SAFETY DATA SHEET

Dyna Gold Vegetable Mix | Date Prepared: 8/11/2014 | Replaces: All Previous

SECTION 1. IDENTIFICATION

Product Name:	Dyna Gold Vegetable Mix
Synonyms:	GOLDVEG
Use:	Agricultural, Liquid Micronutrient Fertilizer
Manufacturer:	Chemical Dynamics, Inc.
	4206 Business Lane
	Plant City FL 33566
Phone:	813-752-4950
Chemtrec (Emergency) Phone:	800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Pictogram	Signal Word	Hazard Class	Hazard Category	Hazard Statement
	**WARNING**	Oxidizing Liquid	Cat 3	May intensify fire; oxidizer
		STOT: Repeat Exposure	Cat 2	May cause damage to central nervous system and lungs through prolonged or repeat exposure
Precautionary Statements:	**Prevention:** Keep away from heat. Keep/Store away from clothing and combustible materials. Take any precaution to avoid mixing with combustibles. Wear protective gloves and chemical splash goggles. Do not breathe vapors, mists or sprays. Use only outdoors or in a well-ventilated area. Wash thoroughly after use. **Response**: Get medical advice/attention if you feel unwell. **Disposal**: Dispose of contents/containers in accordance with local/regional/national regulations (See Section 13 of SDS). Containers may be triple rinsed and offered for recycling.			

SECTION 3. COMPOSITION

Material	CAS #	EINECS #	%WT
Manganese Glucoheptonate	12565-60-5	Not Assigned	6.8%
Ferric Glucoheptonate	25126-38-9	Not Assigned	Proprietary Blend of
Zinc Glucoheptonate	12565-63-8	Not Assigned	Non-hazardous
Magnesium Glucoheptonate	68475-44-5	270-642-6	materials and
Hydrated Ammonium Calcium Nitrate double salt	15245-12-2	239-289-5	materials below cut off values
Water	7732-18-5	231-791-2	

See product label for guaranteed analysis.

SECTION 4. FIRST AID MEASURES	
General:	In case of persisting adverse effects consult a physician. Treat symptomatically.
Ingestion:	Rinse mouth. Do NOT induce vomiting. Drink large amounts of water. Never give anything by mouth to an unconscious person.
Skin Contact:	If on skin (or hair): Take off all contaminated clothing. Rinse skin with soap and water.
Inhalation:	If inhaled: Remove person to fresh air and keep comfortable for breathing. Provide artificial respiration if necessary. Seek medical attention if necessary.
Eye Contact:	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists: get medical attention.
Acute Exposure Symptoms:	May cause slight, transient irritation of eyes and skin. Ingestion may be irritating to the gastrointestinal tract.
Chronic Exposure Symptoms:	Prolonged skin contact may result in dermatitis (inflammation and redness of skin). Manganese may lead to neurotoxicity that resembles Parkinson disease. These patients may have bradykinesia, resting tremor, psychiatric disturbances, and shuffling gait.

SECTION 5. FIRE FIGHTING MEASURES	
Extinguishing Media:	Water spray is recommended. Halon, foam, dry chemical, CO2 or any ABC class extinguisher are acceptable. Use extinguishing agent most appropriate to surrounding materials. Cool containers with water spray to avoid rupture due to thermal expansion.
Specific Hazards:	This product is an aqueous mixture which will not burn. Under fire conditions, this product behaves as an oxidizer. Contact with oxidizable substances may result in ignition. Violent combustion or explosion when involved in fire can occur. This material may decompose and produce acrid vapors, manganese, iron, zinc, calcium and magnesium compounds and oxides of nitrogen. For safety, avoid water spray with full jet to prevent spread of product.
Protective Equipment and Precautions for Fire-Fighters:	Wear self-contained breathing apparatus (SCBA) and full protective gear. Avoid inhaling combustion products. Fire run-off should be contained to prevent possible environmental damage.
NFPA Rating:	Health: 2, Fire: 0, Reactivity: 1, OX

SECTION 6. ACCIDENTAL RELEASE MEASURES	
Precautions:	Isolate area. Keep unnecessary personnel away. Avoid splashing or spraying. Do no touch or walk through spilled material.
Protective Equipment:	Impervious gloves (rubber, neoprene or nitrile), Long sleeved clothing. Chemical splash-proof goggles, Chemical resistant apron and/or rubber boots may be needed.
Containment:	Stop flow of material if safe to do so. Dike area with diatomaceous earth or sand and maximize recovery. Do not absorb in saw dust.
Clean Up:	Pump into a suitable tank or absorb with diatomaceous earth or sand. Sweep up and place into suitable containers for agronomical land application at recommended rates or dispose of in accordance with local/regional/national regulations (See Section 13 of SDS).

