

**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:** Manganese Ammonium Citrate

**PRODUCT USE:** Soluble Micronutrient Fertilizer

**REG. NO.:** 2001036B – Fertilizers Act

**MSDS Number:** 2001036B-12-LPI

**MSDS Revisions:** New

**Date of Issue:** 08/13/12

**Supersedes:** New

**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 dusts and mists. Use with adequate ventilation. Eye protection and gloves are suggested when handling undiluted product. Wash thoroughly after handling. Use caution when opening. This water soluble micronutrient fertilizer is derived from Manganese Sulfate and Citric Acid.

This product is off white-colored granular powder with little or no odor. 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>
Manganese (Mn), from Manganese Sulfate	22,00	7785-87-7	not listed
Other ingredients, including Citric Acid	78,00	77-92-9	not listed

**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:** Do not induce vomiting. Call a physician immediately or contact poison control centre.
- 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 (CO<sub>2</sub>), foam, water spray or fog.
- HAZARDOUS COMBUSTION PRODUCTS:** May include but are not limited to oxides of sulfur.
- 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:** Dusts or vapors can travel to a sources of ignition and flash back.

**6. ACCIDENTAL RELEASE MEASURES**

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:**

Avoid breathing dusts. Sweep up dry 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:** Mix product in HDPE, fiberglass or stainless steel containers only. Wash thoroughly after handling. Avoid breathing dust. Protect eyes with goggles or a face shield when handling diluted 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:** Carefully fold and secure open bags and store in a cool dry place away from children, feed and food products, pesticides, and seed. 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 or dusts exceed acceptable levels, wear a MSHA/NIOSH approved pesticide respirator with dust/mist prefilter.

**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.

	<b>OSHA PEL 8 hr TWA</b>	<b>ACGIH TLV-TWA</b>
Nuisance Particulates	15 mg/m <sup>3</sup> (Total Dust)	Not listed

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE AND ODOUR:** Off white-colored granular powder with little to no odor

**SPECIFIC GRAVITY (Water = 1):** 1,28 g/ml

**VAPOUR PRESSURE:** Not established

**PERCENT VOLATILE (by volume):** Not established

**BOILING POINT:** Not applicable

**EVAPORATION RATE: (Butyl Acetate = 1):** Not established

**SOLUBILITY:** Complete

**pH:** 2 (1% solution)

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 and moisture.

**INCOMPATIBILITY:** Strong oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of sulfur may be released in a fire situation.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**11. TOXICOLOGICAL INFORMATION**

**Acute Oral LD<sub>50</sub> (male rat):** > 5000 mg/kg

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

**Inhalation LC<sub>50</sub> (female rat):** Not established.

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

**Target Organs:** None

**Acute Dermal LD<sub>50</sub> (rabbit):** > 5000 mg/kg

**Skin Irritation (rabbit):** May cause 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. Completely empty bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. For disposal, empty container may be returned to the point of purchase (distributor/dealer). Follow provincial instructions for any required additional cleaning of container. Make the empty container unsuitable for further use. 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, SOLID (NMFC 68140, SUB 5; CLASS 50)

**IMDG Shipping Description:** NOT REGULATED

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

**15. REGULATORY INFORMATION**

<b>NFPA &amp; HMIS Hazard Ratings:</b>	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**

<b>SARA Title III Hazard Category:</b>	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:** Not listed

**SARA, Title III, Section 313:** Not listed

**RCRA Waste Code:** Not listed

**CA Proposition 65:** Not listed

**16. OTHER INFORMATION**

**MSDS STATUS:** New

**PREPARED BY:** Registrations and Regulatory Affairs

**REVIEWED BY:** Environmental/ Regulatory Services

*@Nortrace is a registered trademark of Loveland Products, 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.