

---

---

Borax 5 mol

---

---

1

**PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier:** Borax 5 mol  
**Synonyms:** borax, Borax 5 mol  
**Common Name:** Sodium Tetraborate Pentahydrate  
**SDS Number:** rm-Brx5  
**Revision Date:** 1/1/2019  
**Version:** 1.2  
**CAS Number:** 12179-04-3  
**Chemical Family:** Inorganic Salt  
**Chemical Formula:** Na<sub>2</sub>B<sub>4</sub>O<sub>7</sub>·5H<sub>2</sub>O

Sodium Tetraborate Pentahydrate is chemically and toxicologically related to Boric Acid.; the majority of the Borate chronic toxicology studies were conducted using Boric Acid. Sodium Tetraborate Pentahydrate is converted to Boric Acid in biological systems. The Boric Acid data discussed in this section can be converted to Sodium Tetraborate Pentahydrate equivalent data by dividing by a factor of 0.6486.

Supplier:

Rose Mill Company  
100 Brook Street  
West Hartford, CT 06110

860-232-9990 (Phone)  
860-232-9995 (Fax)

www.RoseMill.com  
info@RoseMill.com

**Classification of Substance****GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):**

Health, Reproductive toxicity, 2  
 Health, Serious Eye Damage/Eye Irritation, 2 A  
 Health, Acute toxicity, 5 Oral

**GHS Label Elements, Including Precautionary Statements**

**GHS Signal Word:** **WARNING**

**GHS Hazard Pictograms:**

**GHS Hazard Statements:**

H361 - Suspected of damaging fertility or the unborn child  
 H319 - Causes serious eye irritation  
 H303 - May be harmful if swallowed

**GHS Precautionary Statements:**

P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P332+313 - If skin irritation occurs: Get medical advice/attention.

**Hazards not Otherwise Classified (HNOC) or not Covered by GHS**

<b>Route of Entry:</b>	Eyes; Mild eye irritant. Inhalation: Occasional mild irritation effects to nose and throat may occur from inhalation of dust levels greater than 10m/m3.
<b>Target Organs:</b>	No target organs have been determined in humans. High dose animal ingestion studies indicate the testes are the target organ.
<b>Inhalation:</b>	Mild irritation to nose and throat may occur when the PEL or TLV are exceeded.
<b>Skin Contact:</b>	Non-irritating.
<b>Eye Contact:</b>	Does not cause eye irritation in normal industrial use.
<b>Ingestion:</b>	Not intended for digestion. Amounts greater than one teaspoonful, when ingested, may cause gastrointestinal problems.

Sodium Tetraborate Pentahydrate is a white odorless, powdered substance that is not flammable, combustible, or explosive and it presents no unusual hazard if involved in a fire. It presents little or not hazard (to humans) and has low acute oral and dermal toxicities. Care should be taken to minimize the amount released to the environment to avoid ecological effects.

Chemical Ingredients		
CAS#	%	Chemical Name
12179-04-3		Borates, tetra, sodium salts (pentahydrate)

<b>Inhalation:</b>	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention.
<b>Skin Contact:</b>	Non-irritating. Wash with soap and water.
<b>Eye Contact:</b>	Flush with large amounts of water or saline solution, occasionally lifting upper and lower lids, until no evidence of powder remains (approx 15-20mins). Get medical attention if aggravation persists.
<b>Ingestion:</b>	If amounts greater than one teaspoon are swallowed, give two glasses of water to drink and seek medical attention.

Observation only is required for adult ingestion in the range of 4-8 grams. For ingestion of larger amounts, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Hemodialysis should be reserved for massive acute ingestion or patients with renal failure. Boron analyses of urine or blood are only useful for documenting exposure and should not be used to evaluate severity of poisoning or to guide treatment.

<b>5</b>	<b>FIRE FIGHTING MEASURES</b>
----------	-------------------------------

**Flammability:** Not flammable  
**Flash Point:** Not applicable

Any fire extinguishing media may be used on nearby fires.

<b>6</b>	<b>ACCIDENTAL RELEASE MEASURES</b>
----------	------------------------------------

Borates may damage trees and vegetation. For dry spills, sweep, vacuum, or shovel and place in containers for disposal in accordance with applicable regulations. Avoid contamination of bodies of water during cleanup. Can cause localized contamination of surrounding waters depending on amount dissolved in these waters. Some damage to local vegetation, fish, and other aquatic life may be expected. Under usual conditions, no protective equipment is required.

<b>7</b>	<b>HANDLING AND STORAGE</b>
----------	-----------------------------

**Handling Precautions:** To maintain package integrity and to minimize caking of the product, bags should be handled on a "first-in-first-out" basis.  
**Storage Requirements:** Dry, indoor storage under normal atmospheric conditions is recommended. Good housekeeping should be maintained to minimize dust accumulation and generation.

<b>8</b>	<b>EXPOSURE CONTROLS/PERSONAL PROTECTION</b>
----------	--

**Engineering Controls:** All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94).

**Personal Protective Equipment:** Use goggles or vented safety glasses in excessively dusty conditions. In poorly ventilated areas you must wear a supplied air respirator.

Symptoms of accidental overexposure to Borates have been associated with ingestion or absorption through large areas of damaged skin. These may include nausea, vomiting, and diarrhea, with delayed effects of skin redness and peeling.

