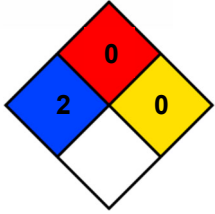




# SAFETY DATA SHEET HUMA GRO® Iron



HMIS	
HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PPE	C

## SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

<b>PRODUCT IDENTIFIER:</b>	<b>HUMA GRO® Iron</b>	<b>Product# 050</b>
<b>GENERAL USE:</b>	Used as a part of a plant nutrition program.	
<b>PRODUCT DESCRIPTION:</b>	A clear to slightly hazy, dark green liquid having a unique characteristic odor.	
<b>SUPPLIER INFORMATION:</b>	Bio Huma Netics, Inc. 1331 W Houston Avenue Gilbert, AZ 85233	<b>EMERGENCY PHONE NUMBERS</b>
<b>For Additional SDS call:</b>	<b>PHONE: (480) 961-1220</b>	<b>CHEMTREC: (In the USA) 800-424-9300 (International) 703-527-3887</b>

## SECTION 2: HAZARDS IDENTIFICATION

<b>HAZARDS OVERVIEW:</b>	A clear to slightly hazy, dark green, acidic liquid having a unique characteristic odor. The liquid and mists can be irritating to the eyes and skin. Inhalation of mists may be irritating to the entire respiratory tract. This product may be toxic by ingestion or inhalation of high mist concentrations.
	<b>CLASSIFICATION:</b> MILD SKIN IRRITATION – HAZARD CATEGORY 3
	<b>SIGNAL WORD:</b> WARNING
	<b>HAZARD STATEMENT:</b> H316 - WARNING - causes mild skin irritation
	<b>PRECAUTIONARY STATEMENT:</b> P332+P313; If skin irritation occurs: Get medical attention/advice.

## SECTION 3: COMPOSITION & INFORMATION ON INGREDIENTS

COMPONENT	CAS #	OSHA HAZARD	WT %	ACGIH		OSHA	
				TLV <sub>(TWA)</sub>	STEL	PEL <sub>(TWA)</sub>	STEL
Urea	57-13-6	Eye Irritant; Slight to Moderate Skin & Respiratory Irritant; Slightly Toxic by Chronic Dermal Contact & Inhalation, with Cardiovascular & Central Nervous System effects.	28 ± 3	None	None	None	None
Ferrous Sulfate	7720-78-7	Eye Corrosive; Skin, & Respiratory Irritant; Moderately Toxic by Ingestion	22 ± 2	1 mg/m <sup>3</sup> (as Fe)	None	None	None

NDA = No Data Available      N/A = Not Applicable

#### SECTION 4: FIRST AID MEASURES

<b>INHALATION:</b>	If inhaled, immediately move to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.
<b>EYE CONTACT:</b>	In case of contact, immediately flush eyes with plenty of clean running water for at least 15 minutes, lifting the upper and lower lids occasionally. Remove contact lenses, if worn. Get medical attention if irritation persists.
<b>SKIN CONTACT:</b>	In case of contact, flush skin with plenty of clean running water. Remove contaminated clothing and shoes and wash before reuse. If irritation occurs and persists, get medical attention.
<b>INGESTION:</b>	If swallowed, get medical attention immediately. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
<b>NOTE TO PHYSICIANS:</b>	Based on component information, this product can be moderately toxic by ingestion. If a large amount is ingested, consideration should be given to careful endoscopy as stomach or esophageal irritation may occur, with possible central nervous system effects following absorption into the blood stream. Careful gastric lavage with an endotracheal tube in place should be considered.  Treat exposure symptomatically.