SECTION 7. HANDLING AND STORAGE	
Precautions for safe handling:	Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Open containers carefully. Do not eat, drink or use tobacco products when handling this material. Apply product in open areas. Keep away from children and pets. Do not contaminate feed, seed or any water sources. Launder work clothes frequently and separate from other laundry.
Conditions for safe storage:	Store in a well-ventilated, cool, dry place, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Do not store on wood floors. Keep containers tightly closed when not in use. Do not let product go below 35°F. Store locked up. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.
Incompatibilities:	Flammable and combustible materials, strong reducing agents, finely powdered metals. Keep away from intense heat or fire. Avoid using containers, pipes and fittings made of zinc-clad, copper-bearing alloys (e.g. brass) or aluminum.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION			
Component Exposure Limits:	Manganese Glucoheptonate	5 mg/m^3	PEL, OSHA (fume, as Mn compounds)
		0.2 mg/m^3	TWA, ACGIH (fume, as Mn compounds)
		500 mg/m^3	IDLH, NIOSH (as Mn Compounds)
		1 mg/m^3	REL, NIOSH (as Mn Compounds)
		3 mg/m^3	STEL, NIOSH (as Mn Compounds)
	Ferric Glucoheptonate	1 mg/m3	PEL, OSHA (as soluble iron salts)
		1 mg/m3	TLV, ACGIH (as soluble iron salts)
		Not Established	IDLH, NIOSH
		1 mg/m3	REL, NIOSH (as soluble iron salts)
		Not Established	STEL, NIOSH
	Magnesium Nitrate Hexahydrate, Zinc Nitrate, Hydrated Ammonium Calcium Nitrate double salt	Not Established	PEL, OSHA
		Not Established	TWA, ACGIH
		Not Established	IDLH, NIOSH
		Not Established	REL, NIOSH
		Not Established	STEL, NIOSH
Engineering Controls:	Provide ventilation sufficient to maintain exposure below exposure limits. Washing facilities should be available.		
Personal Protective Equipment:	Eyes: Chemical splash-proof goggles Skin: Impervious gloves (rubber, neoprene or nitrile), long sleeved clothing. Chemically resistant apron is recommended. Respiratory: None required for ambient air concentrations (i.e. in the open under normal agronomic conditions) not exceeding occupational exposure limits. Respiratory protection may be required in the event of a spill in an enclosed area. Use a NIOSH/MSHA approved SCBA with full face piece operated in a positive pressure mode when misting is present.		
General:	Eye wash stations and safety shower recommended.		

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES			
Appearance:	Dark, Opaque Liquid		
Odor:	Slight sweet odor	**UEL / LEL:**	Not Applicable
Odor Threshold:	Not Available	**Vapor Pressure:**	Similar to water
pH:	3.6 to 5.5	**Density:**	1.29 to 1.32 g/cm^3
Melting/Freezing Point:	< 0°C (< 32°F)	**Solubility:**	Water
Boiling Point:	> 100°C (>212°F)	**Log_{ow}:**	Not Available
Flash Point:	Not Applicable	**Auto Ignition Temp:**	Not Applicable
Evaporation Rate:	Similar to water	**Decomposition Temp:**	Not Available
Flammability (Solid/Gas):	Not Applicable	**Viscosity**	Not Available

SECTION 10. STABILITY AND REACTIVITY	
Reactivity:	Product may act as an oxidizer, particularly if evaporated to dryness
Chemical Stability:	Stable under normal conditions
Possibility of Hazardous Reactions:	Hazardous polymerization will not occur.
Conditions to avoid:	Avoid exposure to extreme temperatures, contact with incompatible chemicals and all contact with combustible materials. Elevated temperatures may cause containers to rupture. Low temperatures may cause product to salt out.
Incompatible Materials:	Flammable and combustible materials, strong reducing agents, finely powdered metals.
Hazardous Decomposition Products:	Manganese, Zinc, Magnesium, Calcium and Iron compounds. Oxides of Nitrogen

SECTION 11. TOXILOGICAL INFORMATION	
Acute Toxicity:	Manganese Glucoheptonate and Zinc Glucoheptonate: LD50 oral (rat): Not available, but for an analog manganese and zinc complexes: LD50 oral (rat) >5000 mg/kg Iron Glucoheptonate, Magnesium Glucoheptonate and Hydrated Ammonium Calcium Nitrate double salt LD50 oral (rat): >2000 mg/kg
Likely Routes of Exposure:	Inhalation, ingestion or skin absorption
Symptoms and Signs of Exposure:	Eyes: May cause mild, transient irritation. May result in redness, tearing and blurred vision. Skin: Ma cause mild, transient irritation to the skin. May result in redness, itching and pain. Ingestion: May cause digestive tract irritation, with accompanying nausea, vomiting and diarrhea. Severe, excessive, acute ingestion of the nitrate component may damage the oxygen transport system of the blood (methemoglobinemia). Inhalation of mist may irritate or burn nose, throat and lungs. Coughing, nausea, headaches and weakness are possible.

