

IN CASE OF EMERGENCY DUE TO A MAJOR SPILL, FIRE OR POISONING INVOLVING THIS PRODUCT CALL DAY OR NIGHT, 1-800-561-8273 or CHEMTREC 1-800-424-9300

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

DISTRIBUTED BY:

LOVELAND PRODUCTS CANADA, INC.
789 Donnybrook Drive • Dorchester, Ontario N0L 1G5

24-Hour Emergency Phone: 1-800-561-8273
Additional Emergency Phone (Canutec): 1-613-996-6666 (Collect)

CHEMICAL IDENTITY: Boric Acid (H₃BO₃) Compound with Monoethanolamine; Aqueous Polyborate solution

PRODUCT USE: Micronutrient solution

REG. NO.: 2009050B – Fertilizers Act

MSDS Number: 2009050B-12b-LPI

MSDS Revisions: Section 1

Date of Issue: 09/17/12

Supersedes: 08/14/12

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN – CAUTION - Avoid contact with eyes and clothing. Avoid prolonged contact with skin. Do not take internally. Do not inhale vapours. Wear goggles and gloves when handling.

This product is a clear, colourless to pale yellow liquid with mild odour. Primary routes of entry are eye contact and skin contact.

3. COMPOSITION, INFORMATION ON INGREDIENTS

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV (Units)</u>
Boron (B)	10.00	Mixture	not listed
Other ingredients, including	90.00		
Boric Acid (H ₃ BO ₃) Compound		26038-87-9	not listed
Monoethanolamine		141-43-5	7.5 mg/m ³
Water		7732-18-5	not listed

4. FIRST AID MEASURES

Inhalation: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control centre or doctor for further treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

Ingestion: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-561-8273. Have the product label or container with you when calling a poison control centre or doctor, or going for treatment.

NOTE TO PHYSICIAN: No known antidote, treat symptomatically.

5. FIRE FIGHTING MEASURES

FLASH POINT (°F/Test Method): Does not flash.

FLAMMABLE LIMITS (LFL & UFL): Not established

EXTINGUISHING MEDIA: Considered non-combustible, use medium appropriate to surrounding fire. Dry chemical, carbon dioxide, foam, water spray or fog.

HAZARDOUS COMBUSTION PRODUCTS: Oxides of nitrogen and other unknown hazardous material may be formed.

SPECIAL FIRE FIGHTING PROCEDURES: Remain upwind. Avoid breathing smoke. Wear self-contained breathing apparatus and full protective gear.

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.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Ventilate area. Avoid breathing mists. Sweep up liquid spills immediately and transfer to suitable containers for possible land application according to label use or for disposal. Check local and provincial regulations for proper disposal.

CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

7. HANDLING AND STORAGE

HANDLING: Wear goggles and gloves when handling. Keep away from children, food and feed products. Work in well ventilated area. Wear a NIOSH approved respirator for mists and vapors. Wear chemical impervious gloves, footwear, coveralls or impervious apron. Protect eyes with goggles or a face shield when handling undiluted product. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if product gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE: Store in a cool place out of direct sunlight. Keep container tightly closed when not in use. May be stored in an unheated facility. Keep from freezing. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Not normally required.

RESPIRATORY PROTECTION: Not normally required, if vapors are too strong wear a NIOSH/MSHA approved respirator for organic vapor with dust, mist and fume filters.

EYE PROTECTION: Chemical goggles or shielded safety glasses.

SKIN PROTECTION: Wear protective clothing: long-sleeved shirts and pants, shoes with socks. Wear rubber or chemical-resistant gloves.

	OSHA PEL 8 hr TWA	ACGIH TLV-TWA
Monoethanolamine	6 mg/m ³	7.5 mg/m ³

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOUR: Clear, colourless to pale yellow liquid with mild odour.

SPECIFIC GRAVITY (Water = 1): 1.32 g/ml

VAPOUR PRESSURE: Not established

PERCENT VOLATILE (by volume): Not established

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

BULK DENSITY: 1.32 kg/L

BOILING POINT: >200°F / >93.4°C

EVAPORATION RATE: (Butyl Acetate = 1): 1

SOLUBILITY: Complete

pH: 8.0 (neat)

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Excessive heat.

INCOMPATIBILITY: Strong oxidizing agents and acids.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of nitrogen and other unknown hazardous material may be formed in a fire situation.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀ (male rat): >5000 mg/kg

Eye Irritation (rabbit): May cause slight irritation

Inhalation LC₅₀ (female rat): Not established.

Carcinogenic Potential: Not listed in OSHA, NTP, IARC, or ACGIH.

Target Organs: None known

Acute Dermal LD₅₀ (rabbit): >5000 mg/kg

Skin Irritation (rabbit): May cause slight irritation

Skin Sensitization (Guinea Pig): Not established

12. ECOLOGICAL INFORMATION

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes.

13. DISPOSAL CONSIDERATIONS

Do not reuse containers for any purpose. Refillable Container: For disposal, the container may be returned to the point of purchase (dealer/distributor). It must be refilled by the dealer/distributor with the same product. Container is recyclable, and is to be disposed of at a container collection site. Contact your local dealer/distributor for the location of the nearest collection site. Before taking container to the collection site: Triple or pressure-rinse the empty container, adding the rinsate to the spray tank. Make the empty container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Do not contaminate water, food, or feed by storage or disposal.

14. TRANSPORT INFORMATION

DOT/TDG Shipping Description: NOT REGULATED

U.S. Surface Freight Classification: FERTILIZING COMPOUNDS (MANUFACTURED FERTILIZERS), NOI, LIQUID (NMFC 68140, SUB 6; CLASS 70)

IMDG Shipping Description: NOT REGULATED

Consult appropriate ICAO/IATA regulations for shipment requirements in the Air shipping mode.

15. REGULATORY INFORMATION

NFPA & HMIS Hazard Ratings:	NFPA		HMIS
	1 Health	0 Least	1 Health
	0 Flammability	1 Slight	0 Flammability
	0 Instability	2 Moderate	0 Reactivity
		3 High	B PPE
		4 Severe	

SARA Hazard Notification/Reporting

SARA Title III Hazard Category: Immediate Y Fire N Sudden Release of Pressure N
 Delayed N Reactive N

Reportable Quantity (RQ) under U.S. CERCLA: Not listed

SARA, Title III, Section 313: Not listed

RCRA Waste Code: Not listed

CA Proposition 65: Not listed

16. OTHER INFORMATION

MSDS STATUS: Section 1 revised

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental Health and Safety

Borosol is a trademark of Loveland Products Canada Inc.

Disclaimer and Limitation of Liability: This data sheet was developed from information on the constituent materials identified herein and does not relate to the use of such materials in combination with any other material or process. No warranty is expressed or implied with respect to the completeness or ongoing accuracy of the information contained in this data sheet, and LOVELAND PRODUCTS CANADA, INC. disclaims all liability for reliance on such information. This data sheet is not a guarantee of safety. Users are responsible for ensuring that they have all current information necessary to safely use the product described by this data sheet for their specific purpose.