FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL 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 SUPPLIER DETAILS:
LOVELAND PRODUCTS, INC.
P.O. Box 1286 • Greeley, CO 80632-1286
1.4 24-Hour Emergency Phone: 1-800-424-9300 - **Medical Emergencies:** 1-866-944-8565 – **Product Information:** 1-888-574-2878 (LPI-CUST)
U.S. Coast Guard National Response Center: 1-800-424-8802

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to 29 CFR 1910.1200

Eye Damage/Irritation	Category 2B	H320
Acute Toxicity - Dermal	Category 5	H313
Acute Toxicity - Oral	Category 5	H302

2.2 Label elements

Signal word: WARNING

Hazard Statement:
H320 – Causes eye irritation.
H313 – May be harmful in contact with skin.
H302 – Harmful if swallowed

Precautionary Statement: (Prevention):
P261 – Avoid breathing dust / fume / gas / mist / vapors / spray
P273 - Avoid release to the environment
P280 - Wear protective gloves and eye / face protection

Precautionary Statement: (Response):
P337+P313 – If eye irritation persists: get medical attention
P305+P351+P338 – IF IN EYES: Rinse with water for 15 to 20 minutes. Remove contact lenses, if present, and continue rinsing eyes.
P302+P352 – IF ON SKIN: Wash with plenty of water for 15 to 20 minutes

Precautionary Statement: (General):
P101+P102+P103 – If medical advice is needed, have product container or label available. Keep out of reach of children. Read label before use

2.3 Other hazards

None known

3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances

Classification according to 29 CFR 1910.1200

3.2 Mixtures

Chemical Name:	CAS No.	Classification	Concentration [%]
Boric Acid	10043-35-3	H320, 2B, Eye irritation.	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 center or doctor for treatment advice.

Ingestion: Call a poison control center 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 center 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 center 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: 1-866-944-8565

Take container, label or product name with 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 (CO_2), 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.

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Avoid inhalation of vapors, 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 40^{O}F (4.4^{O}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
ODOR: Mild.
ODOR THRESHOLD: No data available.
COLOR: Clear.
pH: 8.25 (neat)
MELTING POINT / FREEZING POINT: No data available
BOILING POINT: 212°F / 100°C
FLASH POINT: No data available
FLAMMABILILITY (solid, gas): No data available.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: No data available.
VAPOR 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: 11.09 lbs./gal **/** 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 INCOMPATIBILE 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.
LC_{50} (rat) > 2.0 mg/L (4 HR) (Boric Acid); 20 mg/L (4 HR) (Monoethanolamine)
LD_{50} Oral (rat): > 2,550 mg/kg (Boric Acid); 1,089 mg/kg (Monoethanolamine)
LD_{50} 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

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

Wastes may be disposed of on site or at an approved waste disposal facility. Triple rinse (or equivalent), adding rinse water to spray tank. Offer container for recycling or dispose of in a sanitary landfill or by other procedures approved by appropriate authorities. Recycling decontaminated containers is the best option of container disposal. The Agricultural Container Recycling Council (ACRC) operates the national recycling program. To contact your state and local ACRC recycler visit the ACRC web page at http://www.acrecycle.org/. Do not contaminate water, food or feed by storage or disposal.

14. TRANSPORT INFORMATION

14.1 LAND TRANSPORT

DOT Shipping Description: NOT REGULATED.
U.S. Surface Freight Classification: FERTILIZING COMPOUNDS (MANUFACTURED FERTILIZERS), NOI, LIQUID (NMFC 68140, SUB 6; CLASS 70)

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: WARNING: This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

16. OTHER INFORMATION

SDS STATUS: Sections 2 and 3 revised

PREPARED BY: Registrations and Regulatory Affairs **REVIEWED BY:** Environmental Health and Safety

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