

SAFETY DATA SHEET

Creation Date 16-Nov-2010

Revision Date 11-Apr-2018

Revision Number 6

1. Identification

Product Name Sodium tetraborate decahydrate

Cat No. : B80; B175500; S24612; S246212; S246250LB; S246500; S249500; S249500LC; NC9821542

CAS-No 1303-96-4
Synonyms Sodium borate decahydrate; Borax

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious Eye Damage/Eye Irritation
Reproductive Toxicity

Category 2
Category 1B

Label Elements

Signal Word

Danger

Hazard Statements

Causes serious eye irritation
May damage fertility. May damage the unborn child



Precautionary Statements

Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection

Response

IF exposed or concerned: Get medical attention/advice

Eyes

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 locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|---|-----------|----------|
| Borates, tetra, sodium salts, decahydrate | 1303-96-4 | 100 |

4. First-aid measures

| | |
|--|---|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention. |
| Inhalation | Move to fresh air. Obtain medical attention. If not breathing, give artificial respiration. |
| Ingestion | Do not induce vomiting. Obtain medical attention. |
| Most important symptoms and effects | No information available. |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

Suitable Extinguishing Media Water spray. Carbon dioxide (CO₂). Dry chemical. Chemical foam.

Unsuitable Extinguishing Media No information available

Flash Point No information available
Method - No information available

Autoignition Temperature Not applicable

Explosion Limits

Upper No data available
Lower No data available

Oxidizing Properties Not oxidising

Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating

gases and vapors.

Hazardous Combustion Products

Oxides of boron Sodium oxides

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health
2

Flammability
0

Instability
0

Physical hazards
N/A

6. Accidental release measures

Personal Precautions

Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

Environmental Precautions

Should not be released into the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean Up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

7. Handling and storage

Handling

Avoid contact with skin and eyes. Do not breathe dust. Avoid contact with clothing. Ensure adequate ventilation. Wear personal protective equipment.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Exposure Guidelines

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH | Mexico OEL (TWA) |
|---|---|-------------------------------------|--------------------------|--------------------------|
| Borates, tetra, sodium salts, decahydrate | TWA: 2 mg/m ³ STEL: 6 mg/m ³ | (Vacated) TWA: 10 mg/m ³ | TWA: 5 mg/m ³ | TWA: 5 mg/m ³ |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

| | |
|--|---|
| Physical State | Powder Solid |
| Appearance | White |
| Odor | Odorless |
| Odor Threshold | No information available |
| pH | 9 5% aq.sol. 20°C |
| Melting Point/Range | 75 °C / 167 °F |
| Boiling Point/Range | No information available |
| Flash Point | No information available |
| Evaporation Rate | Not applicable |
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available |
| Vapor Density | Not applicable |
| Specific Gravity | 1.7300 |
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | Not applicable |
| Decomposition Temperature | > 100°C |
| Viscosity | Not applicable |
| Molecular Formula | B ₄ Na ₂ O ₇ · 10 H ₂ O |
| Molecular Weight | 381.36 |

10. Stability and reactivity

| | |
|----------------------------------|---|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Exposure to air. Incompatible products. Avoid dust formation. |
| Incompatible Materials | Strong oxidizing agents, Strong acids, Powdered metal salts |
| Hazardous Decomposition Products | Oxides of boron, Sodium oxides |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Acute Toxicity

Product Information

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|--------------------|-------------------------|-----------------|
| Borates, tetra, sodium salts, decahydrate | 5660 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | 2.03 mg/l (Rat) |

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|-----------------|--|
| Irritation | Irritating to eyes May cause irritation of respiratory tract |
| Sensitization | No information available |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|------------------------|-----------|------------|------------|------------|------------|------------|
| Borates, tetra, sodium | 1303-96-4 | Not listed | Not listed | Not listed | Not listed | Not listed |

| | | | | | |
|---|---|--|--|--|--|
| salts, decahydrate | | | | | |
| Mutagenic Effects | No information available | | | | |
| Reproductive Effects | Experiments have shown reproductive toxicity effects on laboratory animals. | | | | |
| Developmental Effects | No information available. | | | | |
| Teratogenicity | May cause harm to the unborn child. | | | | |
| STOT - single exposure | None known | | | | |
| STOT - repeated exposure | None known | | | | |
| Aspiration hazard | No information available | | | | |
| Symptoms / effects, both acute and delayed | No information available | | | | |
| Endocrine Disruptor Information | No information available | | | | |
| Other Adverse Effects | The toxicological properties have not been fully investigated. | | | | |

12. Ecological information

Ecotoxicity

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---|---|---|----------|----------------------------|
| Borates, tetra, sodium salts, decahydrate | 2.6-21.8 mg/L EC50 96h 158 mg/L EC50 = 96h | 340 mg/L LC50 96 h 708 mg/L LC50 96 h (Pimephales promelas) | - | 1085 - 1402 mg/L LC50 48 h |

| | |
|--------------------------------------|---|
| Persistence and Degradability | Persistence is unlikely |
| Bioaccumulation/ Accumulation | No information available. |
| Mobility | Will likely be mobile in the environment due to its water solubility. |

| Component | log Pow |
|---|---------|
| Borates, tetra, sodium salts, decahydrate | - 0.757 |

13. Disposal considerations

| | |
|-------------------------------|---|
| Waste Disposal Methods | Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification. |
|-------------------------------|---|

14. Transport information

| | |
|-----------------|---------------|
| DOT | Not regulated |
| TDG | Not regulated |
| IATA | Not regulated |
| IMDG/IMO | Not regulated |

15. Regulatory information

International Inventories

| Component | TSCA | DSL | NDSL | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|---|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Borates, tetra, sodium salts, decahydrate | X | X | - | 215-540-4 | - | | X | X | X | X | X |

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---|---------------|------------|--------------|----------|--------------|
| Borates, tetra, sodium salts, decahydrate | X | X | X | X | X |

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By Regulatory Affairs
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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally

Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS