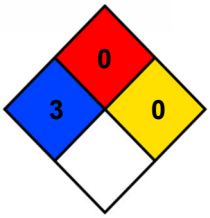
REV A 7/28/2020

SAFETY DATA SHEET
HUMA GRO® Breakfree™



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HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0
PPE	D

SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

PRODUCT IDENTIFIER:	**HUMA GRO® Breakfree™**	**Product# 174**
GENERAL USE:	Used as a part of a plant nutrition program.	
PRODUCT DESCRIPTION:	A dark brown liquid having a characteristic odor.	

SUPPLIER INFORMATION:
Bio Huma Netics, Inc.
1331 W Houston Avenue
Gilbert, AZ 85233

For Additional SDS call: **PHONE: (480) 961-1220**

EMERGENCY PHONE NUMBERS

CHEMTREC: **(In the USA) 800-424-9300**
(International) 703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

HAZARDS OVERVIEW:

A dark brown, acidic liquid having a slight characteristic odor.

SECTION 3: COMPOSITION & INFORMATION ON INGREDIENTS

COMPONENT	CAS #	OSHA HAZARD	WT %	ACGIH TLV$_{(TWA)}$	ACGIH STEL	OSHA PEL$_{(TWA)}$	OSHA 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.	27 ± 2	None AIHA WEEL: 10 mg/m^3	None	None	None
Potassium Carbonate	584-08-7	Eye, Skin & Respiratory Irritant	9 ± 1	None	None	None	None
Ammonium Sulfate	7783-20-2	Eye, Ski & Respiratory Irritant	1 ± 0.5	None	None	None	None

NDA = No Data Available N/A = Not Applicable

SECTION 4: FIRST AID MEASURES

INHALATION: If inhaled, immediately move to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; use the Holger Nielsen method (back pressure-arm lift) or proper respiratory device. If breathing is difficult, give oxygen. Call a physician.

EYE CONTACT: 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 immediately.

SKIN CONTACT: In case of contact, immediately flush skin with plenty of clean running water for at least 15 minutes, while removing contaminated clothing and shoes. If burn or irritation occurs, call a physician.

INGESTION: If swallowed, DO NOT induce vomiting. Get medical attention immediately. If victim is fully conscious, give plenty of water to drink. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIANS: Phosphoric Acid has a low oral toxicity, but it can be severely irritating and/or corrosive to the eyes, skin and mucous membranes. If ingested, consideration should be given to careful endoscopy as stomach or esophageal burns, perforations or strictures may occur. Careful gastric lavage with an endotracheal tube in place should be considered. Treat exposure symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

Flashpoint and Method: This product does not flash.

Flammable Limits (in air, % by volume) **Lower:** Not applicable **Upper:** Not applicable

Autoignition Temperature: Not applicable

GENERAL HAZARD: This product is an aqueous, acidic solution of organic and inorganic compounds. This product is not combustible, but it may generate flammable / explosive Hydrogen gas on contact with Aluminum and some other metals. The Uniform Fire Code health hazard classification for this product is: **Corrosive (Acidic).** Dilute solutions of this product may also be corrosive. It may produce hazardous decomposition products.

FIRE FIGHTING INSTRUCTIONS: **EXTINGUISHING MEDIA:** Water, foam, CO_2 or dry chemicals.
Use a water spray or fog to cool the containers exposed to the heat of a fire.

FIRE FIGHTING EQUIPMENT: Fire fighters should wear full protective equipment, including self-contained breathing apparatus.

HAZARDOUS COMBUSTION PRODUCTS: When heated to dryness and decomposition, it emits toxic Ammonia gas, carbon monoxide, carbon dioxide, phosphorus oxides, nitrogen oxides, sulfur oxides, potassium oxide, zinc oxide and boron oxide with trace or ultra-trace toxic oxide amounts, of, iron, manganese, magnesium, calcium and sodium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

RELEASE TO LAND: 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 commercial absorbent. Place in approved containers for recovery, disposal, or satellite accumulation. Neutralize the acidity, of the remaining liquid, using lime, Sodium Bicarbonate, or other agent appropriate for neutralizing acidic liquids, that will not liberate large amounts of Ammonia gas. Flush the spill area with water; collect the rinsates for disposal or sewer, as appropriate. If Ammonia gas is being liberated from a spill, then an inhalation hazard is present. When an inhalation hazard is indicated, respiratory equipment (a full facepiece respirator with an Ammonia gas cartridge or supplied air) is required during the clean-up of the spill.

