

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

MANNI-PLEX™ GROW

Common Name: Micronutrient fertilizer.
Chemical Description: Complexed fertilizer solution.
TSCA/CAS No.: This product is a mixture — there is no specific CAS number.

Manufactured By:

Brandt Consolidated, Inc.
2935 So. Koke Mill Road
Springfield, IL 62711

Emergency Phone Numbers

CHEMTREC (24-Hour Emergency Number): (800) 424-9300
EPA National Response Center: (800) 424-8802

SECTION 2. HAZARDOUS INGREDIENTS

CHEMICAL	CAS NO.	%	TLV OR PEL	RQ (lbs)
Cupric Nitrate	3251-23-8	0.25	*N.A.	100
Ferric Nitrate	10421-48-8	2.31	N.A.	1,000
Manganese Nitrate	15710-66-4	0.51	N.A.	*N.P.
Magnesium Nitrate	10377-60-3	0.68	N.A.	N.P.
Zinc Nitrate	7779-88-6	0.51	N.A.	5,000

*N.A. – Not available.

*N.P. – Not pertinent.

SECTION 3. EMERGENCY/HAZARDS OVERVIEW

Dark green translucent liquid with slight urea odor. May cause eye and skin irritation. May be harmful if ingested. Extreme heat may cause product to decompose, producing toxic fumes (nitrogen oxides). 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

Eyes: Rinse eyes with plenty of running water for at least 15 minutes. Get medical attention if irritation persists.

Skin: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention if irritation persists.

Ingestion: If conscious and alert, administer water or milk to dilute, then induce vomiting. Call a Poison Control Center or physician immediately. 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:	Not determined.
Test Method:	Not available.
LEL Flammable Limits:	Not available.
UEL Flammable Limits:	Not available.
Autoignition Temperature:	Not available.
Flammability Classification:	Nonflammable.
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:	Foam, carbon dioxide, dry chemical, 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 liquid or absorb onto absorbent material 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 place at temperatures between 40 and 95°F. Do not store near food or feeds. Do not stack pallets more than two (2) high.
Transfer Equipment:	Transfer product using chemical-resistant plastic or stainless steel tanks, pumps, valves, etc.
Work/Hygienic Practices:	Keep out of reach of children. Harmful if swallowed. Avoid breathing spray mists or vapors. Avoid contamination of feed or foodstuffs. After using this product remove clothing and launder separately before reuse, and promptly and thoroughly wash hands and exposed skin with soap and water.

SECTION 8.	PERSONAL PROTECTIVE EQUIPMENT
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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:	Impervious gloves and clothes.
Respiratory:	Not normally needed. If use generates an aerosol mist or 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:	Dark green, translucent liquid.
Odor:	Slight urea odor.
pH:	3.5
Vapor Pressure:	Not available.
Vapor Density (Air=1):	Not available.
Boiling Point:	Not available.
Freezing Point:	32°F.
Water Solubility:	Miscible.
Density:	10.75 lbs./gal.
Evaporation Rate:	Not determined.
Viscosity:	Not available.
% Volatile:	Not available.
Octanol/Water Partition Coefficient:	Not available.
Saturated Vapor Concentration:	Not available.

SECTION 10. STABILITY AND REACTIVITY

Stability:	Stable.
Conditions To Avoid:	Not available.
Incompatibility:	Not available.
Hazardous Decomposition Products:	Extreme heat may cause product to decompose, producing toxic fumes (nitrogen oxides).
Hazardous Polymerization:	Will not occur.

SECTION 11. POTENTIAL HEALTH EFFECTSAcute Effects:

Eyes:	May cause temporary eye irritation.
Skin:	May cause slight irritation, especially from prolonged exposure. May cause redness.
Ingestion:	May cause stomach cramps and/or nausea.
Inhalation:	None expected but inhalation may cause mild 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

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

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

CERCLA: Cupric nitrate, ferric nitrate and zinc nitrate are listed as priority pollutants under the Clean Water Act and, as such, fall under the CERCLA spill reporting requirements of 40 CFR 302.

SARA TITLE III, Section 313 Toxic Chemicals: None.

SECTION 16. OTHER

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