

Material Safety Data Sheet Boric Acid (Technical Granular)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Boric Acid (Technical Granular)

Synonyms: Orthoboric Acid ; Boracic acid

Chemical Family: Inorganic borate.

Application: Industrial manufacturing.

Distributed By:
Ingredient Depot

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2. HAZARDS IDENTIFICATION

Potential Acute Health Effects:

Eye Contact: Not expected to irritate eyes.

Skin Contact: Not a skin sensitizer or skin irritant. Prolonged contact and badly damaged skin may result in absorption causing redness and peeling of the skin.

Inhalation: May cause mild respiratory irritation. Inhalation of large amounts may cause nausea, vomiting and diarrhea.

Ingestion: Low toxicity. Small amounts swallowed incidental to normal handling operations are not likely to cause injury. However, if large amounts of the product are ingested, symptoms may include gastrointestinal irritation, nausea, vomiting and diarrhea.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage (W/W)	LD50s and LC50s Route & Species:
Boric acid 10043-35-3	100	Oral LD50 Rat = 2660 mg/kg Inhalation LC50 Rat > 0.16 mg/L 4 h Dermal LD50 Rabbit > 2000 mg/kg

Note: No additional remark.

4. FIRST AID MEASURES

Eye Contact: In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin Contact: For skin contact, wipe away excess material with dry towel. Then wash affected areas with plenty of water, and soap if available, for several minutes. Get medical attention if irritation occurs.

Inhalation: If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Notes to Physician: Observation only is required for adult ingestion in the range of 4-8 grams of product. 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.

5. FIRE FIGHTING MEASURES

Flash Point: None.

Flash Point Method: Not applicable.

Autoignition Temperature: Not available.

Flammable Limits in Air (%): Not Available.

Extinguishing Media: None - does not burn. Use extinguishing media appropriate for surrounding fire.

Special Exposure Hazards: Not flammable. This product is a flame retardant.

Hazardous Decomposition/Combustion Materials (under fire conditions): Not available.

Special Protective Equipment: Not applicable.

NFPA RATINGS FOR THIS PRODUCT ARE: HEALTH 0, FLAMMABILITY 0, INSTABILITY 0

HMIS RATINGS FOR THIS PRODUCT ARE: HEALTH 1, FLAMMABILITY 0, REACTIVITY 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures: Wear appropriate protective equipment.

Environmental Precautionary Measures: Prevent entry into sewers or streams, dike if needed. Consult local authorities.

Procedure for Clean Up: Scoop up or vacuum up and place in an appropriate closed container. Prevent spilled material from entering sewers, confined spaces, drains, or waterways.

7. HANDLING AND STORAGE

Handling: No special handling required. To maintain package integrity and to minimize caking of the product, bags should be handled on a first-in, first-out basis. Good housekeeping procedures should be followed to minimize dust generation and accumulation.

Storage: Store in a cool, dry, well ventilated area. Store at ambient temperature. Prolonged storage may cause product to cake and become damp from atmospheric moisture.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Localized ventilation should be used to control dust levels.

Respiratory Protection: For concentrations exceeding the recommended exposure limit, use NIOSH approved air purifying respirator.

Gloves:

Gloves are not required for normal industrial exposures, but may be warranted if environment is excessively dusty.

Skin Protection: Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Eyes: Safety glasses.

Other Personal Protection Data: Ensure that eyewash stations and safety showers are proximal to the work-station location.

Ingredients	Exposure Limit - ACGIH	Exposure Limit - OSHA	Immediately Dangerous to Life or Health - IDLH
Boric acid	6 mg/m ³ STEL 2 mg/m ³ TLV-TWA	Not available.	Not Available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid Crystals

Color: White

Odor: Odorless

pH 6.1(0.1% solution); 5.1 (1% solution)

Specific Gravity: 1.51

Boiling Point: Not Available.

Freezing/Melting Point: 170.9°C / 340°F

Vapor Pressure: Negligible @ 20°C

Vapor Density: Not Available.

% Volatile by Volume: Not Available.

Evaporation Rate: Not Available.

Solubility: Partially soluble in water.

VOCs: Not Available.

Viscosity: Not Available.

Molecular Weight: 61.84

Other: Not Available.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Heat.

Materials to Avoid: Reacts as a weak acid which may cause corrosion of base metals. Reaction with strong reducing agents, such as metal hydrides or alkali metals, will generate hydrogen gas, which could create an explosive hazard.

Hazardous Decomposition Products: None known

Additional Information:

No additional remark.

11. TOXICOLOGICAL INFORMATION

Principle Routes of Exposure

Ingestion: Low toxicity. Small amounts swallowed incidental to normal handling operations are not likely to cause injury. However, if large amounts of the product are ingested, symptoms may include gastrointestinal irritation, nausea, vomiting and diarrhea.

Skin Contact: Not a skin sensitizer or skin irritant. Prolonged contact and badly damaged skin may result in absorption causing redness and peeling of the skin.

Inhalation: May cause mild respiratory irritation. Inhalation of large amounts may cause nausea, vomiting and diarrhea.

Eye Contact: Not expected to irritate eyes.

Additional Information:**Acute Test of Product:****Acute Oral LD50:** Not Available.**Acute Dermal LD50:** Not Available.**Acute Inhalation LC50:** Not Available.**Carcinogenicity:**

Ingredients	IARC - Carcinogens	ACGIH - Carcinogens
Boric acid	Not listed.	A4

Carcinogenicity Comment: No additional information available.

Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity: Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Boric acid studies in rat, mouse and rabbit, at high doses, demonstrate developmental effects on the fetus, including fetal weight loss and minor skeletal variations. The doses administered were many times in excess of those to which humans would normally be exposed.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

Ingredients	Ecotoxicity - Fish Species Data	Acute Crustaceans Toxicity:	Ecotoxicity - Freshwater Algae Data
Boric acid	1020 mg/L LC50 (Carassius auratus) 72 h flow-through	Not Available.	Not Available.

Other Information:

Boron is an essential micronutrient for healthy growth of plants; however, it can be harmful to boron sensitive plants in high quantities. Care should be taken to minimize the amount of product released to the environment. Boron is naturally occurring and ubiquitous in the environment. Product decomposes in the environment to natural borate, is soluble in water and is leachable through normal soil.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.

Contaminated Packaging: Empty containers should be recycled or disposed of through an approved waste management facility.

14. TRANSPORT INFORMATION

DOT (U.S.):**DOT Shipping Name:** Not Regulated.**DOT Hazardous Class:** Not Applicable.**DOT UN Number:** Not Applicable.**DOT Packing Group:** Not Applicable.**DOT Reportable Quantity (lbs):** Not Available.**Note:** No additional remark.**Marine Pollutant:** No.**TDG (Canada):****TDG Shipping Name:** Not Regulated.**Hazard Class:** Not Applicable.**UN Number:** Not Applicable.**Packing Group:** Not Applicable.**Note:** No additional remark.**Marine Pollutant:** No.

15. REGULATORY INFORMATION

U.S. TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

Note: Not available.

U.S. Regulatory Rules

Ingredients	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Boric acid	Not Listed.	Not Listed.	Not Listed.

California Proposition 65: Not Listed.

MA Right to Know List: Not Listed.

New Jersey Right-to-Know List: Not Listed.

Pennsylvania Right to Know List: Not Listed.

WHMIS Hazardous Class:

D2A VERY TOXIC MATERIALS



16. OTHER INFORMATION

Additional Information:

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Disclaimer:

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END OF MSDS