RELEASE TO WATER: 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

STORAGE TEMPERATURE: Ambient **STORAGE PRESSURE:** Ambient

GENERAL: Store in a cool, dry, well-ventilated area, away from incompatible materials and products. Protect eyes, skin and clothing from contact with 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, above the ACGIH-TLV, OSHA-PEL, AIHA WEEL or levels that may cause irritation.

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

RESPIRATOR: For exposure above the ACGIH-TLV, AIHA-WEEL or OSHA-PEL, wear a NIOSH-approved full facepiece or half mask air-purifying cartridge respirator equipped with a good mist / particulate filter cartridge or supplied air. **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 face 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: Wear a Neoprene, Nitrile, Butyl Rubber or Natural Rubber apron, or full protective clothing 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: 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

Appearance:	Dark brown	**Bulk Density (pounds/ft^3):**	Not applicable
Physical State:	Liquid	**Vapor Pressure:**	No data available
Odor:	Characteristic	**Vapor Density (air=1):**	No data available
Odor Threshold:	No data available	**Evaporation Rate (n-Butyl Acetate=1):**	No data available
Molecular Formula:	Mixture	**VOC Content / Organic Matter:**	No data available /
Molecular Weight:	Not applicable	**% Volatile:**	No data available
Boiling Point:	Greater than 100° C. (212° F.)	**Solubility in H_2O:**	Soluble
Freezing/Melting Point:	Less than 0° C. (32° F.)	**Octanol/Water Partition Coefficient:**	No data available
Specific Gravity:	1.25 - 1.35 @ 20° C.	**pH (as is):**	9.0 to 10.0
Density (pounds/gallon):	Approximately 10.54	**pH (1% solution):**	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: Strong alkali & caustics, reducing agents, oxidizers, Aluminum, Magnesium, Zinc and alloys of these metals

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

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

Components:	**Urea**	**Potassium Carbonate**
Eye Contact:	No data available	No data available
Skin Contact:	No data available	No data available
Oral Rat LD_{50}:	8,471 mg/kg	No data available
Dermal Rabbit LD_{50}:	No data available (Rabbit, Subcutaneous LD_{Lo}: 3 gm/kg)	No data available
Inhalation Rat LC_{50}:	No data available (Rat, Inhalation, Chronic – Multiple Dose, 288 mg/m^3/17 weeks; Toxic effects: Kidney, Ureter & Bladder – Other changes in urine composition; Blood – Other changes; Nutritional and gross metabolic changes.)	No data available
Human Data:	Human: 22 mg/3 days; Mild	No data available
Other Toxicological Data:	Rat, Dermal, Chronic – Multiple Dose, 3,024 mg/kg/4 weeks; Toxic effects: Liver – Changes in Liver weight; Endocrine – Changes in Thymus weight; Death.	No data available
Carcinogenicity:	Oral Rat TD_{Lo}: 821 gm/kg/1 year; Tumorigenic – Neoplastic by RTECS criteria; Blood – Tumors; Blood – Lymphomax including Hodgkin's disease.	No data available
Teratogenicity:	Intraplacental Woman TD_{Lo}: 1,400 mg/kg (female 16 Weeks pregnant); Effects on Fertility - Abortion	No data available
Mutagenicity:	Human DNA Inhibition; lymphocyte: 600 mmol/Liter	No data available
Synergistic Products:	None reported	None reported
Target Organs:	Eyes, Skin, Mucous membranes, Lungs, Cardiovascular & Central Nervous Systems	Eyes, Skin & Mucous membranes
Medical Conditions Aggravated By Exposure:	Skin, Respiratory or Cardiac disorders	Skin or Respiratory disorders

Components:	**Ammonium Sulfate**
Eye Contact:	No data available
Skin Contact:	No data available
Oral Rat LD_{50}:	2,840 mg/kg
Dermal Rabbit LD_{50}:	No data available
Inhalation Rat LC_{50}:	No data available
Human Data:	Oral Man TD_{Lo}: 1,500 mg/kg (Gastrointestinal effects)
Other Toxicological Data:	Intraperitoneal Mouse LD_{50}: 610 mg/kg
Carcinogenicity:	No data available
Teratogenicity:	No data available
Mutagenicity:	No data available
Synergistic Products:	None reported
Target Organs:	Eyes, Skin, Mucous membranes, Lungs & Central Nervous System
Medical Conditions Aggravated By Exposure:	Skin or Respiratory disorders

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE:

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

ENVIRONMENTAL CONSIDERATIONS:

The aquatic toxicity for this product is related to the pH of the water. For Rainbow trout, the reported LC_{50} is about a pH of 4.0 for a 7 day bioassay. Other species may vary a bit from this pH level, but all are susceptible to acidic pH conditions.

