Safety Data Sheet

Borathor

Emergency Phone 1-800-424-9300 (Chemtrec)

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Borathor
Chemical Name: Disodium octaborate tetrahydrate
Recommended use of the chemical and restrictions on use: Insecticide

Company: Ensystex II, Inc.
Address: 2175 Village Dr., Fayetteville, NC 28304
Daytime Phone: 1-800-398-3772

2. HAZARDS IDENTIFICATION

Hazard classification
Health
Reproductive Toxicity Category 2
Label Elements
Hazard pictograms

Signal Word: Warning!

Hazards
H303 -May be harmful if swallowed
H361 - Suspected of damaging fertility or the unborn child

Precautionary Statements
Prevention
P202 - Do not handle until all safety precautions have been read and understood.

Response
P308 + P313 - If exposed or concerned: Get medical advice/attention.

Disposal
P501 - Dispose of contents/ container to an approved waste disposal facility.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Disodium octaborate tetrahydrate	CAS # 12280-03-4	Weight % - >98

4. FIRST-AID

Description of first-aid measures
General advice: First-Aid responders: No special protective clothing is required.
Inhalation: If symptoms such as nose or throat irritation are observed, move person to fresh air.
Eye Contact: Hold eye open and rinse slowly and gently with water for at least 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a doctor for treatment advice.
Skin Contact: No treatment necessary.
Ingestion: Swallowing small quantities (one teaspoon) will not cause harm to a healthy adult. If larger amounts are ingested, give 2 glasses of water and seek medical attention.
Most important symptoms and effects, both acute and delayed: Symptoms of accidental over-exposure to high doses of inorganic borate salts have been associated with ingestion or absorption through large areas of severely damaged skin. Symptoms may include nausea, vomiting and diarrhea, with delayed effects of skin redness and peeling (See Section 11).

Indication of any immediate medical attention and special treatment needed
Note to physicians: Supportive care only is required for adult ingestion of less than a few grams of product. If large amounts have been ingested, maintain fluid and electrolyte balance and maintain adequate kidney function. Gastric lavage is only recommended for those exposed to large quantities of product.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Foam. Carbon dioxide (CO^2). Dry chemical. Soft stream or water fog only if necessary.
Advice for firefighters
Explosion Data
Sensitivity to Mechanical Impact Not sensitive.
Sensitivity to Static Discharge Not sensitive
Special hazards arising from the chemical: None

Special protective equipment for firefighters: Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Isolate and post spill area. Wear appropriate safety clothing, respiratory protection devices and eye/face protection if environment is dusty (see Section 8). Evacuate unprotected personnel that are nearby.
Environmental precautions: Keep people and animals away from and upwind of spill or leak. Prevent from entering into soil, ditches, sewers, waterways and /or groundwater. Product is water soluble and may cause serious damage to trees or vegetation by root absorption. See Section 12, Ecological Information
Methods and materials for containment and cleanup:
Small spills: Sweep or use shovel to collect all spilled material. Large spills: Contact Ensystex II Inc. for cleanup assistance. See Section 13, Disposal considerations, for additional information.

7. HANDLING AND STORAGE

Handling: Use good personal hygiene. Avoid contact with eyes, skin and clothing. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.
Do not eat, drink or smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating area.
Storage: Keep out of reach of children. Product should be stored in compliance with local regulations. Store in a well ventilated, cool, dry area. Store in original container.
Incompatible products: None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values: The manufacturer, Rio Tinto/US Borax recommends and applies internally an OEL of 1 mg $B/m^{3.}$ To convert product into equivalent boron (B) content multiply by 0.21.

Applicators should refer to the product label for personal protection equipment requirements during application.

Disodium octaborate tetrahydrate 12280-03-4	OSHA/PEL (total dust)	15 mg/m^3	Particulate not otherwise classified or nuisance dust
Disodium octaborate tetrahydrate 12280-03-4	OSHA/PEL (respirable dust)	5 mg/m^3	Particulate not otherwise classified or nuisance dust
Disodium octaborate tetrahydrate 12280-03-4	Cal OSH/PEL	5 mg/m^3	Particulate not otherwise classified or nuisance dust

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor: White powder, No odor
pH: 8.3 (3%solution) @20^oC
Flash Point/Range: > 104^oC/ > 220^oF TOC
Water solubility: Soluble in water
Melting Point: 815^oCAutoignition temperature: N/A

10. STABILITY AND REACTIVITY

Reactivity: None under normal use conditions
Chemical Stability: Stable under normal storage conditions.

