



SAFETY DATA SHEET

SDS NUMBER: 1000175209-15-LPI

SDS REVISIONS: FORMAT

DATE OF ISSUE: 03/14/15

M-4 MIX
SUPERSEDES: 09/20/12

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: **M-4 MIX**

1.2 RECOMMENDED USE:

SEQUESTERED LIQUID PLANT NUTRITION FOR CROPS AND ORNAMENTALS

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

| | | |
|--|------------|------|
| Acute Toxicity – Oral | Category 4 | H302 |
| Specific Target Organ Toxicity (Single Exposure) | Category 3 | H335 |

2.2 Label elements



| | |
|--------------------------|---|
| Signal word: | WARNING |
| Hazard Statement: | H302 – Harmful if swallowed. H313 – May be harmful in contact with skin. H333 – May be harmful if inhaled. H335 – May cause respiratory irritation. |
| Precautionary Statement: | P264 – Wash hands and face thoroughly after handling. |
| (Prevention): | P261 – Avoid breathing dust/fume/gas/mist/vapors/spray. P270 – Do not eat, drink or smoke when using this product. P271 – Use only outdoors or in a well-ventilated area. |
| Precautionary Statement: | P301+P312 – IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. |
| (Response): | P330 – Rinse mouth. |
| Precautionary Statement: | |
| (Storage): | P403+P233 – Store in a well-ventilated place. Keep container tightly closed. P405 – Store locked up. |

2.3 Other hazards

None known



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3. COMPOSITION, INFORMATION ON INGREDIENTS

3.2 Mixtures

| Chemical Name: | CAS No. | Concentration [%] |
|---------------------------------------|------------|-------------------|
| Lignosulfonic acid, Copper chelate | 61827-83-6 | 6.30 |
| Lignosulfonic acid, Iron chelate | 62997-05-1 | 10.20 |
| Lignosulfonic acid, Manganese chelate | 68186-83-4 | 6.30 |
| Lignosulfonic acid, Zinc chelate | 57886-49-4 | 8.51 |
| Sodium Molybdate | 7631-95-0 | < 1.00 |
| Water | 7732-18-5 | 60.94 |

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 centre 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: Risk of damage to eyes. Skin irritation. Mucous membrane 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: Water fog, water spray, carbon dioxide (CO₂), foam. 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, irritating, corrosive and/or toxic gases may be produced.

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 vapors 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 vapors / spray and contact with eyes, skin and clothing. Do not breathe 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 in a cool, dry place. Store in original container. Keep tightly closed. Do not reuse empty container. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**8.1 CONTROL PARAMETERS:
OCCUPATIONAL EXPOSURE LIMITS
OSHA PELs TWA**

| Components | Type | Value |
|-------------|------|-------|
| No listings | TWA | |

Biological limit values

ACGIH Biological Exposure Indices

| Components | Value | Specimen |
|-------------|-------|----------|
| No listings | | |

8.2 EXPOSURE CONTROLS:

Engineering Measures

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

Individual Protection Measures:

Eye / Face Protection: Goggles or shielded safety glasses are recommended.
Skin Protection: Wear long sleeved shirt, long pants, shoes and socks.
Respiratory Protection: Wear a NIOSH approved air-purifying respirator for pesticide handling if necessary. 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.



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9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 APPEARANCE :** Liquid
ODOR: Semi-sweet.
ODOR THRESHOLD: No data available.
COLOR: Brown to black.
pH: 4.4
MELTING POINT / FREEZING POINT: No data available
BOILING POINT: > 212 °F / > 100 °C
FLASH POINT: Does not flash
FLAMMABILITY (solid, gas): Does not support combustion.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: Not applicable.
VAPOR PRESSURE: No data available.
SOLUBILITY: Miscible
PARTITION CO-EFFICIENT, n-OCTANOL / WATER: No data.
AUTO-IGNITION TEMPERATURE: No data available.
DECOMPOSITION TEMPERATURE: Not determined
VISCOSITY: Not determined
SPECIFIC GRAVITY (Water = 1): 1.34 g/ml
BULK DENSITY: 11.20 lbs/gal. / 1.34 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**
Extreme temperatures, flame, and exposure to unknown incompatible materials.
- 10.5 INCOMPATIBLE MATERIALS**
None known.
- 10.6 HAZARDOUS DECOMPOSITION PRODUCTS**
Decomposition products can include and are not limited to oxides of carbon and oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION

- 11.1 LIKELY ROUTES OF EXPOSURE**
Ingestion. Skin contact. Eye contact.
LC₅₀ (rat): No data available.
LD₅₀ Oral (rat): 1,700 mg/kg (Zinc Sulfate)
LD₅₀ Dermal (rat): No data available
Acute Toxicity Estimates: No data available
Skin Irritation (rabbit): No data available
Eye Irritation (rabbit): No data available
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.

Ecotoxicological Data

| Components | Species | Test Results |
|-------------------|---------|--------------|
| No data available | | |

- 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: The product is not readily biodegradable

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY IN SOIL

This product is water soluble and may disperse in soil.

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)



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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: Zinc Sulfate (CAS: 7446-19-7) 1,000 lbs.
SARA, Title III, Section 313: Manganese Compounds; Zinc Compounds; Copper Compounds
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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