

MATERIAL SAFETY DATA SHEET

SIGNATURE™ COPPER 5% REG. 2012067B

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

MANUFACTURED FOR AND 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: Copper

PRODUCT USE: Micronutrient solution

REG. NO.: 2012067B – Fertilizers Act

MSDS Number: 2012067B -12-LPI

MSDS Revisions: Section 1

Date of Issue: 01/30/13

Supersedes: 12/16/11

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN – CAUTION - Harmful if swallowed, inhaled or absorbed through skin. May cause eye and skin irritation. Avoid contact with eyes, skin and clothing. Avoid breathing vapours and mists. Use with adequate ventilation. Eye protection and gloves are suggested when handling undiluted product. Wash thoroughly after handling. Contents may be under pressure. Use caution when opening. This liquid micronutrient solution is derived from Anhydrous Ammonia and Copper Sulphate. Also contains Humic acids derived from Leonardite.

This product is a black-coloured solution with slight ammonia 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>
Sulphur (S)	2.00	Mixture	not listed
Copper (Cu)	5.00	Mixture	not listed
Other ingredients, including	89.00		
Copper Sulphate		7758-99-8	not listed
Anhydrous Ammonia		7664-41-7	17 mg/m ³

4. FIRST AID MEASURES

- If on skin:** Remove all contaminated clothing. Wash skin and hair thoroughly with soap and water. Wash clothing before reuse. If irritation persists, get medical attention.
- If in eyes:** Flush with running water for at least 15 minutes while holding eyelids open to help flush out material. Get medical attention.
- If swallowed:** Drink 1-2 glasses of water and induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person. Keep head lower than chest to avoid aspiration into lungs. Call a physician immediately or contact poison control center.
- If inhaled:** Remove to fresh air. If breathing is difficult, administer oxygen; if breathing stops, administer artificial respiration. Get medical attention immediately.

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 (CO₂), foam, water spray or fog.
- HAZARDOUS COMBUSTION PRODUCTS:** May include but are not limited to oxides of carbon, oxides of nitrogen, and other asphyxiants.
- SPECIAL FIRE FIGHTING PROCEDURES:** Use water spray to cool containers exposed to fire. Remain upwind. Avoid breathing smoke. Wear self-contained breathing apparatus and full protective gear.
- UNUSUAL FIRE AND EXPLOSION HAZARDS:** Containers may burst due to pressure build-up of ammonia.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Ventilate area. Contain spill, absorb liquid with clay or other absorbent material. Sweep up material and place in container for possible land application according to label use or for proper 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: Open the container carefully. Contents may be under pressure and has a mild odour of ammonia. Use with adequate ventilation. Work in well ventilated area. Wear a NIOSH approved respirator for mists and vapours. 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 original container only. Store in PVC, PE, stainless steel, or bituminized tanks. Store in a cool, dry place below 77°F / 25°C and above 14°F / -10°C and out of direct sunlight. Avoid freezing. If product freezes, allow it to warm and then mix vigorously before use. Do not use food or drink containers for mixing or storage. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Not normally required. If odour is too strong use local ventilation.

RESPIRATORY PROTECTION: Not normally required, if vapours are too strong wear a NIOSH/MSHA approved respirator for organic vapour 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
Copper Dusts and Mists	1 mg/m ³	1 mg/m ³
Ammonia	35 mg/m ³	17 mg/m ³

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOUR: Black-coloured solution with slight ammonia odour. **SOLUBILITY:** Complete

SPECIFIC GRAVITY (Water = 1): 1.355 g/ml **BULK DENSITY:** 1.36 kg/L

VAPOUR PRESSURE: Not established **BOILING POINT:** 212°F/100°C

PERCENT VOLATILE (by volume): Not established **EVAPORATION RATE: (Butyl Acetate = 1):** 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.

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Excessive heat.

INCOMPATIBILITY: Strong acids and bases.

HAZARDOUS DECOMPOSITION PRODUCTS: May include but are not limited to oxides of carbon, oxides of nitrogen, and other asphyxiants.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀ (male rat): > 2000 mg/kg **Acute Dermal LD₅₀ (rabbit):** Not established

Eye Irritation (rabbit): Causes irritation **Skin Irritation (rabbit):** May cause irritation

Inhalation LC₅₀ (female rat): Not established. **Skin Sensitization (Guinea Pig):** Not established

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

Target Organs: None

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. 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	<u>Y</u>	Fire	<u>N</u>	Sudden Release of Pressure	<u>N</u>
	Delayed	<u>N</u>	Reactive	<u>N</u>		

Reportable Quantity (RQ) under U.S. CERCLA: Ammonia (CAS: 7664-41-7) 100 lbs.

SARA, Title III, Section 313: Copper Compounds; Ammonia (CAS: 7664-41-7)

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

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