

NFPA HAZARD RATING				U.S. TRANSPORT SUMMARY
0	Least			Not regulated by the U.S. DOT as a hazardous material. (See Section 14 for additional information)
1	Slight	2	Health	
2	Moderate	1	Flammability	
3	High	0	Reactivity	
4	Severe			

SECTION 1: IDENTIFICATION	
Product Name:	Liquid Boron 10%
EPA Registration #:	Exempt
Product ID/Unity #:	1464980, 1464981, 10000538, 10014890, 14504689
Common Name:	Liquid Boron Fertilizer
Chemical Description:	Aqueous polyborate solution
Recommended Uses:	Commercial Fertilizer. See product label for complete list of recommended uses and use sites.
Restrictions for Use:	See product label for information regarding restrictions on the use of this product
Manufactured For: WINFIELD SOLUTIONS, LLC P. O. Box 64589 St. Paul, MN 55164-0589	MEDICAL EMERGENCY TELEPHONE NUMBER: 1-877-424-7452 (24hrs) Non-Emergency Business Inquiries: 1-855-494-6343 Mon – Fri 8am – 5pm (Central Standard Time)
FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL: CHEMTREC 1-800-424-9300 (24 hours)	

SECTION 2: HAZARDS IDENTIFICATION	
EMERGENCY OVERVIEW: Clear, slightly yellow liquid with a fishy amine-like odor. Product may cause oxygen deficiency in enclosed spaces; follow all OSHA regulations pertaining to enclosed space entry. See health effects below.	
POTENTIAL HEALTH EFFECTS: Eyes: May cause serious eye irritation including redness and inflammation. Skin: Immediate contact may cause irritation. Repeated exposure may lead to itch, rash, dermatitis or other reaction. Inhalation: Inhalation of mist may cause irritation of the upper respiratory tract and have effects on the central nervous system. Ingestion: Harmful if swallowed. Ingestion could have negative effects on the kidneys and liver. Preexisting Conditions: None known. Pre-existing respiratory conditions may be aggravated by exposure to mists. Chronic Health Effects: Ingestion of large amounts could lead to fertility issues or damage to an unborn child. May cause damage to kidneys, liver, or central nervous system through prolonged or repeated inhalation or ingestion.	
Carcinogenicity	NTP: Not listed IARC: Not listed OSHA: Not listed
OSHA HCS 2012 CLASSIFICATION: Acute Inhalation Toxicity Category 4, Skin Irritant Category 2, Eye Irritant Category 2A, Reproductive Toxicity Category 2, Specific Target Organ Toxicity – Repeated Exposure Category 2	
SIGNAL WORD: WARNING	
HAZARD STATEMENTS: Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. Suspected of damaging fertility or the unborn child through ingestion. May cause damage to kidneys, liver, or central nervous system through prolonged or repeated inhalation or ingestion. Percent of product with unknown toxicity: 0%	



Continued on next page

Liquid Boron 10%

PRECAUTIONARY STATEMENTS:

Prevention:	Avoid breathing mist and spray. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Wear protective gloves, protective clothing, eye protection and face protection. Read and follow label instructions before use. Do not handle until all safety precautions have been read and understood.
Response:	If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison control center (1-877-424-7452) or doctor for treatment advice if you feel unwell. If in eyes: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If eye irritation persists get medical attention. If on skin: Wash with plenty of water. If skin irritation occurs get medical attention. Take off contaminated clothing and wash before reuse. If exposed to this product and concerned get medical attention.
Storage:	Store in a secured well-ventilated area. Keep container tightly closed.
Disposal:	Dispose of contents and/or container in accordance with Federal, state and local regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	% (wt)	CAS Reg. #
Boric acid	56.0 – 58.0%	10043-35-3
Monoethanolamine	19.0 – 21.0%	141-43-5
*Ingredients not specifically listed are non-hazardous and are considered to be confidential business information under 29 CFR 1910.1200(i).		
See Section 8 for exposure limits.		

SECTION 4: FIRST AID MEASURES

Inhalation:	Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation or dizziness occurs.
Ingestion:	Seek medical attention for call a poison control center immediately. Do not induce vomiting unless instructed to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
Eyes:	Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention immediately.
Skin:	Remove contaminated clothing and wash before re-using. Flush skin with water, and then wash with soap and water. Seek medical attention if irritation persists.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use media suitable to the surrounding fire.
Special Fire Fighting Procedures: Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Avoid breathing vapors; keep upwind.
Hazardous Combustion Products: Toxic gases may be formed in a fire situation. Carbon monoxide and other asphyxiates may form as well.
Unusual Fire and Explosion Hazards: If water is used to fight fire or cool containers, contain run-off by diking to prevent contamination of water supplies.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.
Environmental Precautions: Do not allow spilled product to enter water supplies.
Methods for Containment: Contain spilled liquid by diking area with sand or earth.
Methods for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite or other appropriate material. Vacuum, scoop or sweep up material and place in a container for disposal. Do not place spilled material back in original container.
Other Information: None known.

SECTION 7: HANDLING AND STORAGE

Handling: Ensure adequate ventilation. Immediately clean up spills that occur during handling. Keep containers closed when not in use. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Storage: Store in a secured well-ventilated area. Keep container tightly closed. Galvanized steel, copper, and copper-based alloys (e.g. brass or bronze) should not be used in contact with this material.

