

Material Safety Data Sheet

Sodium tetraborate decahydrate

ACC# 21010

Section 1 - Chemical Product and Company Identification

MSDS Name: Sodium tetraborate decahydrate

Catalog Numbers: AC205950000, AC205950010, AC419450000, AC419450010, AC419450250, AC419460000, AC419460010, B80, BP175-500, NC9269807, NC9522673, NC9974910, S246-12, S246-212, S246-250LB, S246-500, S248-10, S248-3, S248-500, S249-500, S249-500LC

Synonyms: Borax; Sodium borate decahydrate; Disodium tetraborate decahydrate.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
1303-96-4	Sodium tetraborate decahydrate	>99	unlisted

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white solid.

Warning! Causes eye, skin, and respiratory tract irritation. May impair fertility. May cause harm to the unborn child.

Target Organs: Respiratory system, eyes, reproductive system, skin.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation.

Ingestion: May cause irritation of the digestive tract. Human fatalities have been

reported from acute poisoning.

Inhalation: Causes respiratory tract irritation.

Chronic: Chronic exposure may cause reproductive disorders and teratogenic effects.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Wash mouth out with water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Runoff from fire control or dilution water may cause pollution.

Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid breathing dust.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium tetraborate decahydrate	2 mg/m ³ TWA (inhalable fraction, listed under Borate compounds, inorganic); 6 mg/m ³ STEL (inhalable fraction, listed under Borate compounds, inorganic)	5 mg/m ³ TWA	none listed

OSHA Vacated PELs: Sodium tetraborate decahydrate: 10 mg/m³ TWA

Personal Protective Equipment

Eyes: 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: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: white
Odor: odorless
pH: 9.5 (5% aq soln)
Vapor Pressure: Not available.
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 1575 deg C
Freezing/Melting Point: 741 deg C
Decomposition Temperature: Not available.
Solubility: soluble
Specific Gravity/Density: 1.7300g/cm³
Molecular Formula: B₄Na₂O₇·10H₂O
Molecular Weight: 381.36

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Dust generation.

Incompatibilities with Other Materials: Alkaloid salts, metallic salts, strong acids.

Hazardous Decomposition Products: Oxides of boron.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 1303-96-4: VZ2275000

LD50/LC50:

CAS# 1303-96-4:

Oral, mouse: LD50 = 2 gm/kg;

Oral, rat: LD50 = 2660 mg/kg;

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Carcinogenicity:

CAS# 1303-96-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: Developmental effects were observed in mice, rats and rabbits after oral administration of boric acid. However, these effects were considered secondary to maternal toxicity (increased liver and kidney weight).

Reproductive Effects: Adverse reproductive effects have occurred in experimental animals. Boric acid has selectively damaged the testes, sperm production and fertility in rats and dogs.

Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Not regulated.	Not Regulated
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 1303-96-4 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 1303-96-4: delayed.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 1303-96-4 can be found on the following state right to know lists:
California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

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Risk Phrases:

R 60 May impair fertility.

R 61 May cause harm to the unborn child.

Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 53 Avoid exposure - obtain special instructions before use.

WGK (Water Danger/Protection)

CAS# 1303-96-4: 1

Canada - DSL/NDSL

CAS# 1303-96-4 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2A, D2B.

This product has been classified in accordance with the hazard criteria of the

Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 1303-96-4 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 7/06/1999

Revision #8 Date: 2/15/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

**BORAX DECAHYDRATE
(TECHNICAL GRADE, GRANULAR)
(Na₂B₄O₇·10H₂O)**

CHEMICAL SPECIFICATION

Component	Unit	Content
B ₂ O ₃	%	36.47 min.
SO ₄	ppm	70 max.
Cl	ppm	50 max.
Fe	ppm	10 max.
Purity	%	99.90 min.

SIEVE SPECIFICATION

Size (mm)	Unit	Content
+ 1.000	%	1.00 max.
- 0.063	%	4.00 max.

**BORAX DECAHYDRATE
(TECHNICAL GRADE, POWDER)
(Na₂B₄O₇·10H₂O)**

CHEMICAL SPECIFICATION

Component	Unit	Content
B ₂ O ₃	%	36.47 min.
SO ₄	ppm	70 max.
Cl	ppm	50 max.
Fe	ppm	15 max.
Purity	%	99.90 min.

SIEVE SPECIFICATION

Size (mm)	Unit	Content
+ 1.000	%	0.00 max.
- 0.063	%	50.00 min.