Possibility of Hazardous Reactions: Avoid contact with strong reducing agents such as metal hydrides or alkali metals. This condition will generate hydrogen gas which could create an explosive atmosphere.
Conditions to Avoid: None known.
Materials to Avoid: Avoid strong oxidizing agents and aluminum.
Hazardous Decomposition Products: None.

11. TOXICOLOGICAL INFORMATION

Product toxicity data
Acute Toxicity: Inhalation LC50/Rat/> 2 mg/l 4 hr; Oral LD50/Rat/2,550 mg/kg; Dermal LD50/Rabbit/> 2,000mg/kg

Component toxicity data
Disodium octaborate tetrahydrate: Inhalation LC50/rat/>2.0mg/l; Oral LD50/rat/ 3500 mg/kg; Dermal LD50/rabbit/ >2,000mg/kg
Skin corrosion/irritation
No skin irritation in rabbits.
Serious eye damage/eye irritation
Not irritating to eyes..
Inhalation: No respiratory sensitization studies have been conducted. There are no studies to suggest that sodium borates are respiratory sensitizers..
Sensitization
Non-sensitizing
Information on toxicological effects
Carcinogenicity: Not carcinogenic according to available data.
Neurological effects: Not know to cause neurological effects.
Teratogenic effect: Do data available.
Reproductive toxicity effects:
Method: Three-generation feeding study similar to OECD 416 Two-generation Study
NOAEL in rats for effects on fertility in males is 100 mg boric acid/kg bw equivalent to 17.5 mg B/kg bw.
Prenatal Development Toxicity Study of Boric Acid - OECD Guideline 414
Routes of exposure: Oral feeding study
NOAEL in rats for developmental effects on the fetus including fetal weight loss and minor skeletal variations is 55 mg boric acid/kg.

12. ECOTOXICOLOGICAL INFORMATION

Toxicity
Note: Data values are expressed as boron equivalents. To convert to this product divide the boron equivalent by 0.21.
Disodium octaborate tetrahydrate
Acute toxicity to fish (common dab)
Geometric EC/LC_{50}, 74 mg B/L
Acute toxicity to aquatic crustacea (whiteleg shrimp)
Geometric EC/LC_{50}, 45 mg B/L
No Acute toxicity studies on algal species
Chronic toxicity to algae/aquatic plants (*Emiliana huxleyi*)
Geometric NOEC/EC_{10} 5 mg B/L
Phytotoxicity: Boron is essential to terrestrial plant nutrition as a micronutrient. I can be harmful to boron sensitive plants in higher concentrations.
Persistence and degradability
Disodium octaborate tetreaydrate readily degrades to boron in the environment. Boron is an element found naturally in the environment.
Bioaccumulative potential
Disodium octaborate tetrahydrate degrades in water to form boric acid. Boric acid will not biomagnify through the food chain.
Mobility in soil
Disodium octaborate tetrahydrate is soluble in water and is leachable through normal soil.
Other adverse effects:
None.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods: Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to the label instructions, contact appropriate authorities for guidance.
Contaminated Packaging: Containers must be disposed of in accordance with local, state and federal regulations. Refer to product label for container disposal instructions.

14. TRANSPORT INFORMATION

DOT This material is not a hazardous material as defined by U.S. Department of Transportation 49 CFR Parts 100 – 185
Sea (IMDG): Not regulated
Air (ICAO/IATA): Not regulated.

15. REGULATORY INFORMATION

US Federal Regulations
SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product is not listed under SARA:

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Acute health hazard	No
Chronic health hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive hazard	No

CERCLA
This product is not listed under CERCLA
FIFRA Information
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:
Caution
Harmful if swallowed or inhaled. Causes moderate eye irritation. Avoid contact with eyes or clothing. Avoid breathing dust. Thoroughly wash with soap and water after handling. Remove contaminated clothing and wash clothing before reuse. **Personal Protective Equipment (PPE):** Applicators and handlers must wear waterproof gloves, eye protection, protective clothing (e.g., long sleeve shirt, long pants, shoes plus socks) and NIOSH/MSHA-approved dust/mist respirator (in confined spaces) when utilizing powder or solution.

16. Other Information

Hazard rating System
NFPA

Health	Fire	Reactivity
0	0	0

HMIS

Health	Fire	Physical Hazard
1	0	0

Disclaimer: The information of this SDS is based on the present state of our knowledge. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.

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