#### SECTION 5: FIRE FIGHTING MEASURES

<b>Flashpoint and Method:</b>	This product does not flash.		
<b>Flammable Limits (in air, % by volume)</b>	<b>Lower:</b> Not applicable	<b>Upper:</b> Not applicable	
<b>Autoignition Temperature:</b>	Not applicable		
<b>GENERAL HAZARD:</b>	This product is an aqueous, acidic solution of organic and inorganic compounds. The Uniform Fire Code health hazard classification for this product is: <b>Irritant</b> . It may produce hazardous decomposition products.		
<b>FIRE FIGHTING INSTRUCTIONS:</b>	<b>EXTINGUISHING MEDIA:</b> Water, foam, CO <sub>2</sub> or dry chemicals. Use a water spray or fog to cool the containers exposed to the heat of a fire.		
<b>FIRE FIGHTING EQUIPMENT:</b>	Fire fighters should wear full protective equipment, including self-contained breathing apparatus.		
<b>HAZARDOUS COMBUSTION PRODUCTS:</b>	When heated to dryness and decomposition, it emits toxic carbon monoxide, carbon dioxide, iron oxide, sulfur oxides and nitrogen oxides, with trace or ultra-trace toxic oxide amounts, of zinc, copper, potassium, phosphorus, manganese, magnesium, calcium and sodium plus irritating smoke.		

#### SECTION 6: ACCIDENTAL RELEASE MEASURES

<b>RELEASE TO LAND:</b>	Wearing recommended protective equipment and clothing, dike the spill and pick up the bulk of liquid using pumps or a vacuum truck, or absorb the liquid in sand or a commercially absorbent material. Place in approved containers for recovery, disposal, or satellite accumulation. Neutralize the acidity, of the remaining liquid, using soda ash, lime, or other agent appropriate for neutralizing acidic liquids. Flush the spill area with water; collect the rinsates for disposal or sewer, as appropriate.
<b>RELEASE TO WATER:</b>	Wear recommended protective equipment and clothing if contact with hazardous material can occur. Stop or divert water flow. Dike contaminated water and remove for disposal and/or treatment. As appropriate, notify all downstream users of possible contamination.

#### SECTION 7: HANDLING AND STORAGE

<b>STORAGE TEMPERATURE:</b>	Ambient	<b>STORAGE PRESSURE:</b>	Ambient
<b>GENERAL:</b>	Store in a cool, dry, well-ventilated, area away from incompatible materials and products. Protect eyes, skin and clothing from contact with this product. Wear recommended personal protective equipment when handling this product. Avoid breathing vapors or mists. Use with adequate ventilation. Do not take internally. Keep the container tightly closed when not in use. Wash thoroughly after handling this product.		

## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

**CONTROL MEASURES:** Use a local or general, mechanical exhaust ventilation system capable of maintaining emissions, in the work area, below the AIHA WEEL or levels that may cause irritation.

### RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

**RESPIRATOR:** Respiratory protection is not normally required. If use produces mists or aerosols that may cause irritation, a NIOSH approved half mask or full facepiece respirator equipped with a good mist / particulate cartridge or supplied air is recommended. **Note:** Always consult the respirator manufacturer's data when determining the suitability of respiratory protective devices prior to use.

**EYES:** Wear chemical goggles (recommended by ANSI Z87.1-1979), unless a full facepiece respirator is worn. **Note:** Always consult the protective eyewear manufacturer's data when determining the suitability of protective eyewear prior to use.

**GLOVES:** Wear Neoprene, Nitrile, Butyl Rubber or Natural Rubber gloves. **Note:** Always consult the glove manufacturer's permeation data when determining the suitability of gloves prior to use.

**CLOTHING & EQUIPMENT:** If contact is likely, wear a Neoprene, Nitrile, Butyl Rubber or Natural Rubber apron when handling this product. An eye wash station and safety shower should be available in the work area. **Note:** Always consult the clothing/equipment manufacturer's permeation data when determining the suitability of clothing/equipment prior to use.

