



## Borax Decahydrate Safety Data Sheet

### 1. Product and Company Identification

<b>Product Name</b>	Borax Decahydrate
<b>Other Product Name(s)</b>	Ortho Borax Decahydrate; Borax; Deca Borax; Disodium Tetraborate Decahydrate; Borax 10 Mol
<b>Product Use</b>	Manufacturing of products, including, but not limited to, glue, charcoal, reagent chemicals, ceramics, borosilicate glass, fiberglass, alloys. Not for use in the manufacture of pesticides.

<b>Manufacturer</b>	<b>Manufacturer Details:</b> POWERCHEM –Qewaisna –Menofia Egypt  <b>Emergency telephone number:</b> (+2)01117366722 WWW.POWERFINECHEMICAL.COM
<b>Emergency Telephone Numbers</b>	


### 2. Hazards Identification

**Emergency Overview:** A white crystalline solid that may cause mild irritation to the skin and respiratory tract, and serious eye irritation. Not flammable.

<b>OSHA Regulatory Status</b>	Hazardous
<b>WHMIS Regulatory Status</b>	Hazardous
<b>OSHA Classification</b>	Eye corrosion/irritation 2A Reproductive Toxicity 2 Oral Acute Toxicity Category 5
<b>OSHA Signal Word</b>	WARNING
<b>OSHA Hazard Statements</b>	Causes serious eye irritation. May damage fertility or the unborn child.



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<b>OSHA Precautionary Statements</b>	<p>Do not handle until all safety precautions have been read and understood.</p> <p>Wear protective gloves and safety glasses with side shields. Wash thoroughly after handling.</p> <p>If on skin, wash with plenty of water. Wash contaminated clothing before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>If inhaled: Remove person to fresh air and keep comfortable for breathing.</p> <p>If skin irritation occurs or eye irritation persists, get medical attention. Store in a well-ventilated place. Keep container tightly closed. Dispose of container in accordance with Federal and local regulations.</p>
<b>OSHA Label Symbols</b>	
<b>Other Hazards Not Specified by OSHA</b>	None

\*\* Note: Label designed to meet OSHA & FHSA label requirements and may contain additional phrases.

### Potential Health Effects:

<b>Skin</b>	Can cause mild skin irritation.
<b>Eyes</b>	Causes serious eye irritation.



<b>Ingestions</b>	Low toxicity. May cause discomfort.
<b>Inhalation</b>	May cause mild irritation if inhaled
<b>Chronic Effects</b>	May cause reproductive effects affecting fertility and/or development of the unborn child.

Ingredients found on established carcinogen lists:

<b>Ingredient</b>	<b>NTP Status</b>	<b>IARC Statue</b>	<b>OSHA List</b>
No ingredients listed in this section	---	---	---

### 3. Composition / Information on Ingredients

<b>Chemical Name</b>	<b>CAS #</b>	<b>EINECS #</b>	<b>Wt. %</b>
Borax Decahydrate	1303-96-4	215-540-0	99.99

### 4. First Aid Measures

<b>Skin</b>	Wash with plenty of water. Wash contaminated clothing before reuse. Seek medical attention if skin irritation occurs.
<b>Eyes</b>	Rinse eyes cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.
<b>Ingestions</b>	If you feel unwell, contact a doctor or poison control center.
<b>Inhalation</b>	Remove to fresh air. Seek medical advice in case of irritation.
<b>Advice to Physician</b>	Treat symptomatically.

### 5. Fire Fighting Measures

<b>Extinguishing Media:</b>	Any media suitable for surrounding fire.
<b>Fire/Explosion Hazards:</b>	None indicated
<b>Fire Fighting Procedures:</b>	Wear normal firefighting gear suitable for surrounding fire. Self-contained respiratory production may be required.
<b>Flammable Limits:</b>	None
<b>Flash Point</b>	Not flammable
<b>Auto ignition Temperature:</b>	None
<b>Hazardous Combustion Products:</b>	May produce boron compounds if involved in a surrounding fire.

### 6. Accidental Release Measures

<b>Personal Precautions:</b>	Wear proper personal protective equipment indicated in Section 8.
<b>Containment:</b>	Not normally required as this is a solid material not normally mobile.
<b>Clean Up:</b>	Sweep up and place into container for reuse and/or disposal.
<b>Notification Requirements:</b>	None normally required.

**7. Handling and Storage**

<b>Handling:</b>	Wear proper personal protective equipment indicated in Section 8. Wash hands before eating or drinking.
<b>Storage:</b>	Should be stored in a dry location. Keep packages tightly closed to minimize dust formation. Keep out of the reach of children.

