

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL DAY OR NIGHT 1-800-561-8273 or CHEMTREC – DAY OR NIGHT 1 800-424-9300

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

- 1.1 **PRODUCT IDENTIFIER:**
TRADE NAME: **BOROSOL® 10**
- 1.2 **RECOMMENDED USE:** SOLUBLE POLYBORATE LIQUID FOR CORRECTION OF BORON DEFICIENCIES IN CROPS
- 1.3 **DISTRIBUTED BY:**
 LOVELAND PRODUCTS CANADA, INC.
 PO Box 5234 | 64137 Hwy 543 E • High River, Alberta T1V 1M4
- 1.4 **24 Hour Emergency Phone: (Chemtrec):** 1-800-424-9300 (Toll Free) - **Additional Emergency Phone** 1-800-561-8273
Loveland Technical Service: 1-800-328-4678

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Acute Toxicity - Oral	Category 4	H302
Eye Damage/Irritation	Category 2B	H320

2.2 Label elements



Signal word:	WARNING
Hazard Statement:	H302 – Harmful if swallowed H320 – Causes eye irritation. H313 – May be harmful in contact with skin.
Precautionary Statement: (Prevention):	P264 – Wash hands thoroughly after handling. P270 – Do not eat, drink or smoke when using this product.
Precautionary Statement: (Response):	P301+P312 – IF SWALLOWED: Call a poison centre or doctor/physician if you feel unwell. P330 – Rinse mouth. P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 – If eye irritation persists: Get medical advice/attention
Precautionary Statement: (Storage):	Not applicable or required.
Precautionary Statement: (Disposal):	P501 – Dispose of contents/container in accordance with local, provincial and national regulations.

2.3 Other hazards
None known



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3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures

Chemical Name:	CAS No.	Concentration [%]
Boric Acid (H ₃ BO ₃) Compound	26038-87-9	45 – 60
Monoethanolamine	141-43-5	15 – 30
Water	7732-18-5	15 - 25

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

Eye contact:	Hold eye open and rinse slowly and gently with water for 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.
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 center or doctor. Do not give anything by mouth to an unconscious person.
Skin contact:	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.
Inhalation:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferable by mouth-to-mouth, if possible. Call a poison control centre or doctor for treatment advice.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Eye irritation.

4.3 Immediate Medical Attention and Special Treatment

Treatment: Treat symptomatically. Symptoms may be delayed.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: **1-800-561-8273**

Take container, label or product name you when seeking medical attention.

NOTES TO PHYSICIAN: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Foam, carbon dioxide (CO₂), dry powder, water spray. Do not use water jet as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: During a fire, oxides of carbon and silicon dioxide can be released.

5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters: Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.



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6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Avoid inhalation of vapours, dusts and spray mist and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not allow to enter drains, sewers, or watercourses.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water.
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to Remove residual contamination.
Never return spills to original containers for re-use.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe Handling: Avoid inhalation of dusts, vapors / spray and contact with eyes, skin and clothing. Do not breathe dusts, mist or vapor. Wear personal protective equipment. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling. Do not empty into drains. Handle and open container with care. Use care in handling/storage. Wash before eating, drinking and/or smoking.

7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers: Store above 4.4 °C). Store in original containers only. Keep containers tightly closed when not in use. Store in a cool, dry well-ventilated area, preferably in a locked storage area away from children, feed and food products and seed. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS:

OCCUPATIONAL EXPOSURE LIMITS

U.S. Workplace Exposure Level (ACGIH) TLVs

Components	Type	Value
Monoethanolamine	TWA	7.5 mg/m ³ – 3 ppm
	STEL/CEIL(C)	15 mg/m ³ – 6 ppm
Borate compounds, inorganic	TWA	2 mg/m ³ (Measured as Inhalable fraction of the aerosol)
	STEL/CEIL(C)	6 mg/m ³ (Measured as Inhalable fraction of the aerosol)

U.S. Workplace Exposure Level (OSHA) PELs

Components	Type	Value
Monoethanolamine	TWA	6 mg/m ³ – 3 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Specimen
No listings		

8.2 EXPOSURE CONTROLS:

Engineering Measures

Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and spray mists. Provide eyewash station and safety shower.

