SAFETY DATA SHEET

Creation Date 16-November-2010 **Revision Date** 18-December-2025 **Revision Number** 9

This safety data sheet was created pursuant to the requirements of: Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR) - SOR 2022-272

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 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 Company
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 This product is hazardous in accordance with the Canada Hazardous Products Act (HPA) and Hazardous Products Regulation (HPR), as amended (SOR/2022-272)

Reproductive Toxicity	Category 1B

Label Elements

Signal Word
Danger

Hazard Statements
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
Wear protective gloves/protective clothing/eye protection/face protection
Response
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 %
Borax (B4Na2O7.10H2O)	1303-96-4	100
Disodium tetraborate	1330-43-4	-

4. First-aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately.

Most important symptoms/effects None reasonably foreseeable.
Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Water spray. Carbon dioxide (CO_2). 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. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
2	0	0	N/A

6. Accidental release measures

Personal Precautions Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.
Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Up Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

7. Handling and storage

Handling Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

Storage. Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong oxidizing agents. Strong acids. Finely powdered metals.

8. Exposure controls / personal protection

Exposure Guidelines

Component	Alberta	British Columbia	Ontario TWAEV	Quebec
Borax (B4Na2O7.10H2O)	TWA: 1 mg/m³ STEL: 3 ppm	TWA: 2 mg/m³ STEL: 6 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³	TWA: 1 ppm
Disodium tetraborate	TWA: 1 mg/m³ STEL: 3 ppm	TWA: 2 mg/m³ STEL: 6 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³

Component	Manitoba	New Brunswick	Newfoundland and Labrador	Nova Scotia
Borax (B4Na2O7.10H2O)	TWA: 2 mg/m³ STEL: 6 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³
Disodium tetraborate	TWA: 2 mg/m³ STEL: 6 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³

Component	Nunavut	Prince Edward Island	Saskatchewan	Yukon

Borax (B4Na2O7.10H2O)	TWA: 2 mg/m³ STEL: 6 mg/m³	TWA: 2 mg/m³ STEKL: 6 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³	
Disodium tetraborate	TWA: 2 mg/m³ STEL: 6 mg/m³	TWA: 2 mg/m³ STEKL: 6 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³	

Component	ACGIH TLV	OSHA PEL	NIOSH
Borax (B4Na2O7.10H2O) 1303-96-4 (100)	TWA: 2 mg/m³ STEL: 6 mg/m³	(Vacated) TWA: 10 mg/m³	REL = 5 mg/m³ (TWA)
Disodium tetraborate 1330-43-4 (-)	TWA: 2 mg/m³ STEL: 6 mg/m³	(Vacated) TWA: 10 mg/m³	REL = 1 mg/m³ (TWA)

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH: NIOSH - National Institute for Occupational Safety and 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 Nitrile rubber Neoprene PVC	See manufacturers recommendations	-	Splash protection only

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 compatability, 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 and gloves, including the inside, before re-use. Wash hands before breaks and after work.

9. Physical and chemical properties

Appearance

Physical State	Powder Solid		
Color	White		
Odor	Odorless		
Odor Threshold	No information available		
Property	**Values**	**Remarks**	**• Method**
Melting Point/Range	> 1000 °C / > 1832 °F		
Softening Point	No data available		
Boiling Point/Range	No information available		
Flash Point	No information available	**Method -** No information available	
Flammability (liquid)	Not applicable	Solid	
Flammability (solid,gas)	No information available		
Explosion Limits	No data available		
Autoignition Temperature	Not applicable		
Decomposition Temperature	> 100°C		
pH	9	5% aq.sol. 20°C	
Viscosity	Not applicable	Solid	
Water Solubility	49.74 g/L (20°C)		
Solubility in other solvents	No information available		
Partition Coefficient (n-octanol/water)			
Component	**log Pow**		
Borax (B4Na2O7.10H2O)	- 0.757		
Disodium tetraborate	-0.7570		
Vapor Pressure	No information available		
Density / Specific Gravity			
Bulk Density	No data available		
Vapor Density	Not applicable	Solid	
Particle characteristics	No data available		

Other Information

Molecular Formula	B4 Na2 O7 . 10 H2 O
Molecular Weight	381.36
Explosive Properties	Not explosive
Oxidizing Properties	Not oxidising
Evaporation Rate	Not applicable - Solid

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, Finely powdered metals
Hazardous Decomposition Products	Oxides of boron, Sodium oxides
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Information on expected route of exposure

Inhalation	Avoid breathing dust or spray mist. May be harmful if inhaled.
Ingestion	May be harmful if swallowed.
Eyes	Avoid contact with eyes.

Skin Avoid contact with skin.

