



# Material Safety Data Sheet

<b>NFPA</b>  	<b>HMIS</b>  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; border: 1px solid black;">2</td> </tr> <tr> <td style="background-color: #FFC0CB;">Fire Hazard</td> <td style="text-align: center; border: 1px solid black;">0</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; border: 1px solid black;">0</td> </tr> </table>	Health Hazard	2	Fire Hazard	0	Reactivity	0	<b>Personal Protective Equipment</b>    See Section 15.
Health Hazard	2							
Fire Hazard	0							
Reactivity	0							

<b>Section 1. Chemical Product and Company Identification</b>		<i>Page Number: 1</i>
<b>Common Name/ Trade Name</b>	<b>Boric acid</b>	<b>Catalog Number(s).</b> YY1688, YY1640, BO112, YY846, B1130, B1131, B1129, BO120, B1133, B1125, B1141, BO110, B1122, B1640  <b>CAS#</b> 10043-35-3
<b>Manufacturer</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	<b>RTECS</b> ED4550000  <b>TSCA</b> TSCA 8(b) inventory: Boric acid
<b>Commercial Name(s)</b>	Not available.	<b>CI#</b> Not available.
<b>Synonym</b>	Not available.	<b><u>IN CASE OF EMERGENCY</u></b> <b><u>CHEMTREC (24hr) 800-424-9300</u></b>  CALL (310) 516-8000
<b>Chemical Name</b>	Boric Acid	
<b>Chemical Family</b>	Not available.	
<b>Chemical Formula</b>	H3BO3	
<b>Supplier</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

<b>Section 2. Composition and Information on Ingredients</b>					
Name	CAS #	<i>Exposure Limits</i>			% by Weight
		TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	CEIL (mg/m <sup>3</sup> )	
1) Boric acid	10043-35-3				100
<b>Toxicological Data on Ingredients</b>					
	<b>Boric acid:</b> ORAL (LD50): Acute: 2660 mg/kg [Rat]. 3450 mg/kg [Mouse]. DERMAL (LD50): Acute: 2000 mg/kg [Rabbit]. DUST (LC50): Acute: >0.16 mg/l 4 hours [Rat].				

<b>Section 3. Hazards Identification</b>	
<b>Potential Acute Health Effects</b>	Hazardous in case of eye contact (irritant). Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.
<b>Potential Chronic Health Effects</b>	Hazardous in case of skin contact (permeator), of ingestion. <b>CARCINOGENIC EFFECTS:</b> A4 (Not classifiable for human or animal.) by ACGIH. <b>MUTAGENIC EFFECTS:</b> Mutagenic for bacteria and/or yeast. <b>TERATOGENIC EFFECTS:</b> Not available. <b>DEVELOPMENTAL TOXICITY:</b> Not available. The substance may be toxic to kidneys, lungs, upper respiratory tract, skin, bones. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

**Section 4. First Aid Measures**

<b>Eye Contact</b>	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.
<b>Skin Contact</b>	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.
<b>Serious Skin Contact</b>	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Serious Inhalation</b>	Not available.
<b>Ingestion</b>	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.
<b>Serious Ingestion</b>	Not available.

**Section 5. Fire and Explosion Data**

<b>Flammability of the Product</b>	Non-flammable.
<b>Auto-Ignition Temperature</b>	Not applicable.
<b>Flash Points</b>	Not applicable.
<b>Flammable Limits</b>	Not applicable.
<b>Products of Combustion</b>	Not available.
<b>Fire Hazards in Presence of Various Substances</b>	Not applicable.
<b>Explosion Hazards in Presence of Various Substances</b>	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.
<b>Fire Fighting Media and Instructions</b>	Not applicable.
<b>Special Remarks on Fire Hazards</b>	Not available.
<b>Special Remarks on Explosion Hazards</b>	A mixture of potassium and boric acid may explode on impact. A mixture of boric acid and acetic anhydride will explode when heated to 58-60 C

**Section 6. Accidental Release Measures**

<b>Small Spill</b>	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.
<b>Large Spill</b>	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.

**Section 7. Handling and Storage**

<b>Precautions</b>	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.
<b>Storage</b>	Keep container tightly closed. Keep container in a cool, well-ventilated area.

**Section 8. Exposure Controls/Personal Protection**

<b>Engineering Controls</b>	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.
<b>Personal Protection</b>	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
<b>Personal Protection in Case of a Large Spill</b>	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.
<b>Exposure Limits</b>	TWA: 2 STEL: 6 (mg/m <sup>3</sup> ) from ACGIH (TLV) [United States] TWA: 2 STEL: 6 (mg/m <sup>3</sup> ) [Canada]  Consult local authorities for acceptable exposure limits.

