SPECTRUM®

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
	Health Hazard 2 Fire Hazard 0 Reactivity 0	 See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name: Boric acid

Manufacturer: SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

Commercial Name(s): Not available.

Synonym: Not available.

Chemical Name: Boric Acid

Chemical Family: Not available.

Chemical Formula: H3BO3

Supplier: SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

Catalog Number(s).: B1127, BO112, XX187, YY846, B1130, B1131, B1129, BO120, B1133, B1125, B1141, BO110, B1122, B1640

CAS#: 10043-35-3

RTECS: ED4550000

TSCA: TSCA 8(b) inventory: Boric acid

CI#: Not available.

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m^3)	STEL (mg/m^3)	CEIL (mg/m^3)	% by Weight
1) Boric acid	10043-35-3				100

Toxicological Data on Ingredients

Boric acid:
ORAL (LD50): Acute: 2660 mg/kg [Rat]. 3450 mg/kg [Mouse].

Section 3. Hazards Identification

Potential Acute Health Effects: Hazardous in case of eye contact (irritant). Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.

Potential Chronic Health Effects:
Hazardous in case of skin contact (permeator), of ingestion.
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
The substance may be toxic to gastrointestinal tract, upper respiratory tract, skin, eyes, bones.
Repeated or prolonged exposure to the substance can produce target organs damage.

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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. Cold water may be used. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
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. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	A mixture of potassium and boric acid may explode on impact. A mixture of boric acid and acetic anydride will explode when heated to 58-60 C

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

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Section 7. Handling and Storage

Precautions	Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as alkalis.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	Not available.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid. (Powdered solid.)	**Odor**	Odorless.
Molecular Weight	61.83 g/mole	**Taste**	Bitter. (Slight.)
pH (1% soln/water)	5.2 [Acidic.]	**Color**	White.

Boiling Point	300°C (572°F)
Melting Point	169°C (336.2°F)
Critical Temperature	Not available.
Specific Gravity	1.435 (Water = 1)
Vapor Pressure	Not applicable.
Vapor Density	Not available.
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, methanol.
Solubility	Soluble in hot water, methanol. Partially soluble in cold water. Very slightly soluble in acetone.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	High temperatures, dust generation, incompatible materials.
Incompatibility with various substances	Reactive with alkalis.

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Corrosivity	Not available.
Special Remarks on Reactivity	Incompatible with Potassium , Acetic Anhydride. Reacts with basic materials to form borate salts.
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Absorbed through skin. Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 2660 mg/kg [Rat].
Chronic Effects on Humans	**MUTAGENIC EFFECTS**: Mutagenic for bacteria and/or yeast. May cause damage to the following organs: gastrointestinal tract, upper respiratory tract, skin, eyes, bones.
Other Toxic Effects on Humans	Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	May cause adverse reproductive effects (fertility, fetoxicity) based on animal studies. May affect genetic material. May cause teratogenic effects based on animal studies.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May cause skin irritation. It can be absorbed through damaged (broken) or abraded skin in harmful amounts. If absorbed through skin it can cause system effects similar to acute ingestion and affect behavior/central nervous system, sense organs, metabolism, the gastrointestinal tract, and the respiratory tract (respiratory depression) Eyes: Dust causes eye irritation. Inhalation: Dust causes respiratory tract and mucous membrane irritation. Symptoms may include, nasal and throat irritation, dryness of throat, dry or productive cough, nose bleeds, shortness of breath, chest pain/chest tightness Ingestion: Severe and fatal poisonings have rarely been reported following acute ingestion. However acute ingestion can cause digestive/gastrointestinal tract irritation with nausea, vomiting, diarrhea, dehydration. This may be followed by lowered body temperature(hypothermia) or fever (hyperthermia), red skin rash and affects on behavior/brain/Central Nervous System/nervous system (excitement, wakefulness or depression, restlessness, lethargy, weakness, somnolence, headache, dizziness, lightheadedness, drowsiness, nervousness, extreme irritability, delirium, altered reflexes, confusion, alteration in conciousness (described as "clouded"), convulsions, collapse, unconsciousness, coma), cardiovascular system(hypotension, dysrhythmia, arrythmias), blood (anemia, leukopenia), liver(hepatomegaly, jaundice, transient elevation in liver function tests), urinary system (kidneys - acute renal faillure, oliguria) and endocrine system. Metabolic acidosis, coughing, and cyanosis acompanied by a weak, rapid pulse may also occur. Death may occur from circulatory collapse or shock. Chronic Potential Health Effects: Severe and fatal poisonings are more common following repeated dermal application to abraded or burned skin and chronic ingestion. Boric acid can accumlate in the body (brain, bone) with prolonged or repeated dermal exposure and chronic ingestion. It can cause borism. Borism is a sign of systemic uptake of boron-containing compounds and is characterized by dry skin, skin eruptions, eczema, and gastric disturbances such as nausea, hypermotility, vomiting, and anorexia and weight loss. Prolonged or repeated dermal application and chronic ingestion may also cause other symptoms similar to acute ingestion, and skin absorption. Chronic ingestion may also cause red tongue, patchy alopecia, cracked lips, conjunctivitis. Prolonged or repeated skin contact may also cause dermatitis. Prolonged or repeated inhalation may cause an increase in phlegm production and chronic bronchitis.

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Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 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	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification	Not a DOT controlled material (United States).
Identification	Not applicable.
Special Provisions for Transport	Not applicable.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	TSCA 8(b) inventory: Boric acid
California Proposition 65 Warnings	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 233-139-2). Canada: Listed on Canadian Domestic Substance List (DSL). China: Listed on National Inventory. Japan: Listed on National Inventory (ENCS). Korea: Listed on National Inventory (KECI). Philippines: Listed on National Inventory (PICCS). Australia: Listed on AICS.

Other Classifications

WHMIS (Canada)	CLASS D-2A: Material causing other toxic effects (VERY TOXIC).	
DSCL (EEC)	R36/37/38- Irritating to eyes, respiratory system and skin. R62- Possible risk of impaired fertility. R63- Possible risk of harm to the unborn child.	S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37- Wear suitable gloves. S46- If swallowed, seek medical advice immediately and show this container or label.

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HMIS (U.S.A.)

Health Hazard	2
Fire Hazard	0
Reactivity	0
Personal Protection	E

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

Health

Flammability

Reactivity

Specific hazard

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Lab coat.

Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

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Section 16. Other Information

MSDS Code	**B3780**
References	Not available.
Other Special Considerations	Not available.

Validated by Sonia Owen on 3/8/2007.

Verified by Sonia Owen.

Printed 3/19/2007.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.