Safety Data Sheet (SDS)

Product Name: Liquid Fertilizer Solution 12-12-12 with Micronutrients

Date of Issue: April 01, 2025
Version: 1.0

Section 1: Identification

Product Identifier: Liquid Fertilizer Solution 12-12-12 with Micronutrients
Recommended Use: Fertilizer for agricultural and horticultural use
Manufacturer: Jay-Mar, Inc.
2130 Jay-Mar Road
Plover, Wisconsin USA 54467
715-341-3445
Suppliers Name: Arthur Clesen, Inc.
635 Margate Drive
Lincolnshire, Illinois USA 60069
847-537-2177
Emergency Phone Number: 1-800-236-2436

Section 2: Hazard(s) Identification

Classification:

- Skin Corrosion: Category 1B
- Eye Damage: Category 1
- Acute Toxicity (Oral): Category 4
- Corrosive to Metals: Category 1

GHS Label Elements:

- **Signal Word:** Warning
- **Hazard Statements:**
  - H302: Harmful if swallowed
  - H290: May be corrosive to metals
- **Hazard Pictograms:**

Precautionary Statements:

- P260: Do not breathe mist/vapors/spray.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.

- P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- P310: Immediately call a POISON CENTER or doctor.

Other Hazards: No additional hazards identified.

Section 3: Composition/Information on Ingredients

Chemical Name	CAS Number	Concentration (% w/w)
Urea	57-13-6	>20%
Phosphoric Acid	7664-38-2	5-15%
Potassium Hydroxide	1310-58-3	5-10%
Ammonium Hydroxide	1336-21-6	5-10%
Copper EDTA	14025-15-1	0.1-1%
Manganese EDTA	15375-84-5	0.1-1%
Zinc EDTA	14025-21-9	0.1-1%
Iron HEDTA	17084-02-5	0.1-1%

Section 4: First-Aid Measures

Inhalation: Remove to fresh air. If breathing is difficult, administer oxygen and seek medical attention.
Skin Contact: Immediately remove contaminated clothing and rinse skin with plenty of water for at least 15 minutes. Seek medical attention.
Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present. Seek immediate medical attention.
Ingestion: Rinse mouth. Do not induce vomiting. Seek immediate medical attention.
Symptoms: Severe irritation or burns to skin/eyes, respiratory distress, gastrointestinal pain.
Notes to Physician: Treat symptomatically; consider neutralization of corrosive components.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media: Water spray, dry chemical, foam, or CO_2.
Unsuitable Extinguishing Media: None known.
Specific Hazards: May release ammonia gas, nitrogen oxides, or phosphorus oxides under fire conditions.
Protective Equipment: Wear self-contained breathing apparatus (SCBA) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions: Wear protective gloves, goggles, and clothing. Avoid inhalation and contact with skin/eyes.
Environmental Precautions: Prevent entry into waterways or sewers. Neutralize with dilute acid/base if safe to do so.
Methods for Containment/Cleanup: Contain spill with absorbent material (e.g., sand, vermiculite). Collect in a suitable container for disposal. Rinse area with water.

Section 7: Handling and Storage

Handling: Use in well-ventilated areas. Avoid contact with skin, eyes, and clothing. Handle with care to avoid spills.
Storage: Store in a cool, dry, well-ventilated area in corrosion-resistant containers (e.g., HDPE). Keep away from acids, metals, and oxidizing agents.

Section 8: Exposure Controls/Personal Protection

Occupational Exposure Limits:

- Phosphoric Acid: OSHA PEL: 1 mg/m³; ACGIH TLV: 1 mg/m³
- Potassium Hydroxide: ACGIH TLV: 2 mg/m³ (ceiling)
- Ammonium Hydroxide: OSHA PEL: 50 ppm (as ammonia); ACGIH TLV: 25 ppm
- Urea: No specific limits established.
- Copper/Manganese/Zinc/Iron Chelates: No specific limits; follow metal dust/fume limits if applicable.

Engineering Controls: Use local exhaust ventilation to control mist/vapors.
Personal Protective Equipment (PPE):

- **Eye/Face:** Chemical safety goggles or face shield.
- **Skin:** Chemical-resistant gloves (e.g., neoprene), protective clothing.
- **Respiratory:** NIOSH-approved respirator if ventilation is inadequate.

Section 9: Physical and Chemical Properties

Appearance: Clear to slightly colored liquid
Odor: Ammonia-like or slightly pungent
pH: 6.0–8.0 (adjusted by formulation)
Boiling Point: ~100°C (212°F) (water-based)
Melting Point: Not applicable

Flash Point: Not flammable
Solubility: Fully soluble in water
Density: ~1.15–1.25 g/cm³

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Reactivity: Corrosive to metals; may react with strong acids or oxidizing agents.
Conditions to Avoid: Extreme heat, incompatible materials.
Incompatible Materials: Strong acids, oxidizers, reactive metals (e.g., aluminum, zinc).
Hazardous Decomposition Products: Ammonia, nitrogen oxides, phosphorus oxides.

Section 11: Toxicological Information

Acute Toxicity:

- Urea: LD50 (oral, rat): 8471 mg/kg
- Phosphoric Acid: LD50 (oral, rat): 1530 mg/kg
- Potassium Hydroxide: LD50 (oral, rat): 273 mg/kg
- Ammonium Hydroxide: LC50 (inhalation, rat): 2000 ppm/4h
- Copper EDTA: LD50 (oral, rat): >2000 mg/kg
- Manganese EDTA: LD50 (oral, rat): >2000 mg/kg
- Zinc EDTA: LD50 (oral, rat): >2000 mg/kg
- Iron HEDTA: LD50 (oral, rat): >2000 mg/kg

Routes of Exposure: Skin, eyes, ingestion, inhalation.
Symptoms: Severe burns to skin/eyes, respiratory irritation, gastrointestinal distress.
Chronic Effects: Prolonged exposure to copper/manganese may affect liver or nervous system.

Section 12: Ecological Information

Ecotoxicity: Toxic to aquatic life due to pH and metal content (e.g., copper, zinc).
Persistence/Degradability: Urea and chelates are biodegradable; metals may persist.
Bioaccumulation: Low potential for chelated metals.
Mobility in Soil: High mobility in water-based solution.

Section 13: Disposal Considerations

Disposal Methods: Neutralize if possible, then dispose of in accordance with local, state, and federal regulations. Do not release into the environment.

Section 14: Transport Information

UN Number: UN1760
Proper Shipping Name: Corrosive liquid, n.o.s. (contains phosphoric acid, potassium hydroxide)
Transport Hazard Class: 8
Packing Group: II
Marine Pollutant: Yes (copper/zinc content)

Section 15: Regulatory Information

US Federal Regulations:

- Components listed on TSCA inventory (e.g., CAS 57-13-6, 7664-38-2, etc.).
- SARA 313: Copper, manganese, and zinc compounds may be reportable.

Section 16: Other Information

Preparation Date: April 01, 2025
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