**Section 9. Physical and Chemical Properties**

<b>Physical state and appearance</b>	Solid. (Powdered solid.)	<b>Odor</b>	Odorless.
<b>Molecular Weight</b>	61.83 g/mole	<b>Taste</b>	Bitter. (Slight.)
<b>pH (1% soln/water)</b>	5.2 [Acidic.]	<b>Color</b>	White.
<b>Boiling Point</b>	300°C (572°F)		
<b>Melting Point</b>	169°C (336.2°F)-171 deg. C		
<b>Critical Temperature</b>	Not available.		
<b>Specific Gravity</b>	1.435-1.5 (Water = 1)		
<b>Vapor Pressure</b>	Not applicable.		
<b>Vapor Density</b>	Not available.		
<b>Volatility</b>	Not available.		
<b>Odor Threshold</b>	Not available.		
<b>Water/Oil Dist. Coeff.</b>	The product is more soluble in oil; log(oil/water) = 0.175		
<b>Ionicity (in Water)</b>	Not available.		
<b>Dispersion Properties</b>	See solubility in water, methanol.		
<b>Solubility</b>	Soluble in hot water, methanol. Partially soluble in cold water. Very slightly soluble in acetone.		

**Section 10. Stability and Reactivity Data**

<b>Stability</b>	The product is stable.
<b>Instability Temperature</b>	Not available.
<b>Conditions of Instability</b>	High temperatures, dust generation, incompatible materials.
<b>Incompatibility with various substances</b>	Reactive with alkalis.
<b>Corrosivity</b>	Not available.
<b>Special Remarks on Reactivity</b>	Incompatible with Potassium , Acetic Anhydride. Reacts with basic materials to form borate salts.
<b>Special Remarks on Corrosivity</b>	Not available.
<b>Polymerization</b>	Will not occur.

**Section 11. Toxicological Information**

<b>Routes of Entry</b>	Absorbed through skin. Inhalation. Ingestion.
<b>Toxicity to Animals</b>	<b>WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.</b> Acute oral toxicity (LD50): 2660 mg/kg [Rat]. Acute dermal toxicity (LD50): 2000 mg/kg [Rabbit]. Acute toxicity of the dust (LC50): >0.16 mg/l 4 hours [Rat].
<b>Chronic Effects on Humans</b>	<b>CARCINOGENIC EFFECTS:</b> A4 (Not classifiable for human or animal.) by ACGIH. <b>MUTAGENIC EFFECTS:</b> Mutagenic for bacteria and/or yeast. May cause damage to the following organs: kidneys, lungs, upper respiratory tract, skin, bones.
<b>Other Toxic Effects on Humans</b>	Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.
<b>Special Remarks on Toxicity to Animals</b>	Not available.
<b>Special Remarks on Chronic Effects on Humans</b>	May cause adverse reproductive effects (fertility, fetotoxicity) based on animal studies. May affect genetic material. May cause teratogenic effects based on animal studies.
<b>Special Remarks on other Toxic Effects on Humans</b>	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 consciousness (described as "clouded"), convulsions, collapse, unconsciousness, coma), cardiovascular system(hypotension, dysrhythmia, arrhythmias), blood (anemia, leukopenia), liver(hepatomegaly, jaundice, transient elevation in liver function tests), urinary system (kidneys - acute renal failure, oliguria) and endocrine system. Metabolic acidosis, coughing, and cyanosis accompanied 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 accumulate 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.

**Section 12. Ecological Information**

<b>Ecotoxicity</b>	Ecotoxicity in water (LC50): 1020 mg/l 72 hours [Fish (Carassius auratus)]. 115-153 mg/l 48 hours [Daphnia (daphnia magna)].
<b>BOD5 and COD</b>	Not available.
<b>Products of Biodegradation</b>	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
<b>Toxicity of the Products of Biodegradation</b>	The product itself and its products of degradation are not toxic.
<b>Special Remarks on the Products of Biodegradation</b>	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.

<b>Other Classifications</b>	<b>WHMIS (Canada)</b> CLASS D-2A: Material causing other toxic effects (VERY TOXIC).		
	<table border="0"> <tr> <td><b>DSCL (EEC)</b></td> <td>R60- May impair fertility. R61- May cause harm to the unborn child.</td> <td>S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S53- Avoid exposure - obtain special instructions before use.</td> </tr> </table>	<b>DSCL (EEC)</b>	R60- May impair fertility. R61- May cause harm to the unborn child.
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<b>HMIS (U.S.A.)</b>	Health Hazard 2	<b>National Fire Protection Association (U.S.A.)</b>		Flammability	
	Fire Hazard 0			Health	Reactivity
	Reactivity 0				Specific hazard
	Personal Protection E				

**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.

**Section 16. Other Information**
**MSDS Code** B3780

**References** Not available.

**Other Special Considerations** Major Uses: Weatherproofing Wood; nickling baths; for printin and dyeing; fo rimregnatin wicks; in the manufacturer of cements, crockery, procelain, enamels, class, borates (inorganic borate salts), leather, carpets, hats, soaps, artificial gems; in painting; in photography; flame retardant in wood and textiles; additive for glass fibers; catalyst for alcohol production; insecticidal.

Validated by Sonia Owen on 4/24/2013.

Verified by Sonia Owen.

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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.