Individual Protection Measures:

Eye / Face Protection: Goggles or shielded safety glasses are recommended.
Skin Protection: Chemical resistant clothing is recommended. Routinely wash work clothing and protective equipment to remove contaminants. The use of chemical-resistant gloves is recommended when handling undiluted product. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.
Respiratory Protection: In case of inadequate ventilation or risk of inhalation of dusts or vapors, use suitable respiratory equipment such as MSHA/NIOSH TC-21C or NIOSH approved respirator with N, R, P or HE filter. Wear respiratory protection during operations where spraying or misting occurs. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard. Wear air supplied respiratory protection if exposure concentrations are unknown.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 APPEARANCE :	Liquid
ODOUR:	Mild.
ODOUR THRESHOLD:	No data available.
COLOUR:	Clear.
pH:	8.25 (neat)
MELTING POINT / FREEZING POINT:	No data available
BOILING POINT:	212 °F / 100 °C
FLASH POINT:	No data available
FLAMMABILITY (solid, gas):	No data available.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:	No data available.
VAPOUR PRESSURE:	17 mm Hg @ 20 °C.
SOLUBILITY:	Soluble
PARTITION CO-EFFICIENT, n-OCTANOL / WATER:	No data available.
AUTO-IGNITION TEMPERATURE:	No data available.
DECOMPOSITION TEMPERATURE:	No data available
VISCOSITY, dynamic:	No data available
SPECIFIC GRAVITY (Water = 1):	1.331 g/ml
DENSITY:	1.33 kg/L

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.

10. STABILITY AND REACTIVITY

10.1 REACTIVITY

Stable

10.2 CHEMICAL STABILITY

Stable under normal temperature conditions

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No reactions known under normal use conditions. Will not polymerize.

10.4 CONDITIONS TO AVOID

None known.

10.5 INCOMPATIBLE MATERIALS

Strong oxidizing agents and acids.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

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

11. TOXICOLOGICAL INFORMATION

11.1 LIKELY ROUTES OF EXPOSURE

Eye contact, skin contact.

LC₅₀ (rat) > 2.0 mg/L (4 HR) (Boric Acid); 20 mg/L (4 HR) (Monoethanolamine)

LD₅₀ Oral (rat): > 2,550 mg/kg (Boric Acid); 1,089 mg/kg (Monoethanolamine)

LD₅₀ Dermal (rat): > 2,000 mg/kg

Acute Toxicity Estimates: No data available

Skin Irritation (rabbit): Slight irritant

Eye Irritation (rabbit): Slight irritant.

Specific Target Organ Toxicity: Single exposure: No data available.

Aspiration: No data available

Skin Sensitization (guinea pig): Not a sensitizer

Carcinogenicity: No data available

Germ Cell Mutagenicity: No data available

Interactive Effects: None known



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12. ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. This product is not intended for use in aquatic settings.

Ecotoxicological Data

Components	Species	Test Results
Boric Acid	Daphnia magna	100 mg/L – 48 hour EC ₅₀
Monoethanolamine	Cyprinus carpio	349 mg/L – 96 hour LC ₅₀
	Daphnia magna	65 mg/L – 48 hour EC ₅₀

Drift or runoff may adversely affect non-target plants.
Do not apply directly to water.
Do not contaminate water when disposing of equipment wash water.
Do not apply when weather conditions favor drift from target area.

12.2 PERSISTENCE AND DEGRADABILITY

Biodegradability: No data available

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY IN SOIL

No data available.

12.5 OTHER ADVERSE EFFECTS

Assessment: No data available.

13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Do not reuse containers for any purpose. 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. For disposal, the container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse the product container for any other purpose.

14. TRANSPORT INFORMATION

14.1 LAND TRANSPORT

TDG Shipping Description: NOT REGULATED.

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



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15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

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 applicable.

16. OTHER INFORMATION

SDS STATUS: Format revised
PREPARED BY: Registrations and Regulatory Affairs **REVIEWED BY:** Environmental Health and Safety
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Registration number: 2009050B – Fertilizers Act

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