

## SODIUM TETRABORATE (DECAHYDRATE)

### SECTION 1: PRODUCT IDENTIFICATION

**Product Name:** SODIUM TETRABORATE (Decahydrate)  
**Product Code:** 280  
**CAS#:** 1303-96-4  
**Synonym:** Borax; Boraxdecahydrate; Sodium boratedecahydrate.  
**Chemical Name:** Sodium Tetraborate, decahydrate  
**Chemical Formula:** Na<sub>2</sub>B<sub>4</sub>O<sub>7</sub>.10 H<sub>2</sub>O  
**Formula Weight:** 381.37

### SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

**Composition:**  
**Name:** Sodium Tetraborate, decahydrate.  
**Toxicological Data on Ingredients:**  
Reproductive toxicity (Category 1A), H360FD, R60, R61, R60-61.

### SECTION 3: HAZARDS IDENTIFICATION

**Potential Acute Health Effects:** May cause skin, eye and/or respiratory irritation.  
**Potential Chronic Health Effects:** May cause irritation of the digestive tract. Human fatalities have been reported from acute poisoning.  
**Carcinogenic Effects:** Not available.  
**Mutagenic Effects:** Not available.  
**Teratogenic Effects:** Presumed human reproductive toxicant.  
**Developmental Toxicity:** 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).

### SECTION 4: FIRST AID MEASURES

**Eye Contact:**  
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. WARM water MUST be used. Get medical attention if irritation occurs.  
**Skin Contact:** Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.  
**Serious Skin Contact:** Not available.  
**Serious Inhalation:** Not available.  
**Ingestion:**  
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.  
**Serious Ingestion:** Not available.

### SECTION 5: FIRE FIGHTING MEASURES

**Flammability of the Product:** May be combustible at high temperature.  
**Auto-Ignition Temperature:** Not available.  
**Flash Points:** Not available.  
**Flammable Limits:** Not available.



**Products of Combustion:** Borane/boron oxides, Sodium oxides.

**Fire Hazards in Presence of Various Substances:** Slightly flammable to flammable in presence of heat.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks.

**Fire Fighting Media and Instructions:**

**SMALL FIRE:** Use DRY chemical powder.

**LARGE FIRE:** Use water spray, fog or foam. Do not use water jet.

**Special Remarks on Fire Hazards:** As with most solids, fire is possible at elevated temperatures

**Special Remarks on Explosion Hazards:**

Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Small Spill:**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Large Spill:**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Finish cleaning by spreading water on the Contaminated surface and allow evacuating through the sanitary system.

## SECTION 7: HANDLING AND STORAGE

**Precautions:**

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk; evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. Keep away from incompatibles such as oxidizing agents.

**Storage:**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure controls**

**Appropriate engineering controls** Handle in accordance with good industrial hygiene and safety practice.

Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Eye/face protection** Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection** Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection** Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Physical state and appearance Form** : Solid, crystals.



Odour	: Not Available
Taste	: Not Available
Molecular Weight	: 381.37
Colour	: Not available
pH	: Not available
Boiling Point	: Not available
Melting Point	: ca. 65°C.
Critical Temperature	: Not available
Specific Density	: Not Available
Vapor Pressure	: Not Available
Vapor Density	: Not available
Volatility	: Not Available
Odor Threshold	: Not Available
Water/Oil Dist. Coeff.	: Not Available
Ionicity (in Water)	: Not Available
Dispersion Properties	: Not Available
Solubility	: Soluble in water.

#### SECTION 10: STABILITY AND REACTIVITY DATA

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Excess heat, dust generation

**Incompatibility with various substances:** Reactive with oxidizing agents.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Remarks on Reactivity:** Not available.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Not available.

#### SECTION 11: TOXICOLOGICAL INFORMATION

**Routes of Entry:** Inhalation, Ingestion.

**Toxicity to Animals:**

LD<sub>50</sub>: Oral - rat – 4,500 – 5,000  
mg/kg.

Dermal - rabbit – 10,000 mg/kg.

LC<sub>50</sub>: Carassius auratus (goldfish) - 178 mg/l - 72 h

**Chronic Effects on Humans:** May cause skin, eye and/or respiratory irritation.

**Other Toxic Effects on Humans:** May cause irritation of the digestive tract. Human fatalities have been reported from acute poisoning.

**Special Remarks on Toxicity to Animals:** Adverse reproductive effects have occurred in experimental animals. Boric acid has selectively damaged the testes, sperm production and fertility in rats and dogs.

**Special Remarks on Chronic Effects on Humans:** Not available.

**Special Remarks on other Toxic Effects on Humans:** Not available.

#### SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity:**

EC<sub>50</sub>: Daphnia magna (Water flea) – 1,085 – 1,402 mg/l - 48 h

IC<sub>50</sub> - Desmodium subspicatus (green algae) - 158 mg/l - 96 h

**BOD and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** Not available.



**Special Remarks on the Products of Biodegradation:** Not available.

### SECTION 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods** Product Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging** Dispose of as unused product.

### SECTION 14: TRANSPORT INFORMATION

**UN number:**

**ADR/RID:**

**IMDG:**

**IATA:**

**UN proper shipping name**

**ADR/RID:** Not dangerous goods

**IMDG:** Not dangerous goods

**IATA:** Not dangerous goods

**Transport hazard class (es):**

**ADR/RID:**

**IMDG:**

**IATA:**

**Packaging group:**

**ADR/RID:**

**IMDG:**

**IATA:**

**Environmental hazards:**

**ADR/RID:** No

**IMDG Marine pollutant:** No

**IATA:** No

### SECTION 15: OTHER REGULATORY INFORMATION

**Federal and State Regulations:** TSCA 8(b) inventory: Sodium Tetraborate, decahydrate.

**Other Regulations:** Not available.

**Other Classifications:**

**WHMIS (Canada):** Not controlled under WHMIS (Canada).

**DSCL (EEC):**

This product is not classified according to the EU regulations. Not applicable.

**HMIS (U.S.A.):**

**Health Hazard:** 3

**Fire Hazard:** 1

**Reactivity:** 0

**Personal Protection:** E

**National Fire Protection Association (U.S.A.):**

**Health:** 3

**Flammability:** 1

**Reactivity:** 0

**Specific hazard:** Not Available.

**Protective Equipment:** Gloves, Lab coat, Safety glasses, Dust respirator - be sure to use an approved/certified respirator or equivalent.

### SECTION 16: OTHER INFORMATION

**References:** Full text of H AND R-Statements.

H360FD, R60, R61, R60-61 – May damage fertility. May damage the unborn child.

**Other Special Considerations:** Not available.

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