

**MATERIAL SAFETY DATA SHEET**  
***Manganese Chelate 5%***

**Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Company : Growth Products, Ltd.  
P.O. Box 1252  
White Plains, NY 10602  
Phone Number: 800-648-7626  
Chemical Name / Common Name: Liquid Micronutrient Solution (Glucoheptonate)

**Section 2 – HAZARDOUS INGREDIENTS**

**HAZARDOUS INGREDIENTS:** None. This product does not require labeling.

**Section 3 – PHYSICAL DATA**

Physical State:	Amber/Brown Liquid	Evaporation Rate:	Same as Water
Color:	Dark Brown	Boiling Point:	215 Degrees F
Odor:	Slightly Sweet Rusty Odor	Freezing Point:	<0 Degrees F
Weight Per Gallon:	10.42# @ 21 Degrees C	Viscosity:	5 – 10 cps @ 21 Degrees C
Storage Life at 70F:	2 years	Flash Point/Method:	Noncombustible
pH – 21C:	7 - 8	Vapor Pressure:	N/A
Solubility:	Infinitely Miscible		

**Section 4 – FIRE AND EXPLOSION HAZARD**

Explosion Properties:	Noncombustible
Flammable Limit:	LEL: N/A UEL: N/A
Extinguishing Media:	Does Not Burn
Special Fire Fighting Procedures:	None
Unusual Fire and Explosion Hazards:	None

**Section 5 – HEALTH HAZARD INFORMATION**

**EFFECTS OF OVEREXPOSURE ACUTE (SHORT TERM EXPOSURE):**  
Liquid contact may cause slight eye irritation and repeated skin exposure may cause some skin irritation

**CHRONIC (LONG TERM EXPOSURE):**  
None known

**Section 6 – EMERGENCY AND FIRST AID PROCEDURES**

**INHALATION:** Not expected to be harmful under normal conditions of use, however if allowed to become airborne, may cause irritation of nose, throat and lungs

**EYE CONTACT:** May cause irritation on prolonged or repeated contact

**SKIN CONTACT:** May cause irritation on prolonged or repeated contact

**Section 7: TOXICITY INFORMATION**

**ACUTE TOXICITY (LETHAL DOSES)**

**DERMAL LD<sub>50</sub>:** N/E

**ORAL LD<sub>50</sub>:** N/E

**ACUTE TOXICITY (IRRITATION, SENSITIZATION)**

**EFFECTS TO EYES:** No corneal or iridal effects were noted at a dose of 0.1 ml for rabbits

**EFFECTS TO INGESTION:** Non toxic or pathogenic  
**EFFECTS TO SKIN:** Moderate irritation, reversible within 7 days  
**CARCINOGENICITY DATE:** N/A

**Section 8: REACTIVITY DATA**

**STABILITY:** Stable  
**CONDITIONS TO AVOID:** N/A  
**HAZARDOUS DECOMPOSITION PRODUCTS OF DRY MATERIAL:** CO, CO<sub>2</sub>, NH<sub>3</sub>, Aldehydes (including Formaldehyde), particulate matter and other organic compound.  
**HAZARDOUS POLMERIZATION:** Will not occur

**Section 9: SPECIAL PROTECTION INFORMATION**

**PROTECTIVE GLOVES:** Gloves  
**EYE PROTECTION:** Use goggles if contact is likely.  
**OTHER PROTECTION:** N/A  
**RESPIRATORY PROTECTION OR REQUIRED VENTILATION:**  
Not normally needed. Where air contaminants can exceed acceptable criteria use NIOSH/MSHA approved respiratory protection equipment.

**Section 10 – SPILL AND LEAK PROCEDURES**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**  
Prevent product from entering drinking water supplies. Collect liquid or solidify with absorbent material and package for disposal according to local, state, and federal regulations.  
**WASTE DISPOSAL PRECEDURES:**  
This product is likely to have a pH less than 8.5 and would not be considered a federal hazardous waste according to EPA regulation 40CFR 261. Dispose in accordance with state and local regulation.  
**REPORTABLE QUANTITY UNDER CERCLA:** N/A

**Section 11 – STORAGE AND HANDLING INFORMATION**

**STORAGE TEMPERATURE:**  
**MAX** 100° F **MIN** 32° F **INDOOR**  **OUTDOOR**  **REFRIG.**

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:**  
Not harmed by freezing. Thaw frozen fertilizer slowly and stir before using. Store in a cool place. Rotate stock in storage to use oldest first.

**Section 12 – TRANSPORTATION INFORMATION**

**DOT UN STATUS:** This material is not regulated hazardous material for transportation  
**OTHER PRECAUTIONS:**  
Read entire label before using

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**ABBREVIATIONS:** N/E – NOT ESTABLISHED N/A – NOT APPLICABLE