

SAFETY DATA SHEET Probiotic Solutions® Phyto Max



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HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PPE	В

PRODUCT IDENTIFIER: Probiotic Solutions® Phyto Max Product# 500

GENERAL USE: Used as a balanced food source to create healthy green phytoplankton growth in open water

PRODUCT DESCRIPTION: A dark, reddish brown liquid having no characteristic odor.

SUPPLIER INFORMATION: Bio Huma Netics

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 reddish, brown slightly liquid having no characteristic odor. The liquid and mists may be irritating to the eyes and skin. Inhalation of mists may be irritating to the entire respiratory tract. Ingestion of this product may cause gastrointestinal irritation, cardiovascular and central nervous system effects.

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

				ACGIH		OSHA	
COMPONENT	CAS#	OSHA HAZARD	<u>WT %</u>	$TLV_{(TWA)}$	STEL	$PEL_{(TWA)}$	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.	20 ± 2	None AIHA WEEL: 10 mg/m³	None	None	None
Ammonium Nitrate	6484-52-2	Oxidizer; Eye, Skin & Respiratory Irritant; Blood toxin	19 ± 2	None	None	None	None
Monopotassium Phosphate	7778-77-0	Eye, Skin & Respiratory Irritant	2 ± 0.5	None	None	None	None
Ammonium Sulfate	7783-20-2	Eye, Skin & Respiratory Irritant	1 ± 0.25	None	None	None	None
Diammonium Phosphate	7783-28-0	Eye Irritant; Slight to Moderate Skin & Respiratory Irritant; Slightly Toxic by Ingestion: Central Nervous System toxin	1 ± 0.25	None	None	None	None
Monoammonium Phosphate	7722-76-1	Eye, Ski & Respiratory Irritant; Central Nervous System toxin	0.7 ± 0.1	None	None	None	None
Cobalt Chloride	7646-79-9	Eye, Skin & Respiratory Irritant; Toxic by Ingestion; Possible Human Carcinogen - IARC	0.16 ± 0.1	0.02 mg/m³ (as Co) (A3)	None	None	None

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 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: Based on component information, this product is slightly 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 layage 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 Determined

GENERAL HAZARD: This product is an aqueous solution of organic and inorganic compounds. The Uniform Fire Code health hazard

classification for this product is: Irritant. It may produce hazardous decomposition products.

FIRE FIGHTING INSTRUCTIONS: **EXTINGUISHING MEDIA:** Water, foam, CO₂ 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 with toxic

carbon monoxide, carbon dioxide, phosphorus oxides, nitrogen oxides, potassium oxide and calcium oxide with trace toxic oxide amounts of sulfur, iron, zinc, manganese,

magnesium, sodium and cobalt plus irritating smoke.

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

Wear recommended protective equipment and clothing if contact with hazardous material can occur. Stop or divert WATER: 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: STORAGE PRESSURE: Ambient 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 Use a local or general, mechanical exhaust ventilation system capable of maintaining emissions, in the work area,

below the OSHA-PEL, ACGIH-TLV or levels that may cause irritation. **MEASURES:**

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

RESPIRATOR: Respiratory protection is not normally required. If use produces mists 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 & Wear a Neoprene, Nitrile, Butyl Rubber or Natural Rubber apron when handling this product. An eye wash station **EQUIPMENT:**

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES				
Appearance:	Dark reddish, brown	Bulk Density (pounds/ft³):	Not applicable	
Physical State:	Liquid	Vapor Pressure:	No data available	
Odor:	No characteristic	Vapor Density (air=1):	No data available	
Odor Threshold:	No data available	Evaporation Rate (n-Butyl Acetate=1):	Less than 1	
Molecular Formula:	Mixture	VOC Content:	Not applicable	
Molecular Weight:	Not applicable	% Volatile:	Approximately 49	
Boiling Point:	Greater than 100° C. (212° F.)	Solubility in H₂O:	Soluble	
Freezing/Melting Point:	Less than 0° C. (32° F.)	Octanol/Water Partition Coefficient:	No data available	
Specific Gravity:	Approximately 1.210 @ 20° C.	pH (as is):	6.3 to 6.5	
Density (pounds/gallon):	Approximately 10.09	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: Oxidizers, reducing agents, caustics & strong alkali and readily oxidized materials.

