

MATERIAL SAFETY DATA SHEET

PRO-MANGANESE™ 5 6-0-0

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

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

GUARANTEED BY:

LOVELAND PRODUCTS, INC.
P.O. Box 1286 • Greeley, CO 80632-1286

24-Hour Emergency Phone: 1-800-424-9300

Medical Emergencies: 1-866-944-8565

U.S. Coast Guard National Response Center: 1-800-424-8802

PRODUCT NAME: PRO-MANGANESE™ 5 6-0-0
CHEMICAL NAME: Chelated Manganese Sulfate Solution
CHEMICAL FAMILY: Inorganic salt
EPA REG. NO.: not applicable
MSDS Number: 7105245-11-LPI

MSDS Revisions: New

Date of Issue: 07/25/11

Supersedes: New

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN – CAUTION - May be harmful if swallowed, inhaled or absorbed through skin. May cause eye and skin irritation. Avoid contact with eyes, skin and clothing. Avoid contact with open cuts or sores. Avoid breathing vapors. Use with adequate ventilation. Eye protection and gloves are suggested when handling undiluted product. Wash thoroughly after handling and using this product. In case of contact, flush with water. Get medical attention for eyes. This blended liquid nutritional product is derived from Manganese Sulfate, Anhydrous Ammonia, Citric Acid, EDTA (Ethylenediaminetetraacetic Acid), and water. Nausea and vomiting could be expected upon large dose ingestion. The acute ingestive effects are described as nausea, chills, and diarrhea. Eye or skin contact with these products could cause irritation (particularly in sensitive persons), and respiratory irritation could be expected from the unprotected inhalation of fertilizer mists. Product users should avoid prolonged or repeated skin contact by wearing impervious gloves, long sleeve shirt, long pants, socks and rubber boots. Goggles for eye protection are recommended.

This product is an opaque, red/brown liquid with ammonia odor.

3. COMPOSITION, INFORMATION ON INGREDIENTS

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV (Units)</u>
Total Nitrogen (N) (from Anhydrous Ammonia)	6.00	Mixture 7664-41-7	none established 17 mg/m ³
Sulfur (S) (from Manganese Sulfate)	3.00	Mixture 7785-87-7	none established none established
Manganese (Mn) (from Manganese Sulfate)	5.00	Mixture 7785-87-7	none established none established
Fertilizer salts and inert ingredients	86.00		

4. FIRST AID MEASURES

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

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

If in eyes: 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.

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have a person sip a glass of water if able to do so. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. May be toxic by ingestion.

Note to physician: Gastric lavage may be indicated in more severe cases. Treat symptomatically.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565.

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 manganese, oxides of nitrogen, oxides of sulfur, and oxides of carbon.
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, state and federal 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. Eye protection and gloves are suggested when handling undiluted product. Use with adequate ventilation.

STORAGE: Store in a cool, dry, well-ventilated area in tightly closed, compatible, corrosion resistant containers only. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Work in well-ventilated area. Local exhaust may be required if working in confined space.

RESPIRATORY PROTECTION: Wear a NIOSH approved air-purifying respirator for pesticide handling if necessary.

EYE PROTECTION: Chemical goggles or shielded safety glasses.

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

	OSHA PEL 8 hr TWA	ACGIH TLV-TWA
Manganese	C 5	0.2 mg/m ³
Ammonia	35 mg/m ³	17 mg/m ³

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Opaque, red/brown liquid with ammonia odor

SPECIFIC GRAVITY (Water = 1): 1.26 g/ml @ 68°F

VAPOR 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: 10.52 lbs/gal.

BOILING POINT: 170°F/76.7°C

EVAPORATION RATE: Not established

SOLUBILITY: Soluble

pH: 9.7 (neat)

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Avoid contact with strong oxidizers, acids, and excessive heat.

INCOMPATIBILITY: Oxidizing materials, acids, metals, and metal oxides.

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

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀ (mouse): 332 mg/kg (Anhydrous Manganese)

Eye Irritation (rabbit): not established

Inhalation LC₅₀ (rat): not established

IDLH (as Mn): 500 mg/m³

Carcinogenic Potential: None listed in OSHA, NTP, IARC or ACGIH. EPA classifies Manganese as EPA-D: Not Classifiable as to Human Carcinogenicity: Inadequate human and animal evidence of carcinogenicity or no data available.

Acute Dermal LD₅₀ (mouse): 534 mg/kg (Tetrahydrate)

Skin Irritation (rabbit): not established

Skin Sensitization (guinea pig): not established.

12. ECOLOGICAL INFORMATION

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.

13. DISPOSAL CONSIDERATIONS

Do not reuse container. Rinse container thoroughly, adding rinsate to mixing tank. Then offer for recycling at an ACRC site (go to <http://www.acrecycle.org/> for locations) or dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Avoid contaminating water by disposal of equipment wash waters or other product wastes.

14. TRANSPORT INFORMATION

DOT Shipping Description: NOT REGULATED BY USDOT

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

15. REGULATORY INFORMATION

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

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: Ammonia (CAS: 7664-41-7) 100 lbs.

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

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

MSDS STATUS: New

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental/ Regulatory Services

Pro-Manganese is a trademark of Loveland Products, Inc.

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