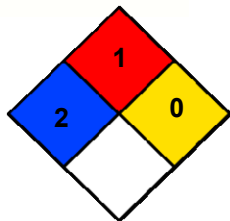




SAFETY DATA SHEET

HUMA GRO® Boro Pro

Rev A 1-12-18



HMIS	
HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0
PPE	C

SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

PRODUCT IDENTIFIER: HUMA GRO® Boro Pro	Product # 025
GENERAL USE: Used as a part of a plant nutrition program.	
PRODUCT DESCRIPTION: A clear, medium to dark amber liquid having a unique, characteristic odor.	
INFORMATION PROVIDED BY: Bio Huma Netics, Inc. 1331 W Houston Avenue Gilbert, AZ 85233	EMERGENCY PHONE NUMBERS
For SDS call: PHONE: (480) 961-1220	CHEMTREC: (In the USA) 800-424-9300 (International) 703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

HAZARDS OVERVIEW: A clear, medium to dark amber liquid having a unique, characteristic odor. The liquid and mists may cause moderate to severe eye irritation and may cause moderate skin irritation. Inhalation of vapors or mists may cause irritation to the entire respiratory tract. Ingestion may cause irritation to the entire gastrointestinal tract.

CLASSIFICATION: HAZARD CATEGORY 5 - MAY BE HARMFUL IF SWALLOWED

SIGNAL WORD: WARNING

HAZARD STATEMENT: H303 - WARNING – may be harmful if swallowed

PRECAUTIONARY STATEMENT: P312; Call a poison center/doctor/physician if you feel unwell

SECTION 3: COMPOSITION & INFORMATION ON INGREDIENTS

COMPONENT	CAS #	OSHA HAZARD	WT %	ACGIH		OSHA	
				TLV _(TWA)	STEL	PEL _(TWA)	STEL
Boric Acid	10043-35-3	Eye, Skin & Respiratory Irritant; Toxic by Ingestion; Kidney, Gastrointestinal & Central Nervous Systems toxin	55 ± 5	2 mg/m ³ Inhalable Fraction	6 mg/m ³ Inhalable Fraction	None	None
Monoethanolamine	141-43-5	Eye, Skin, Respiratory Irritant; Possible Liver & Kidney toxin	20 ± 3	7.5 mg/m ³	None	6 mg/m ³	None
Proprietary component	Confidential	Severe Eye Irritant; Mild Skin, Respiratory Irritant; Moderately Toxic by Ingestion	10 ± 1	10 mg/m ³ Respirable Fraction	None	15 mg/m ³	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, preferably mouth-to-mouth. 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.
SKIN CONTACT:	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.
INGESTION:	If large quantities of this product are swallowed, call a physician immediately. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIANS: The hazards associated with this product are mainly due to the toxicity of the Boric Acid and its irritant properties to eyes, skin and mucous membranes. If a large amount of this product is swallowed, careful gastric lavage with an endotracheal tube in place should be considered. Treat exposure symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

Flashpoint and Method: Greater than 100° C. (212° F.) Pensky-Martins Closed Tester (ASTM D 93)

Flammable Limits (in air, % by volume) **Lower:** No data available **Upper:** No data available

Autoignition Temperature: Not determined

GENERAL HAZARD: This product is not a combustible liquid under OSHA or WHMIS regulations. This product may be ignited at elevated temperatures and can burn after the water has evaporated. The Uniform Fire Code health hazard classification for this product is: **Irritant**. This product may produce hazardous vapors or hazardous decomposition products.

FIRE FIGHTING INSTRUCTIONS: **EXTINGUISHING MEDIA:** Water fog, foam, CO₂ or dry chemicals.
Use a water fog or spray 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 carbon monoxide, carbon dioxide, nitrogen oxides and boron oxide, with trace or ultra-trace toxic oxide amounts, of phosphorus, potassium, sulfur, iron, zinc, 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 the liquid using pumps or vacuum truck for disposal in accordance with Federal, State and local regulations. Absorb the remaining liquid using sand, or commercial absorbent; dispose as Federal, State and local requirements dictate. Flush the spill area with water; collect the rinsates for disposal as the regulations require.

