

## SAFETY DATA SHEET

Creation Date 16-November-2010

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Revision Number 4

### 1. Identification

**Product Name** Sodium tetraborate decahydrate

**Cat No. :** S24810; S2483; S248500;

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

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Not for food, drug, pesticide or biocidal product use

#### Details of the supplier of the safety data sheet

##### Company

**Importer/Distributor**  
Fisher Scientific  
112 Colonnade Road,  
Ottawa, ON K2E 7L6,  
Canada  
Tel: 1-800-234-7437

##### **Manufacturer**

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

**WHMIS 2015 Classification** Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

<b>Serious Eye Damage/Eye Irritation</b>	Category 2
<b>Reproductive Toxicity</b>	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  
 Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection

**Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 IF exposed or concerned: Get medical advice/attention

**Storage**

Store locked up

**Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. Composition/Information on Ingredients

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

### 4. First-aid measures

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

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Water spray. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Chemical foam.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	No information available
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	Not applicable
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Oxidizing Properties</b>	Not oxidising
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	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	Alberta	British Columbia	Ontario TWAEV	Quebec	ACGIH TLV	OSHA PEL	NIOSH IDLH
Borates, tetra, sodium salts, decahydrate	TWA: 1 mg/m <sup>3</sup> STEL: 3 ppm	TWA: 2 mg/m <sup>3</sup> STEL: 6 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> STEL: 6 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> STEL: 6 mg/m <sup>3</sup>	(Vacated) TWA: 10 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>

**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.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment****Eye Protection**

Goggles

**Hand Protection**

Protective gloves

Glove material	Breakthrough time	Glove thickness	Glove comments
Natural rubber	See manufacturers recommendations	-	Splash protection only
Nitrile rubber			
Neoprene			
PVC			

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

**Respiratory Protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. 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.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Recommended Filter type:** Particulates filter conforming to EN 143

When RPE is used a face piece Fit Test should be conducted

#### **Environmental exposure controls**

No information available.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

## 9. Physical and chemical properties

<b>Physical State</b>	Powder Solid
<b>Appearance</b>	White
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No information available
<b>pH</b>	9 5% aq.sol. 20°C
<b>Melting Point/Range</b>	75 °C / 167 °F
<b>Boiling Point/Range</b>	No information available
<b>Flash Point</b>	No information available
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid,gas)</b>	No information available
<b>Flammability or explosive limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Vapor Pressure</b>	No information available
<b>Vapor Density</b>	Not applicable
<b>Specific Gravity</b>	1.7300
<b>Solubility</b>	No information available
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	Not applicable
<b>Decomposition Temperature</b>	> 100°C
<b>Viscosity</b>	Not applicable
<b>Molecular Formula</b>	B4 Na2 O7 . 10 H2 O
<b>Molecular Weight</b>	381.36

## 10. Stability and reactivity

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Exposure to air. Incompatible products. Avoid dust formation.
<b>Incompatible Materials</b>	Strong oxidizing agents, Strong acids, Powdered metal salts
<b>Hazardous Decomposition Products</b>	Oxides of boron, Sodium oxides
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	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 salts, decahydrate	1303-96-4	Not listed	Not listed	Not listed	Not listed	Not listed

**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

<u>DOT</u>	Not regulated
<u>TDG</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated

## 15. Regulatory information

### International Inventories

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

### Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

## 16. Other information

<b>Prepared By</b>	Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com
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<b>Revision Summary</b>	This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

### 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**