**FOOTWEAR:** In cleaning up a spill, or if contact is likely, wear Neoprene, Nitrile, Butyl Rubber or Natural Rubber boots. **Note:** Always consult the footwear manufacturer's permeation data when determining the suitability of footwear prior to use.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Clear to slightly hazy, dark green	<b>Bulk Density (pounds/ft<sup>3</sup>):</b>	Not applicable
<b>Physical State:</b>	Liquid	<b>Vapor Pressure:</b>	No data available
<b>Odor:</b>	Unique, characteristic	<b>Vapor Density (air=1):</b>	No data available
<b>Odor Threshold:</b>	No data available	<b>Evaporation Rate (n-Butyl Acetate=1):</b>	No data available
<b>Molecular Formula:</b>	Mixture	<b>VOC Content / Organic Matter:</b>	No data available / 10.5%
<b>Molecular Weight:</b>	Not applicable	<b>% Volatile:</b>	No data available
<b>Boiling Point:</b>	Greater than 100° C. (212° F.)	<b>Solubility in H<sub>2</sub>O:</b>	Complete
<b>Freezing/Melting Point:</b>	Less than 0° C. (32° F.)	<b>Octanol/Water Partition Coefficient:</b>	No data available
<b>Specific Gravity:</b>	1.20 – 1.40 @ 20° C.	<b>pH (as is):</b>	1.5 – 2.5
<b>Density (pounds/gallon):</b>	Approximately 10.90	<b>pH (1% solution):</b>	No data available

## SECTION 10: STABILITY AND REACTIVITY

**GENERAL:** This product is stable and hazardous polymerization will not occur.

**CONDITIONS TO AVOID:** Do not store this product below 50° F (10° C) or above 90° F (30° C)

**INCOMPATIBLE MATERIAL:** Contact caustics & alkali, strong oxidizers, sulfides, sulfites, cyanides and chlorine releasers.

**HAZARDOUS DECOMPOSITION PRODUCTS:** When heated to dryness and decomposition, it emits toxic oxides of carbon, iron, sulfur and nitrogen, with trace or ultra-trace toxic oxide amounts, of zinc, copper, potassium, phosphorus, manganese, magnesium, calcium and sodium plus irritating smoke.

**SENSITIVITY TO MECHANICAL IMPACT:** This product is not sensitive to mechanical impact.

**SENSITIVITY TO STATIC DISCHARGE:** This product is not sensitive to static discharge.

## SECTION 11: TOXICOLOGICAL INFORMATION

<b>Components:</b>	<b>Urea</b>	<b>Ferrous Sulfate</b>
<b>Eye Contact:</b>	No data available	No data available
<b>Skin Contact:</b>	No data available	No data available
<b>Oral Rat LD<sub>50</sub>:</b>	8,471 mg/kg	319 mg/kg
<b>Dermal Rabbit LD<sub>50</sub>:</b>	No data available (Rabbit, Subcutaneous LD <sub>50</sub> : 3 gm/kg)	No data available
<b>Inhalation Rat LC<sub>50</sub>:</b>	No data available (Rat, Inhalation, Chronic – Multiple Dose, 288 mg/m <sup>3</sup> /17 weeks; Toxic effects: Kidney, Ureter & Bladder – Other changes in urine composition; Blood – Other changes; Nutritional and gross metabolic changes.)	No data available
<b>Human Data:</b>	Human: 22 mg/3 days; Mild	Oral Woman TD <sub>Lo</sub> : 10,560 ug/kg; Gastrointestinal effects
<b>Other Toxicological Data:</b>	Rat, Dermal, Chronic – Multiple Dose, 3,024 mg/kg/4 weeks; Toxic effects: Liver – Changes in Liver weight; Endocrine – Changes in Thymus weight; Death.	Oral Mouse LD <sub>50</sub> : 680 mg/kg
<b>Carcinogenicity:</b>	Oral Rat TD <sub>Lo</sub> : 821 gm/kg/1 year; Tumorigenic – Neoplastic by RTECS criteria; Blood – Tumors; Blood – Lymphomax including Hodgkin's disease.	Subcutaneous Mouse TD <sub>Lo</sub> : 1,600 mg/kg/16 Weeks; Equivocal Tumorigenic Agent, Tumors at application site
<b>Teratogenicity:</b>	Intraplacental Woman TD <sub>Lo</sub> : 1,400 mg/kg (female 16 Weeks pregnant); Effects on Fertility - Abortion	Oral Rat TD <sub>Lo</sub> : 7,200 mg/kg (9-14 Days pregnant); Effects on Embryo or Fetus – Fetal death
<b>Mutagenicity:</b>	Human DNA Inhibition; lymphocyte: 600 mmol/Liter	Cytogenetic Analysis – Hamster, Ovary: 5 mmol/ Liter
<b>Synergistic Products:</b>	None reported	None reported
<b>Target Organs:</b>	Eyes, Skin, Mucous membranes, Lungs, Cardiovascular & Central Nervous Systems	Eyes, Skin, Lungs, Liver, Gastrointestinal tract & Lymphatic System
<b>Medical Conditions Aggravated By Exposure:</b>	Skin, Respiratory or Cardiac disorders	Skin, Liver or Respiratory disorders