Minimum Storage Temperature: 32°F

Other Precautions: Consult Federal, state and local laws and regulations pertaining to storage.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure Guidelines**

Component:	OSHA PEL	ACGIH TLV	NIOSH REL
Boric acid (CAS #10043-35-3)		2 mg/m3 (TWA) 6 mg/m3 (STEL)	
Monoethanolamine (CAS #141-43-5)	3 ppm, 6 mg/m3 (TWA) 6 ppm, 15 mg/m3 (STEL)	3 mg/m3 (TWA) 6 mg/m3 (STEL)	3 ppm, 8 mg/m3 (TWA) 6ppm, 15 mg/m3 (STEL)

Respiratory Protection: Inhalation of this product may cause irritation of the respiratory tract or potentially dizziness or drowsiness. When handling this product where exposure to mist or spray is possible, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for organic vapors.

Engineering Controls: **Local Exhaust:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred.

Protective Gloves: This product may cause skin irritation. Wear chemically protective gloves to prevent exposure to skin.

Eye Protection: To avoid contact with eyes, wear chemical goggles or safety glasses and full face shield. Contact lenses are not protective devices. An emergency eyewash or water supply should be readily accessible to the work area.

Other Protective Clothing or Equipment: Wear long-sleeve shirt, long pants and chemical resistant footwear plus socks to prevent skin contact.

Work/Hygienic Practices: Never eat, drink, nor use tobacco in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	Specific Gravity (H₂O=1):	1.32 – 1.34 (typical)
Vapor Pressure (mm Hg):	Not determined	Density (lbs/gallon):	11.13 lbs/gallon (typical)
Vapor Density (Air=1):	Not determined	Melting Point/Freezing Point:	32°F
Solubility in Water (wt %):	Miscible	Boiling Point/Range:	>200°F
Viscosity:	Not determined	pH:	7.8 – 8.4
Appearance and odor:	Clear, slightly yellow liquid with a fishy amine-like odor.	Flash Point:	Not determined

SECTION 10: STABILITY AND REACTIVITY

Reactivity: None known.

Chemical Stability: Product is stable at ambient temperature and pressure, under normal storage and handling conditions.

Possibility of Hazardous Reactions: None expected to occur.

Conditions to Avoid: Extreme heat

Incompatible Materials: Strong oxidizing agents, strong bases and acids

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, oxides of boron

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Eye Effects: May cause serious eye irritation based on component data.
Skin Effects: Estimated LD50 = 2,070 mg/kg (based on component data); May cause skin irritation based on component data
Acute Inhalation Effects: May cause respiratory irritation and effects on the central nervous system based on component data
Acute Oral Effects: Estimated LD50 = 2,882 mg/kg (based on component data)
Specific Target Organ Toxicity: Components have demonstrated toxicity to the central nervous system, kidneys and liver upon repeated doses. No data is available on the mixture.

CHRONIC TOXICITY

Chronic Effects: Boric acid has been demonstrated to have an effect on male fertility and the development of an unborn child. No data is available on the mixture.
Carcinogenicity: Not anticipated to be a carcinogen based upon component data.
Mutagenicity: Not anticipated to be a mutagen based upon component data.
Teratogenicity: Not anticipated to be a teratogen based upon component data.
Reproductive Toxicity: Boric acid has been demonstrated to have an effect on male fertility and the development of an unborn child. No data is available on the mixture.

POTENTIAL HEALTH EFFECTS:

Eyes: May cause serious eye irritation including redness and inflammation.
Skin: Immediate contact may cause irritation. Repeated exposure may lead to itch, rash, dermatitis or other reaction.
Inhalation: Inhalation of mist may cause irritation of the upper respiratory tract and have effects on the central nervous system.
Ingestion: Harmful if swallowed. Ingestion could have negative effects on the kidneys and liver.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: Environmental effects of quantities greater than the labeled application rates have not been determined.

ECOTOXICITY DATA:

Fish Acute and Prolonged Toxicity: Not determined
Aquatic Invertebrate Acute Toxicity: Not determined
Aquatic Plant Toxicity: Not determined
Bird Acute and Prolonged Toxicity: Not determined
Honeybee Toxicity: Not determined

ENVIRONMENTAL EFFECTS:

Soil Absorption/Mobility: Not determined
Persistence and degradability: Not determined
Bioaccumulative Potential: Not determined
Other adverse effects: Not determined

SECTION 13: DISPOSAL CONSIDERATIONS

Waste: Dispose of in accordance with applicable Federal, state and local laws and regulations.
Container: Triple rinse and recycle the container or dispose of in accordance with Federal, state and local laws and regulations.
RCRA Characteristics: It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste.

Liquid Boron 10%

SECTION 14: TRANSPORT INFORMATION

DOT: (Ground)	This product is not regulated for transport by the U.S. Department of Transportation as a hazardous material.
IMDG: (Sea)	Not determined
IATA: (Air)	Not determined
TDG: (Canada)	This product is not regulated for transport by the Transportation of Dangerous Goods as a hazardous material.

SECTION 15: REGULATORY INFORMATION

TSCA Inventory: All components are listed on the TSCA inventory.

SARA Title III Information:

Section 302 - Extremely hazardous substances: None listed

Section 311/312 – Hazard Categories: Immediate (Acute), Delayed (Chronic)

Section 313 – The following chemicals are subject to the reporting requirements of Section 313 of Title III, Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372:
None listed

CERCLA - This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):
None listed

California Proposition 65: This product does not contain any chemicals known to the State of California to cause cancer and birth defects or reproductive harm.

U.S. State Worker and Community Right-To-Know (RTK) Information (CT, IL, MA, MN, NH, NJ, PA, RI):

Chemical Name	CAS #	State(s)
Monoethanolamine	141-43-5	MA, NJ, PA

Canadian Domestic Substances List: All components are listed.

WHMIS Classification: D2A

SECTION 16: OTHER

Disclaimer: The information presented herein is based on available data from reliable sources and is correct to the best of WinField Solutions' knowledge. WinField Solutions, LLC makes no warranty, express nor implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

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Sections Revised: Section 9