.2 mg/l (as Boron) | <i>Daphnia magna</i> | Fresh water - Chronic |
| | NOEC 17.5 mg/l (as Boron) | <i>Pseudokirchneriella subcapitata</i> | Fresh water - Chronic |

Conclusion/Summary : Note that the data values are expressed as boron equivalents. To convert this product into equivalent boron (B) content, multiply by 0.1484. Studies judged to be unreliable or with insufficient information to evaluate are not included.

Boron is an essential micronutrient for healthy growth of plants; however, it can be harmful to boron sensitive plants in high quantities. Care should be taken to minimize the amount of this product released to the environment.

Persistence and degradability

Conclusion/Summary : Not applicable. Inorganic

Section 12. Ecological information

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-----------------------------------|--------------------|-----|-----------|
| Disodium tetraborate pentahydrate | -1.53 | - | Low |

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : The product is soluble in water and is leachable through normal soil. Adsorption to soils or sediments is insignificant.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Waste packaging should be recycled. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | IMDG | IATA |
|-----------------------------------|--------------------|--------------------|-----------------------|----------------|----------------|
| UN number | Not regulated. | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| UN proper shipping name | - | - | - | - | - |
| Transport hazard class(es) | - | - | - | - | - |
| Packing group | - | - | - | - | - |
| Environmental hazards | No. | No. | No. | No. | No. |

Special precautions for user : Not applicable.

Transport in bulk according to IMO instruments : Not applicable.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Exempt

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : EYE IRRITATION - Category 2A
TOXIC TO REPRODUCTION - Category 2

Composition/information on ingredients

| Name | % | Classification |
|-----------------------------------|-----|--|
| Disodium tetraborate pentahydrate | >99 | EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION - Category 2 |

State regulations

Massachusetts : The following components are listed: BORATES, TETRA, SODIUM SALTS

New York : None of the components are listed.

New Jersey : The following components are listed: BORATE COMPOUNDS, Inorganic

Pennsylvania : None of the components are listed.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 15. Regulatory information

Inventory list

- Australia** : All components are listed or exempted.
 - China** : All components are listed or exempted.
 - Eurasian Economic Union** : **Russian Federation inventory**: All components are listed or exempted.
 - Japan** : **Japan inventory (CSCL)**: All components are listed or exempted.
Japan inventory (ISHL): Not determined.
 - New Zealand** : All components are listed or exempted.
 - Philippines** : All components are listed or exempted.
 - Republic of Korea** : All components are listed or exempted.
 - Taiwan** : All components are listed or exempted.
 - Thailand** : All components are listed or exempted.
 - Turkey** : Not determined.
 - United States** : All components are active or exempted.
 - Viet Nam** : All components are listed or exempted.
- Canada**
- WHMIS (Canada)** : **EYE IRRITATION** - Category 2A
TOXIC TO REPRODUCTION - Category 2
 - Canadian NPRI** : None of the components are listed.

Section 16. Other information

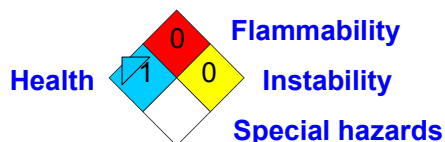
Hazardous Material Information System (U.S.A.)

| | | |
|------------------|---|---|
| Health | * | 2 |
| Flammability | | 0 |
| Physical hazards | | 0 |
| | | |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.


National Fire Protection Association (U.S.A.)



Procedure used to derive the classification

| Classification | Justification |
|--|------------------------------------|
| <input checked="" type="checkbox"/> EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION - Category 2 | Expert judgment Expert judgment |

Section 16. Other information

Additional information :  Keep out of reach of children.
Do not ingest.
Refer to safety data sheet.
Not for use in drugs, pesticides or for food preservation.
Use only as directed.

History

Date of issue/Date of revision : 26/06/2024

Date of previous issue : 12/11/2019

Version : 1.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
IMSBC = International Maritime Solid Bulk Cargoes Code
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

References : For general information on the toxicology of borates see Patty's Toxicology, 6th Edition Vol. I, (2012) Chap. 23, 'Boron'.

 **Indicates information that has changed from previously issued version.**

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