

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**Chemical Product

MANNI-PLEX COMPLETE

Common Name: Foliar Liquid Micronutrient Fertilizer

Manufactured By:

Brandt Consolidated, Inc.

2935 So. Koke Mill Road

Springfield, IL 62711

(800) 442-9821

Emergency Phone Numbers

CHEMTREC (24-Hour Emergency Number): (800) 424-9300

EPA National Response Center: (800) 424-8802

**SECTION 2. INGREDIENTS**

CHEMICAL	CAS NO.	%	TLV OR PEL	RQ (lbs)
Water	7732-18-5	55 -73	N.A.	N.P.
Urea, (NH <sub>2</sub> ) <sub>2</sub> CO	57-13-6	7 - 9	N.A.	N.P.
Disodium Octaborate Tetrahydrate	12280-03-4	1.0 – 2.0	10 mg/m <sup>3</sup>	N.P.
Sodium Molybdate, Na <sub>2</sub> MoO <sub>4</sub>	7631-95-0	0.03 – 0.05	5 mg/m <sup>3</sup>	N.P.
Ferric Nitrate, Fe(NO <sub>3</sub> ) <sub>3</sub>	10421-48-4	1 - 3	1 mg/m <sup>3</sup>	1,000
Manganese Nitrate, Mn(NO <sub>3</sub> ) <sub>2</sub>	10377-66-9	13 - 16	2 ppm	N.P.
Manni-Plex Package - Proprietary	N.A.	5 - 15	N.A.	N.P.

\*N.A. – Not available.

\*N.E. – Not established.

\*N.P. – Not pertinent.

**SECTION 3. EMERGENCY/HAZARDS OVERVIEW**

Manni-Plex Complete has as amber color and no obvious odor. Harmful if swallowed. May cause eye irritation. Prolonged inhalation may cause respiratory irritation. Avoid strong acids. Not D.O.T. Regulated.

HEALTH: 1

REACTIVITY: 0

FLAMMABILITY: 0

ENVIRONMENT: 0

(0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme)

SECTION 4.	FIRST AID
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Eyes:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Skin:	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.
Ingestion:	Call a poison control center or physician 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.
Inhalation:	Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth and get medical attention.

SECTION 5.	FIRE AND EXPLOSION HAZARDS
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Flash Point:	Does not flash.
Test Method:	Not applicable.
LEL Flammable Limits:	Not applicable.
UEL Flammable Limits:	Not applicable.
Autoignition Temperature:	Not applicable.
Flammability Classification:	Noncombustible.
Known Hazardous Products of Combustion:	Not known.
Properties that Initiate/Contribute to Intensity of Fire:	Not known.
Potential For Dust Explosion:	None.
Reactions that Release Flammable Gases or Vapors:	Not known.
Potential For Release of Flammable Vapors:	Not known.
Unusual Fire & Explosion Hazards:	None.
Extinguishing Media:	Carbon dioxide, chemical, foam, or water fog.
Special Firefighting Procedures:	Wear positive pressure, self-contained breathing apparatus and full protective clothing. Avoid smoke inhalation. Contain any liquid runoff.

SECTION 6.	SPILLS AND LEAKS
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Containment:	Prevent product spillage from entering drinking water supplies or streams.
Clean Up:	Collect and package for disposal.
Evacuation:	Not necessary.

SECTION 7.	STORAGE AND HANDLING
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Storage:	Store in original container only in a cool, well-ventilated, dry location. Keep away from strong acids. Do not store near food or feeds. Do not stack pallets more than two (2) high.
Transfer Equipment:	Transfer product using chemical-resistant plastic tanks, pumps, valves, etc.
Work/Hygienic Practices:	Keep out of reach of children. Harmful if swallowed. Avoid breathing of spray mists. Avoid contact with skin, eyes or clothing. Handlers must wear long-sleeved shirt and long pants, shoes plus socks, protective eyewear and particle mask. Wash with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

**SECTION 8. PERSONAL PROTECTIVE EQUIPMENT**

Eyes: Chemical dust/splash goggles or full-face shield to prevent eye contact. As a general rule, do not wear contact lenses when handling.

Skin: Wear impervious clothes, waterproof gloves, shoes plus socks.

Respiratory: Not normally needed. If use generates a respiratory irritation, use NIOSH-approved dust/mist respirator (such as 3M #8710).

Ventilation: Recommended, but no TLV established.

**SECTION 9. PHYSICAL AND CHEMICAL DATA**

Appearance: Brown/red, clear

Odor: No obvious odor

pH: Not available.

Vapor Pressure: Not applicable.

Vapor Density (Air=1): Not applicable.

Boiling Point: Not applicable.

Freezing Point: Not available.

Water Solubility: Negligible.

Density: 1.20 +/- 0.05

Lbs/Gal: 10.0 +/- 0.1

Evaporation Rate: Not applicable.

Viscosity: Not applicable.

% Volatile: Not applicable.

Octanol/Water Partition Coefficient: Not available.

Saturated Vapor Concentration: Not available.

**SECTION 10. STABILITY AND REACTIVITY**

Stability: Stable.

Conditions To Avoid: None.

Incompatibility: Strong acids.

Hazardous Decomposition Products: Neutralization reaction will occur if exposed to acidic materials. Burning may result in formation of carbon monoxide and sulfur oxides, metal oxides and oxides of nitrogen when heated to decomposition.

Hazardous Polymerization: Will not occur.

**SECTION 11. POTENTIAL HEALTH EFFECTS**Acute Effects:

Eyes: Moderate irritant.

Skin: Slight irritant, especially from prolonged exposure. May cause redness, drying and cracking.

Ingestion: Moderate irritant. May cause nausea, abdominal discomfort, vomiting and diarrhea.

Inhalation: May cause irritation of nasal mucous membranes.

Subchronic Effects: None known.

Chronic Effects: None known.

**SECTION 12. ECOLOGICAL INFORMATION**

Algal/Lemna Growth Inhibition:	Not known.
Toxicity to Fish and Invertebrates:	Not known.
Toxicity to Plants:	Not known.
Toxicity in Birds:	Not known.

SECTION 13. DISPOSAL
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Do not contaminate lakes, streams, ponds, estuaries, oceans or other waters by discharge of waste effluents or equipment washwaters. Dispose of waste effluents in accordance with state and local waste disposal regulations. Also, chemical additions or other alterations of this product may invalidate any disposal information in this MSDS. Therefore, consult local waste regulators for proper disposal.

SECTION 14. TRANSPORTATION
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D.O.T.:	Not D.O.T. Regulated.
Other Shipping Description:	Fertilizing Compounds (Manufactured), Liquid. NMFC Item 68140 Sub 6, LTL Class 70

SECTION 15. REGULATORY INFORMATION
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CERCLA: Ferric Nitrate is listed as a priority pollutant under the Clean Water Act and, as such, falls under the CERCLA spill reporting requirements of 40 CFR 302.

SARA TITLE III, Section 313 Toxic Chemicals:

Manganese compounds (13 – 16%)

SECTION 16. OTHER
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