**8. Exposure Controls / Personal Protection**

<b>Engineering Controls:</b>	Use local exhaust to keep airborne level below safe exposure guidelines listed below.
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**Personal Protective Equipment:**

<b>Eyes and Face:</b>	Wear safety glasses or chemical dust goggles to avoid accidental eye contact.
<b>Respiratory:</b>	Not required for properly ventilated areas. Otherwise use a NIOSH approved dust respirator.
<b>Hands, Arms, and Body:</b>	Not normally required. Use work glove when handling product transfers or if skin is already irritated. Use rubber or neoprene gloves for handling product solutions.
<b>Other</b>	Safety shower and eyewash should be available for emergency exposures.

**Exposure Guidelines:**

Ingredient	ACGIH TLW	ACGIH STEL	OSHA PEL	OSHA STEL	California PEL
Sodium Decaborate (as inorganic borate)  Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> * 10H <sub>2</sub> O	2 mg/m <sup>3</sup> inhalable dust	6 mg/m <sup>3</sup> inhalable dust	15 mg/m <sup>3</sup> total dust 5 mg/m <sup>3</sup> respirable dust	None	5 mg/m <sup>3</sup>

**9. Physical and Chemical Properties**

<b>Appearance &amp; Physical State</b>	White, crystalline solid
<b>Odor:</b>	None
<b>Odor Threshold:</b>	None
<b>pH (1% solution)</b>	9.23 (1% solution at 68 °F)
<b>Specific Gravity:</b>	1.73
<b>Bulk Density</b>	Not available
<b>Initial Boiling Point &amp; Range:</b>	Not applicable
<b>Melting Point /Freezing Point:</b>	Begins losing water of crystallization at 143.6 °F (62 °C). Converts to anhydrous form that fuses at 1367 °F (742 °C)
<b>Evaporation Rate:</b>	Not applicable
<b>Percent Volatile:</b>	None
<b>Solubility in Water</b>	4.8% at 68 ° F (20 °C);
<b>Vapor Density:</b>	Not applicable
<b>Vapor Pressure:</b>	Not applicable
<b>Upper/ Lower Flammable Limits:</b>	None
<b>Flash Point</b>	None
<b>Auto ignition Temperature:</b>	Not flammable
<b>Flammability (solid, gas)</b>	Not flammable
<b>Octanol/water partition coefficient</b>	Not determined
<b>Decomposition temperature</b>	See section 10.
<b>Viscosity</b>	Solid – Not applicable



### 10. Stability and Reactivity

<b>Stability:</b>	Normally stable. Forms partial hydrate in moist air. When heated, the material is converted to Metaboric Acid (HBO <sub>2</sub> )
<b>Conditions to Avoid:</b>	Keep away from high temperatures
<b>Materials to avoid</b>	Borax Decahydrate reacts as a weak acid and may cause corrosion of base metals. Reacts with reducing agents such as metal hydrides or alkali metals producing explosive hydrogen gas.
<b>Polymerization:</b>	Will not occur.
<b>Hazardous Decomposition Products</b>	Boric acid and borates.

### 11. Toxicological Information

<b>Eye:</b>	Can cause mild irritation. Boric Acid, when applied to the eyes of albino rabbits (Draize test), produced effects of mild erythema, and mild to moderate discharge in 5 of 6 rabbits. All signs subsided by the fourth day after application.
<b>Skin:</b>	LD50 (dermal, rabbit) > 2000 mg/kg. Can cause mild irritation. Boric Acid was applied to the skin of albino rabbits; slight to no irritation persisted 72 hours after application. No evidence of tissue damage was found.
<b>Oral:</b>	D50 (oral, rat) 4500 - 5000 mg/kg.
<b>Inhalation:</b>	ACGIH establish that exposures above safe levels stated in section 8 may produce upper respiratory irritation. Occupational exposure to safe levels not expected to produce any adverse effects.
<b>Chronic:</b>	<ul style="list-style-type: none"><li>- A report issued by the National Toxicology Program showed "no evidence of carcinogenicity" from a full two-year bioassay on Boric Acid on mice at feed doses of 2,500 to 5,000 ppm in the diet. No mutagenic activity was observed for Boric Acid in a recent battery of four short-term mutagenicity assays.</li><li>- Classification = Reproductive toxin Category 1B based on EU CLP classification. Dietary levels of Boric Acid of 6,700 ppm in chronic feeding studies in rats and dogs produced testicular changes {Weir, Fisher, 1972}. In chronic feeding studies of mice on diets containing 5,000 ppm Boric Acid, testicular atrophy was present, while mice fed 2,500 ppm Sodium Tetraborate Pentahydrate showed no significant increase in testicular atrophy. In another chronic Boric Acid study, degeneration of seminiferous tubules was present together with a reduction of germ cells in mice fed 4,500 ppm Sodium Tetraborate Pentahydrate.</li><li>- Boric Acid at dietary levels of 1,000 ppm administered to pregnant female rats throughout gestation caused a slight reduction in fetal weight, but was considered close to the no observable affect level. Doses of 2,000 ppm and above caused fetal malformations and maternal toxicity. In mice, the no effect level for fetal weight reduction and maternal toxicity was 1,000 ppm Boric Acid. Fetal weight loss was noted at dietary levels of 2,000 ppm and above. Malformations (agenesis or shortening of the thirteenth rib) were seen at 4,000 ppm [Heindal et al., 1992]. The doses administered were many times in excess of those to which humans would normally be exposed.</li></ul>