## SECTION 12: ECOLOGICAL INFORMATION

### ENVIRONMENTAL FATE:

This product is soluble in water and can affect the pH of water. No specific environmental fate data is available.

### ENVIRONMENTAL CONSIDERATIONS:

The aquatic toxicity for this product has not been determined.

## SECTION 13: DISPOSAL CONSIDERATIONS

**RCRA 40 CFR 261 CLASSIFICATION:** Non-RCRA Hazardous Waste (United States)

**U.S. EPA WASTE NUMBER/DESCRIPTION:** Not Applicable

If this product is disposed of as shipped, it does not meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of a hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D due to toxicity. As a non-RCRA hazardous liquid waste, it should be disposed of in accordance with all local, state, and federal regulations. Consult state or local officials for proper disposal method.

## SECTION 14: TRANSPORTATION INFORMATION

<b>DOT PROPER SHIPPING NAME:</b>	<b>Not DOT Regulated (United States)</b>		
	<b>Hazard Class:</b> N/A	<b>UN Number:</b> N/A	<b>Packing Group:</b> N/A
	<b>Primary Label:</b> None	<b>Subsidiary Label(s):</b> None	
	<b>Primary/Subsidiary Placards:</b> None		
<b>DOT Reportable Quantity (RQ):</b>	Not listed	<b>RQ for Product:</b>	Not applicable
<b>Marine Pollutant:</b>	No		
<b>2012 North American Emergency Response Guidebook No.:</b>	N/A		
<b>TDG PROPER SHIPPING NAME:</b>	<b>NOT RESTRICTED</b>		
	<b>Hazard Class:</b> N/A	<b>UN Number:</b> None	<b>Packing Group:</b> N/A
	<b>Primary Label:</b> None	<b>Subsidiary Label(s):</b> None	
	<b>Primary/Subsidiary Placards:</b> None		
<b>TDG Reportable Quantity (RQ): *</b>	Not applicable		
<b>TDG Schedule XII:</b>	Not listed		
<b>Regulated Limit (RL): **</b>	Not listed	<b>RL for Product:</b>	N/A
<b>Other Shipping Information:</b>	None		

\* Canadian Transportation of Dangerous Goods Regulations (TDGR), Part IX, Table I, Quantities or levels for Immediate Reporting: releases of reportable quantities, RQ, that meet the definition of a "dangerous occurrence" (a threat to life, health, property, or the environment) must be reported to the appropriate authorities as outlined in TDGR 9.13(1) and 9.14(1). \*\* Reporting to Environment Canada is required for any releases exceeding the regulated limits, RL, of 9.2 materials (primary or secondary). The regulated limits are found in Schedule XIII of the TDGR.