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 this product. Wear recommended personnel protective equipment. Avoid breathing vapors, mists or aerosols. Use with adequate ventilation. Keep the containers tightly closed when not in use. Wash thoroughly after handling this product. The empty containers may be hazardous. They may contain organic residues that can be ignited and will burn. Do not cut, puncture or weld on or near these containers.

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 ACGIH-TLV or levels that may cause irritation.

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

RESPIRATOR: Respiratory protection is not normally required. If use creates mists or aerosols, or if an ACGIH-TLV is exceeded, a NIOSH approved full facepiece or half mask air-purifying cartridge respirator equipped with an organic vapor cartridge and a dust / mist pre-filter or supplied air is required. **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 Butyl Rubber, Neoprene 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 Butyl Rubber, Neoprene 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: Wear Butyl Rubber, Neoprene 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:	Clear, medium to dark brown amber	Bulk Density (pounds/ft³):	Not applicable
Physical State:	Liquid	Vapor Pressure:	No data available
Odor:	Unique, 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:	No data available
Molecular Weight:	Not applicable	% Volatile:	No data available
Boiling Point:	Greater than 100° C. (212° F.)	Solubility in H₂O:	Complete
Freezing/Melting Point:	Less than 0° C. (32° F.)	Octanol/Water Partition Coefficient:	No data available
Specific Gravity:	1.30 – 1.40 @ 20° C.	pH (as is):	7.6 to 8.6
Density (pounds/gallon):	Approximately 10.85	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: Store in a cool dry place, do not store in direct sunlight.

INCOMPATIBLE MATERIAL: Strong oxidizers, caustics and acids. It may react with nitrites to create nitrosamines, which may cause cancer.

HAZARDOUS DECOMPOSITION PRODUCTS: When heated to dryness and decomposition, it emits toxic oxides of carbon nitrogen and boron, with trace or ultra-trace toxic oxide amounts, of phosphorus, potassium, sulfur, iron, zinc, 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 (additional toxicological information in section 16)

Components:	<u>Boric Acid</u>	<u>Monoethanolamine</u>
Eye Contact Rabbit:	No data available	Irritant Similar to OECD Guideline 404
Skin Contact:	Human Standard Draize Test: 15 mg/3 Days ; Mild	No sensitizing effect (OECD Guideline 406)
Oral Rat LD₅₀:	2,660 mg/kg	1,515 mg/kg (OECD Guideline 401)
Dermal Rabbit LD₅₀:	No data available (Dermal Infant TD _{Lo} : 1,200 mg/kg)	2,504 mg/kg (OECD Guideline 402)
Inhalation Rat LC₅₀:	28 mg/m ³ /4 hours	>1.3 mg/l (IRT) Exposure time 6 hours
Human Data:	Oral Woman LD _{Lo} : 200 mg/kg	No data available
Other Toxicological Data:	Oral Child TD _{Lo} : 500 mg/kg; Gastrointestinal Effects: Nausea or vomiting	None
Carcinogenicity:	No data available	Assessment of carcinogenicity: The whole of the information assessable provides no indication of a carcinogenic effect.
Teratogenicity:	Oral Rat TD _{Lo} : 6,600 mg/kg (female 1 – 21 Days pregnant); Effects on Embryo or Fetus – Fetotoxicity; Specific Developmental Abnormalities – Musculoskeletal system	In animal studies substance did not cause malformations
Mutagenicity:	Bacteria – E Coli Mutations in Microorganisms: 17,000 ppm/24 hours (-S9)	No known effects in humans or animals
Synergistic Products:	None reported	Not known
Target Organs:	Eyes, Skin, Lungs, Kidneys, Gastrointestinal & Central Nervous Svstems	Eyes, Skin, Lungs
Medical Conditions Aggravated By Exposure:	Skin, Respiratory, Kidney or Gastrointestinal disorders	Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product

SECTION 11: TOXICOLOGICAL INFORMATION (Continued from Page #3)

Components: Proprietary Component

Eye Contact: No data available

Skin Contact: No data available

Oral Rat LD₅₀: Acute 12600 mg/kg

Dermal Rabbit LD₅₀: Acute 10000 mg/kg

Inhalation Rat LC₅₀: Acute 570 mg/m³/ 1 hour

Human Data: May cause adverse reproductive effects based on animal data

Other Toxicological Data: No data available

Carcinogenicity: No data available

Teratogenicity: May effect genetic material

Mutagenicity: No data available

Synergistic Products: None reported

Target Organs: Eyes, Skin, Kidneys

Medical Conditions Aggravated By Exposure: Skin, Respiratory, Kidney

SECTION 12: ECOLOGICAL INFORMATION**ENVIRONMENTAL FATE:**

This product is completely soluble in water and may cause a slight increase in pH (no more than 2 units). No specific environmental fate data is available, but the organic portion of this product is expected to be biodegradable.