## 12. Ecological Information

<b>Acute ecotoxicity:</b>	Boron naturally occurs in seawater at an average concentration of 5 mg B/liter. In laboratory studies the acute toxicity (96-hr LC50+) for under-yearling Coho salmon ( <i>Onchorhynchus kisutch</i> ) in seawater was determined as 40 mg B/L (added as Sodium Metaborate). The Minimum Lethal Dose for minnows exposed to Boric Acid at 200C for 6 hours is 18,000 to 19,000 mg/L in distilled water, 19,000 to 19,500 in hard water. Rainbow trout ( <i>S. gairdneri</i> ) 24-day LC50 = 150.0 mg/B/L 36-day NOEC-LOEC++ = 0.75-1 mg/B/L Goldfish ( <i>Carassius auratus</i> ) 7-day NOEC-LOEC = 26.50 mg/B/L 3-day LC50 = 178 mg/B/L Daphnids 48-hour LC50 = 133 mg/B/L 21-day NOEC-LOEC = 6-13 mg/B/L
<b>Chronic ecotoxicity:</b>	Not determined
<b>Other Information</b>	Not considered to bioaccumulate or to be persistent in the environment.

## 13. Disposal Considerations

<b>RCRA Status</b>	Not a hazardous waste if discarded
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<b>Disposal Method:</b>	Conform to Federal, State and Local regulations. Small amounts may be disposed of in municipal landfills. Larger quantities (tonnage amounts) need to be sent to approved facilities.
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## 14. Transportation Considerations

<b>DOT Proper Shipping Name:</b>	Not regulated for transport
<b>DOT Primary Hazard Class</b>	Not applicable

<b>DOT UN / NA Number:</b>	Not applicable
<b>DOT Packing Group</b>	Not applicable
<b>TDG (Canada)</b>	Not regulated
<b>IMDG (International water)</b>	Not regulated
<b>ICAO (Air transport)</b>	Not regulated

## 15. Regulatory Information

### UNITED STATES: Toxic Substances Control Act (TSCA)

<b>TSCA Inventory Status:</b>	Listed on TSCA Chemical Inventory
<b>Other TSCA Issues:</b>	None

### SARA Title III/CERCLA

Ingredients with "Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs).



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Ingredient	SARA/CERCLA RQ (lb)	SARA EHS TPQ (lb)
No ingredients listed in this section	---	---

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

<b>SARA 311 Hazard Class:</b>	Immediate, Delayed
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### **SARA 313 Toxic Chemicals:**

The following ingredients are SARA 313 "Toxic Chemicals" and may be subject to annual reporting requirements. CAS numbers and weight percent are found in Section 2.

Ingredient	Comment
No ingredients listed in this section	---

### **State Right-To-Know**

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

Ingredient	Weight %	Comment
No ingredients listed in this section	---	Not listed on California Proposition 65.

<b>Additional Regulatory Information:</b>	Not listed in Clean Water Act or in Safe Drinking Water Act,
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<b>CONEG Model Legislation</b>	Meets all CONEG requirements relating to heavy metal limitations on components of packaging materials.
<b>FEDERAL DRUG AGENCY (FDA)</b>	Pursuant to 21 CFR 175.105, 176.180, and 181.30, Borax is approved by the FDA for use in adhesive components of packaging materials, as a component of paper coatings on such materials, or for use in the manufacture thereof, which materials are expected to come in contact with dry food products.

**CANADA:**

<b>WHMIS Classification:</b>	D2A, D2B Classified in conformance with the Controlled Products Regulations and contains all data required by that regulation.
<b>WHMIS Ingredient Disclosure List</b>	Boric Acid and Boric Anhydride are listed.
<b>DSL Status (Domestic substances list)</b>	Listed on DSL

Ingredients for this product also found on the chemical inventories of Australia, China, Korea, European Union, Japan and the Philippines.

**16. Other Information**

- This materials is not intended for use in pesticide manufacture.
- Keep out of the reach of children.

**National Fire Protection Assoc. (NFPA) Classification:**

4 = Severe; 3 = Serious; 2 = Moderate; 1 = Slight, 0 = Minimal

Health	1
Flammability	0
Reactivity	0

**Hazardous Materials Information Systems (HMIS):**

4 = Extreme; 3 = High; 2 = Moderate; 1 = Slight; 0 = Insignificant

Health	1*
Flammability	0
Physical Hazard	0

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