## SECTION 15: REGULATORY INFORMATION

<b>COMPONENTS:</b>	<u><b>Urea</b></u>	<u><b>Ferrous Sulfate</b></u>
<b><u>OSHA Target Organs:</u></b>	Eyes, Skin, Mucous membranes, Lungs, Cardiovascular & Central Nervous Systems	Eyes, Skin, Lungs, Liver, Gastrointestinal & Lymphatic Systems
<b><u>Carcinogenic Potential:</u></b>		
<b>Regulated by OSHA:</b>	No	No
<b>Listed on NTP Report:</b>	No	No
<b>Listed by IARC:</b>	No	No
IARC Group:	Not applicable	Not applicable
<b>ACGIH Appendix A:</b>	Not listed	Not listed
A1 Confirmed Human:	Not applicable	Not applicable
A2 Suspected Human:	Not applicable	Not applicable

### U.S. EPA Requirements

#### Release Reporting

##### **CERCLA (40 CFR 302)**

<b>Listed Substance:</b>	Not listed	Yes
Reportable Quantity:	Not applicable	1,000 pounds
Category:	Not applicable	C
RCRA Waste No.:	Not applicable	None listed
<b>Unlisted Substance:</b>	Not applicable	Not applicable
Reportable Quantity:	Not applicable	Not applicable
Characteristic:	Not applicable	Not applicable
RCRA Waste No.:	Not applicable	Not applicable

**SECTION 15: REGULATORY INFORMATION (Continued from Page 4)**

**COMPONENTS:**                      Urea                                      Ferrous Sulfate

**SARA TITLE III**

**Section 302 & 303 (40 CFR 355):**

<b>Listed Substance:</b>	Not listed	Not listed
Reportable Quantity:	Not applicable	Not applicable
Planning Threshold:	Not applicable	Not applicable

**Section 311 & 312 (40 CFR 370):**

Hazard Categories (product):	<b>Fire: <u>N</u></b>	<b>Sudden Release of Pressure: <u>N</u></b>	<b>Reactive: <u>N</u></b>	<b>Acute Health: <u>Y</u></b>	<b>Chronic Health: <u>N</u></b>
Planning threshold:	10,000 pounds	10,000 pounds			

**Section 313 (40 CFR 372):**

<b>Listed Toxic Chemical:</b>	Not listed	Not listed
Reporting Threshold:	Not applicable	Not applicable

**U.S. TSCA Status**

<b>Listed (40 CFR 710):</b>	Yes	Yes
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**State Regulations**

**State of California: Safe Drinking Water and Toxins Enforcement Act, 1986 (Proposition 65):**

Carcinogen:	No	No
Reproductive Toxin:	No	No

**Other Regulations**

**State Right To Know Laws:**                      None known

**Canadian Regulations**

**Product Information:**

Controlled Product:	<b>Yes</b>
WHMIS Hazard Symbols:	<b>Material Causing Other Toxic Effects</b>
WHMIS Class & Division:	<b>D.2B</b>

**Ingredient Information:**

IDL Substance:	No	No
DSL or NDSL Lists:	DSL	DSL

**SECTION 16: OTHER INFORMATION**

**EPA Registration number:**    Not applicable

**Approved Product Uses:**        Used as a part of a plant nutrition program.

**Special Notes:**

This product is not manufactured, or formulated to contain substances, which the State of California has found to cause cancer and/or birth defects or other reproductive harm. However, as it contains mined minerals, this product may contain trace (parts per million) or ultra-trace (parts per billion) of elements known to the State of California to cause cancer, birth defects or other reproductive harm.

**Special Instructions:** When making dilutions, always add Iron™ to water with adequate mixing to ensure a uniform solution. Do not add this product to hypochlorite bleaches, chlorine sanitizers, or chlorinated cleaners as this can liberate toxic, corrosive Chlorine gas.

**SDS Revision Information:**        Revised Date: 9/08/2020

**SDS Distributed by:** Bio Huma Netics, Inc.

<b>Prepared By:</b> Frank S. Pidgeon, Sr. EHSS Director	<b>Date Prepared:</b> October 20, 2014
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