ENVIRONMENTAL CONSIDERATIONS:

The aquatic toxicity for this product has not been determined.

SECTION 13: DISPOSAL CONSIDERATIONS

RCRA 40 CFR 261 CLASSIFICATION: Non-Hazardous Waste

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-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: Not applicable **UN Number:** Not applicable **Packing Group:** Not applicable

Primary Label: None Required **Subsidiary Label(s):** None Required

Primary/Subsidiary Placards: None Required

DOT Reportable Quantity (RQ): Not listed **RQ for Product:** Not applicable

Marine Pollutant: No

2012 North American Emergency Response Guidebook No.: Not applicable

TDG PROPER SHIPPING NAME: NOT RESTRICTED

Hazard Class: Not applicable **UN Number:** Not applicable **Packing Group:** Not applicable

Primary Label: None Required **Subsidiary Label(s):** None Required

Primary/Subsidiary Placards: None Required

TDG Reportable Quantity (RQ): * Not applicable

TDG Schedule XII: Not listed

Regulated Limit (RL): ** Not listed **RL for Product:** Not applicable

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:	<u>Boric Acid</u>	<u>Monoethanolamine</u>	<u>Proprietary Component</u>
<u>OSHA Target Organs:</u>	Eyes, Skin, Lungs, Kidneys, Gastrointestinal & Central Nervous Systems	Eyes, Skin, Lungs, Liver & Kidneys	Eyes, Skin, Lungs & kidneys
<u>Carcinogenic Potential:</u>			
Regulated by OSHA:	No	No	No
Listed on NTP Report:	No	No	No
Listed by IARC:	No	No	No
IARC Group:	Not applicable	Not applicable	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>U.S. EPA Requirements</u>			
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	None listed
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

SECTION 15: REGULATORY INFORMATION (Continued from Page 4)

COMPONENTS:	<u>Boric Acid</u>	<u>Monoethanolamine</u>	<u>Proprietary Component</u>
<u>SARA TITLE III</u>			
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 311 & 312 (40 CFR 370):			
Hazard Categories (product):	Fire: <u>N</u>	Sudden Release of Pressure: <u>N</u>	Reactive: <u>N</u> Acute Health: <u>Y</u> Chronic Health: <u>N</u>
Planning threshold:	10,000 pounds	10,000 pounds	10,000 pounds
Section 313 (40 CFR 372):			
Listed Toxic Chemical:	Not listed	Not listed	Yes
Reporting Threshold:	Not applicable	Not applicable	10,000 pounds
<u>U.S. TSCA Status</u>			
Listed (40 CFR 710):	Yes	Yes	Yes
<u>State Regulations</u>			
State of California: Safe Drinking Water and Toxins Enforcement Act, 1986 (Proposition 65):			
Carcinogen:	No	No	No
Reproductive Toxin:	Possible	No	No
<u>Other Regulations</u>			
State Right To Know Laws:	MA, NJ, PA		
<u>Canadian Regulations</u>			
Product Information:			
Controlled Product:	Yes (Boric Acid)		
WHMIS Hazard Symbols:	Material Causing Other Toxic Effects (Very Toxic)		
WHMIS Class & Division:	D.2A		
Ingredient Information:			
IDL Substance:	Yes	Yes	Yes
DSL or NDSL Lists:	DSL	DSL	DSL

SECTION 16: OTHER INFORMATION

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.

Special Instructions:

Do not add nitrites to Boro Pro. Amines can combine with nitrites or other nitrosating agents to form nitrosamines. Many nitrosamines have been found to cause cancer in laboratory animals. Store this product in a cool, dry, ventilated area away from incompatible materials and products.

SDS Revision Information: Revised Date: NA

SDS Distributed by: Bio Huma Netics, Inc.

Prepared By:	Frank S. Pidgeon, Sr. EHSS Director	Date Prepared:	January 12 th 2018
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