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Borax (B4Na2O7.10H2O)	5660 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	2.03 mg/l (Rat)
Disodium tetraborate	LD50 = 2660 mg/kg (Rat)	LD50 > 2000 mg/kg (Rabbit)	LC50 > 2 mg/m³ (Rat) 4 h

Toxicologically Synergistic Products No information available

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available
Test species rabbit
Observation end point Severe eye irritant
fully reversible

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available

Component	Test method	Test species	Study result
Borax (B4Na2O7.10H2O) 1303-96-4 (100)	OECD Test Guideline 406	guinea pig	- - non-sensitising

(e) germ cell mutagenicity; No data available

(f) carcinogenicity;

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Borax (B4Na2O7.10H2O)	1303-96-4	Not listed	Not listed	Not listed	Not listed	Not listed
Disodium tetraborate	1330-43-4	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; Category 1B

Component	Test method	Test species / Duration	Study result
Borax (B4Na2O7.10H2O) 1303-96-4 (100)	OECD Test Guideline 416 --- OECD Test Guideline 414	Rat	NOAEL = 9.6 mg/kg --- NOAEL = 17.5 mg/kg

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.
Teratogenicity May cause harm to the unborn child.

(h) STOT-single exposure; No data available

Test species / Sex / Route of exposure mouse / Inhalation
Effective dose NOAEL 0.186 mg/l/4h

(i) STOT-repeated exposure; No data available

Test species / Duration Rat

Study result NOAEL = 118 mg/kg
Target Organs None known.

(j) aspiration hazard; Not applicable
Solid

Other Adverse Effects The toxicological properties have not been fully investigated.

Symptoms / effects,both acute and delayed No information available.

Other Adverse Effects The toxicological properties have not been fully investigated.

Endocrine Disrupting Properties This product does not contain any known or suspected endocrine disruptors.

12. Ecological information

Ecotoxicity

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Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Borax (B4Na2O7.10H2O)	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
Disodium tetraborate	EC50: 2.6 - 21.8 mg/L, 96h static (Pseudokirchneriella subcapitata) EC50: = 158 mg/L, 96h (Desmodesmus subspicatus)	LC50: = 340 mg/L, 96h (Limanda limanda)	Not listed	LC50: 1085 - 1402 mg/L, 48h (Daphnia magna)

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
Borax (B4Na2O7.10H2O)	- 0.757
Disodium tetraborate	-0.7570

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	CAS-No	DSL	NDSL	TSCA	TSCA Inventory notification - Active-Inactive	EINECS	ELINCS	NLP
Borax (B4Na2O7.10H2O)	1303-96-4	X	-	X	ACTIVE	215-540-4	-	-

Disodium tetraborate	1330-43-4	X	-	X	ACTIVE	215-540-4	-	-

Component	CAS-No	IECSC	KECL	ENCS	ISHL	TCSI	AICS	NZIoC	PICCS
Borax (B4Na2O7.10H2O)	1303-96-4	X	KE-03483	X	X	X	X	X	X
Disodium tetraborate	1330-43-4	X	KE-12384	X	X	X	X	X	X

Legend:
X - Listed '-' - Not listed
KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

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 its amendments and meets the requirements of the HPR (Paragraph 13(1)(a) of the revised Hazardous Products Act (HPA)).

Other International Regulations

Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Borax (B4Na2O7.10H2O)	-	Use restricted. See entry 30. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details)	SVHC Candidate list - 603-411-9 - Toxic for reproduction, Article 57c
Disodium tetraborate	-	Use restricted. See entry 30. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details)	SVHC Candidate list - 215-540-4 - Toxic for reproduction, Article 57c

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

REACH links
https://echa.europa.eu/authorisation-list
https://echa.europa.eu/substances-restricted-under-reach
https://echa.europa.eu/candidate-list-table

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?
Not applicable

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

Component	CAS-No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Borax (B4Na2O7.10H2O)	1303-96-4	Listed	Not applicable	Not applicable	Not applicable
Disodium tetraborate	1330-43-4	Listed	Not applicable	Not applicable	Not applicable

Component	CAS-No	Seveso III Directive	Seveso III Directive	Rotterdam	Basel Convention

		(2012/18/EC) - Qualifying Quantities for Major Accident Notification	(2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Convention (PIC)	(Hazardous Waste)
Borax (B4Na2O7.10H2O)	1303-96-4	Not applicable	Not applicable	Not applicable	Not applicable
Disodium tetraborate	1330-43-4	Not applicable	Not applicable	Not applicable	Not applicable

16. Other information

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Creation Date 16-November-2010
Revision Date 18-December-2025
Print Date 18-December-2025
Revision Summary This document has been updated to comply with the requirements of WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR) to align with the Globally Harmonised System (GHS) (V7/8) 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