<b>9</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
----------	---

<b>Appearance:</b>	White odorless powder	<b>Odor:</b>	odorless
<b>Physical State:</b>	solid	<b>Molecular Formula:</b>	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> ·5H <sub>2</sub> O
<b>Specific Gravity or Density:</b>	1.82	<b>Solubility:</b>	3.7% at 20C; 50.6% @100C
<b>Boiling Point:</b>	not applicable	<b>Bulk Density:</b>	52.2 lbs/ft <sup>3</sup>
<b>Vapor Pressure:</b>	Not applicable		
<b>Potential Hydrogenii:</b>	At 20C 1% solution- 9.23		
<b>Molecular weight:</b>	291.29		

<b>10</b>	<b>STABILITY AND REACTIVITY</b>
-----------	---------------------------------

**Chemical Stability:** Product is stable under normal conditions.

**Materials to Avoid:** Strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas that could create an explosive hazard.

**Hazardous Decomposition:** none known

**Hazardous Polymerization:** will not occur

**Acute Toxicity:**

Oral ( LD 50): Low acute oral toxicity. LLD50 in rats is 4,500 to 5,000 mg/kg of body weight.

Inhalation ( LC 50): Low acute inhalation toxicity. LC50 ini rats is greater than 2.0 mg/L

Skin irritation: Low acute dermal toxicity; LD50 in rabbits is greater than 10,000 mg/kg of body weight. Poorly absorbed thorough intact skin. Non irritant.

Eye irritation: Draize test in rabbits produced eye irritation effects. Fifty years of occupational exposure to borax 5 mol indicates no adverse effects on human eye. Not considered to be a human eye irritant in normal industrial use.

Sensitation: Not a skin sensitizer.

Reproductive/developmental toxicity: Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Doses administered were many times in excess of those to which humans would normally be exposed.

Carcinogenicity/mutagenicity: No evidence of carcinogenicity in mice. No mutagenic activity was observed for boric acid in a mattery of short term mutagenicity assays.

Human data: Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to sodium borate dust. A recent epidemiology study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility.

General: Boron is the element in borax 5 mol which is used by convention to report borate product ecological effects. It occurs naturally in seawater at an average concentration of 5 mg B/L and generally occurs in fresh water at concentration up to 1 mg B/L. In dilute aqueous solutions the predominant boron species present is undissociated boric acid.

Phytotoxicity: boron is an essential micronutrient for healthy growht of plants;however, it can be harmful to boron sesitive plants in large quantities. Care should be taken to minimize the amount of boron released to the environment.

Algal toxicity: Green algae. Scenedesmus subspicatus 96hr EC10 = 24 mg B/L

Invertebrate toxicity:Daphnids, Daphnia magna straus 24hr EC50= 242 mg B/L

Fish toxicity:sea water9: Dab, Limanda limanda 96hr LC50= 74mg B/L

Fresh water10: Rainbow trout, S. gairdneri(embryo-larbal stage)

24-day LC50 = 88 mg B/L

32-day LC50 = 54 mg B/L

Goldfish, Carassius auratus (embryo-larval stage)

7-day LC50 = 65 mg B/L

3-day LC50 = 71 mh B/L

Test substance: sodium tetraborate

Environmental Fate Data:

Persistence/Degradation: Boron is naturally occurring and ubiquitous in the environment.

Octanol/Ware partition coeffecient: No value. In aqueous solution anhydrous borax is converted substantially into undissassociated boric acid.

Soil Mobility: The product is soluble in water and is leachable through normal soil.

Small quantities can usually be disposed of at landfill sites. No special disposal treatment is required, but local authorities should be consulted about any specific local requirements. Tonnage quantities of product are not recommended to be sent to landfills. Such product should, if possible, be used for an appropriate application.

Non-hazardous for air, sea and road freight.

<b>15</b>	<b>REGULATORY INFORMATION</b>
-----------	-------------------------------

Component (CAS#) [%] - CODES

-----  
Borates, tetra, sodium salts (pentahydrate) (12179-04-3) [n/a%] MASS, OSHAWAC, REACH

Regulatory CODE Descriptions

-----  
MASS = MA Massachusetts Hazardous Substances List  
OSHAWAC = OSHA Workplace Air Contaminants  
REACH = REACH List of Substances of Very High Concern (RSL)

COMPONENT / (CAS/PERC) / CODES

-----  
\*Borax (B4Na2O7.10H2O) (1303964 n/a%) MASS, OSHAWAC, PA, TSCA, TXAIR

\*Borates, tetra, sodium salts (decahydrate) (1303964 n/a%) MASS, OSHAWAC, PA, TSCA, TXAIR

\*Borates, tetra, sodium salts (decahydrate) (1303964 n/a%) MASS, OSHAWAC, PA, TSCA, TXAIR

REGULATORY KEY DESCRIPTIONS

-----  
MASS = MA Massachusetts Hazardous Substances List  
OSHAWAC = OSHA Workplace Air Contaminants  
PA = PA Right-To-Know List of Hazardous Substances  
TSCA = Toxic Substances Control Act  
TXAIR = TX Air Contaminants with Health Effects Screening Level

<b>16</b>	<b>OTHER INFORMATION</b>
-----------	--------------------------

**Disclaimer:**

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).