Chronic Effects:	Manganese may lead to neurotoxicity that resembles Parkinson disease. These patients may have bradykinesia, resting tremor, psychiatric disturbances, and shuffling gait. Also, chronic excess manganese inhalational exposures may lead to pulmonary inflammation and subsequent reactive airway disease.
Carcinogenetic:	None of this product's components are listed by ACGIH, OSHA, NIOSH or NTP as carcinogenic. IARC: 2A Probably carcinogenic to humans (Nitrates (ingested) under conditions that result in endogenous nitrosation)
Mutagenicity:	Not Available
Reproductive Toxicity:	Not Available

SECTION 12. ECOLOGICAL INFORMATION	
General Information:	In high concentrations, this product may be dangerous to aquatic life and fouling shorelines.
Other Adverse Effects:	Not harmful to ozone layer
Ecotoxicity:	Manganese Glucoheptonate: Not Available. However, for analogous, derived from water soluble manganese compound: LC50 Daphnia magna (Water Flea): 15200 ug/L/48 hr; static LC50 Canthocamptus sp (Harpacticoid Copepod): 150 ug/L/48 hr; static LC50 Pimephales promelas (Fathead Minnow): 30600 ug/L/96 hr; flow through Zinc Glucoheptonate, Iron Glucoheptonate, Magnesium Glucoheptonate, Ammonium Calcium Nitrate double salt: Not Available

SECTION 13. DISPOSAL CONSIDERATIONS	
General Information:	As packaged, this product is a D001 ignitable waste per 40 CFR 261; applicable to wastes containing this product.
Disposal Instructions:	Agronomical land application at recommended rates or dispose of in accordance with local/regional/national regulations. Containers may be triple rinsed and offered for recycling or dispose of in accordance with local/regional/national regulations.

SECTION 14. TRANSPORT INFORMATION	
This material is not hazardous as defined by 49 CFR 172.101 by the US Department of Transportation	
Proper Shipping Name:	Not Applicable
Hazard Class:	Not Applicable
UN Identification #:	Not Applicable
Packing Group:	Not Applicable
Required Label(s):	Not Applicable
Emergency Response Guide Number:	Not Applicable
Marine Pollutant:	Yes (Manganese)
Special Provisions for Transport	NOTE: Not classified as a Division 5.1 Oxidizer – 49 CFR 172.102 Special Provisions 34, 58 and 332.

SECTION 15. REGULATORY INFORMATION	
TSCA Inventory Status	All intentional ingredients listed on the TSCA inventory.
DSCL (EEC) Status	All intentional ingredients listed on the DSCL inventory.
United States – SARA Hazard Category:	This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act (SARA) and is considered, under applicable definitions, to meet the following categories: Fire – No, Pressure – No, Acute – Yes, Chronic – Yes, Reactive – Yes
SARA Title III Information:	This product contains the following substances subject to the reporting requirements of Title III (EPCRA) of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
	CERCLA RQ (pounds): Manganese and Zinc Glucoheptonate. No RQ is assigned to this generic or broad class, (Manganese and Zinc compounds) although the class is a CERCLA hazardous substance. See 50 Federal Register 13456 (April 4, 1985). SARA Reporting, 302: No SARA Reporting, 304: No SARA Reporting, 313: Yes, 1.0% de minimus concentration (Manganese Compounds N450), 1.0% de minimus concentration (Zinc Compounds, N982) and 1.0% de minimus concentration (Chemical Category N511, Water Dissociable Nitrate)
State Regulations:	Other state regulations may apply. Check individual state requirements.

SECTION 16. OTHER INFORMATION	
Date of Revision:	8/11/2014, revision prepared in accordance with 29 CFR 1910.1200 Appendix D to meet Global Harmonization Standards.
Disclaimer:	The information contained in this SDS refers only to the specific material designated and does not relate to any process or use with any other materials. This information is based on data believed to be accurate and reliable as of the date hereof. It is intended for use by persons possessing technical knowledge at their own discretion and risk. Because safety standards and regulations are subject to change and because Chemical Dynamics, Inc. has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. No warranty, expressed or implied, and no liability is assumed by Chemical Dynamics, Inc. in conjunction with the use of this information. Nothing herein is to be construed as a recommendation to infringe any patents.