SECTION 13: DISPOSAL CONSIDERATIONS

RCRA 40 CFR 261 CLASSIFICATON: 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

DOT PROPER SHIPPING NAME:	**Not DOT Regulated (United States)**				
	Hazard Class:	**Hazard Class:**		**Hazard Class:**	
	Primary Label:		**Primary Label:**		
	Primary/Subsidiary Placards:				
DOT Reportable Quantity (RQ):	Not Listed	**DOT Reportable Quantity (RQ):**	Not Listed		
Marine Pollutant:	No			**Marine Pollutant:**	
2012 North American Emergency Response Guidebook No.:	**Not applicable**				**2012 North American**
TDG PROPER SHIPPING NAME:	**NOT RESTRICTED**				
	Hazard Class:	**Hazard Class:**		**Hazard Class:**	
	Primary Label:		**Primary Label:**		
	Primary/Subsidiary Placards:				
TDG Reportable Quantity (RQ): *	Not applicable				**TDG Reportable Quantity (RQ): ***
TDG Schedule XII:	Not applicable				**TDG Schedule XII:**
Regulated Limit (RL): **	Not Listed	**Regulated Limit (RL): ****	Not Listed		
Other Shipping Information:	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

COMPONENTS:	Urea	Potassium Carbonate	Ammonium Sulfate
OSHA Target Organs:	Eyes, Skin, Mucous membranes, Lungs, Cardiovascular & Central Nervous Systems	Eyes, Skin & Mucous membranes	Eyes, Skin, Mucous membranes, Lungs & Central Nervous System
Carcinogenic Potential:			
Regulated by OSHA:	No	No	No
Listed on NTP Report:	No	No	No
Listed by IARC:	No	No	No
IARC Group:	Not applicable	Not listed	Not applicable
ACGIH Appendix A:	Not listed	Not listed	Not listed
A1 Confirmed Human:	Not applicable	Not applicable	Not applicable
A2 Suspected Human:	Not applicable	Not applicable	Not applicable

U.S. EPA Requirements

Release Reporting

CERCLA (40 CFR 302)

Listed Substance:	Not listed	Not listed	Not listed
Reportable Quantity:	Not applicable	Not applicable	Not applicable
Category:	Not applicable	Not applicable	Not applicable
RCRA Waste No.:	Not applicable	Not applicable	Not applicable
Unlisted Substance:	Not applicable	Not applicable	Not applicable
Reportable Quantity:	Not applicable	Not applicable	Not applicable
Characteristic:	Not applicable	Not applicable	Not applicable
RCRA Waste No.:	Not applicable	Not applicable	Not applicable

SARA TITLE III

Section 302 & 303 (40 CFR 355):

Listed Substance:	Not listed	Not listed	Not listed
Reportable Quantity:	Not applicable	Not applicable	Not applicable
Planning Threshold:	Not applicable	Not applicable	Not applicable

SECTION 15: REGULATORY INFORMATION (Continued from Page 6)

COMPONENTS:	**Urea**	**Potassium Carbonate**	**Ammonium Sulfate**
Section 311 & 312 (40 CFR 370):			
Hazard Categories (**product**):	**Fire: N** **Sudden Release of Pressure: N** **Reactive: N** **Acute Health: Y** **Chronic Health: N**		
Planning threshold:	10,000 pounds	10,000 pounds	10,000 pounds
Section 313 (40 CFR 372):			
Listed Toxic Chemical:	Not listed	Not listed	Not listed
Reporting Threshold:	Not applicable	Not applicable	Not applicable

U.S. TSCA Status

Listed (40 CFR 710):	Yes	Yes	Yes

State Regulations

State of California: Safe Drinking Water and Toxins Enforcement Act, 1986 (Proposition 65):			
Carcinogen:	No	No	No
Reproductive Toxin:	No	No	No

Other Regulations

State Right To Know Laws:	MA, NJ, PA	None Known	MA, PA, NJ, CA

Canadian Regulations

Product Information:	
Controlled Product:	*Yes*
WHMIS Hazard Symbols:	*Corrosive Material*
WHMIS Class & Division:	**E**

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

SECTION 16: OTHER INFORMATION

EPA Registration number: Not applicable

Approved Product Uses: Used as 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:

Store Huma Gro® Breakfree™ in a cool, dry, well-ventilated area away from incompatible materials and products. Do not add this product to strong alkali or caustic materials, as this will liberate a large amount of heat and toxic, corrosive Ammonia gas.

SDS Revision Information: Revised Date:

SDS Distributed by: Bio Huma Netics, Inc.

Prepared By:	Anna Carpenter	**Date Prepared:**	July 28, 2020