HAZARDOUS DECOMPOSITION PRODUCTS: When heated to dryness and decomposition, it emits toxic Ammonia gas and

chloride compounds plus toxic oxides of carbon, nitrogen and cobalt with trace or ultra-trace toxic oxide amounts, of, iron, sulfur, manganese, magnesium,

potassium, calcium, phosphorus, boron, zinc 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: <u>Urea</u> <u>Ammonium Nitrate</u>

Eye Contact: No data available No data available

Skin Contact:No data availableNo data availableOral Rat LD50:8,471 mg/kg2,217 mg/kg

Dermal Rabbit LD₅₀: No data available (Rabbit, Subcutaneous LD_{Lo}: 3 gm/kg) No data available

Inhalation Rat LC₅₀: No data available (Rat, Inhalation, Chronic – Multiple No data available

Dose, 288 mg/m³/17 weeks; Toxic effects: Kidney, Ureter & Bladder – Other changes in urine composition; Blood – Other changes; Nutritional and gross metabolic changes.)

Human Data: Dermal Human Standard Draize Test: 22 mg/3 days; Mild No data available

Other Toxicological Data: Rat, Dermal, Chronic – Multiple Dose, 3,024 mg/kg/4 No data available

weeks; Toxic effects: Liver – Changes in Liver weight; Endocrine – Changes in Thymus weight; Death.

Carcinogenicity: Oral Rat TD_{Lo}: 821 gm/kg/1 year; Tumorigenic – No data available

Neoplastic by RTECS criteria; Blood - Tumors; Blood -

Lymphomax including Hodgkin's disease.

Teratogenicity: Intraplacental Woman TD_{Lo}: 1,400 mg/kg (female 16 No data available

Weeks pregnant); Effects on Fertility - Abortion

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

Skin, Respiratory or Cardiac disorders

Skin or Respiratory disorders

Eyes, Skin, Mucous membranes, Lungs & Blood

Components: <u>Monopotassium Phosphate</u> <u>Ammonium Sulfate</u>

Inhalation Rat LC50:No data availableNo data availableHuman Data:No data availableNo data availableOther Toxicological Data:No data available (Oral Rat LDL0: 4,640 mg/kg)2,840 mg/kg

Carcinogenicity:Greater than 4,640 mg/kgNo data availableTeratogenicity:No data availableNo data available

Mutagenicity: No data available Oral Man TD_{Lo}: 1,500 mg/kg (Gastrointestinal effects)

Synergistic Products: No data available Intraperitoneal Mouse LD₅₀: 610 mg/kg

Target Organs: No data available No data available

Medical Conditions

Medical Conditions

Aggravated By Exposure:

Aggravated By Exposure: No data available No data available

SECTION 11: TOXICOLOGICAL INFORMATION (Continued from Page 4)

Components: <u>Diammonium Phosphate</u> <u>Monoammonium Phosphate</u>

Eye Contact:No data availableNo data availableSkin Contact:No data availableNo data availableOral Rat LDso:Greater than 1,000 mg/kg5,750 mg/kg

Dermal Rabbit LD₅₀: No data available Greater than 7,940 mg/kg

Inhalation Rat LC₅₀: No data available No data available **Human Data:** No data available No data available Other Toxicological Data: No data available No data available Carcinogenicity: No data available No data available Teratogenicity: No data available No data available No data available No data available Mutagenicity: Synergistic Products: None reported None reported

Target Organs: Eyes, Skin, Lungs & Central Nervous System Eyes, Skin, Lungs & Central Nervous System

Medical Conditions

Aggravated By Exposure: Skin or Respiratory disorders Skin or Respiratory disorders

Components: <u>Cobalt Chloride</u>

Eye Contact: No data available
Skin Contact: No data available

Oral Rat LD₅₀: 80 mg/kg

Dermal Rabbit LD₅₀: No data available (Subcutaneous Rabbit LD_{Lo}: 200

mg/kg)

Inhalation Rat LC₅₀: No data available

Human Data: Oral Child TD_{Lo}: 48 mg/kg; Toxic Effects; Behavioral -

Anorexia (human); Endocrine - Thyroid (goiter)

Other Toxicological Data: Dermal Rat LD_{Lo}: 2 gm/kg; Toxic Effects: Nutritional and

gross metabolic - Weight loss or decreased weight gain

Carcinogenicity: Subcutaneous Rat TD_{Lo}: 400 mg/kg/19 Days - I; Toxic

Effects: Tumorigenic - Carcinogenic by RTECS criteria;

Tumors at site of application

Teratogenicity: Oral Rat TD_{Lo}: 11 mg/kg (female 1-22 Days pregnant);

Effects on Fertility – Post-implantation mortality

Mutagenicity: Human DNA Inhibition, HeLa cell: 1 mmol/Liter

Synergistic Products: None reported

Target Organs: Eyes, Skin, Mucous membranes & Lungs

Medical Conditions

Aggravated By Exposure: Skin or Respiratory disorders

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE:

This product is soluble in water and is not expected to 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 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: Not applicable UN Number: N/A Packing Group: N/A

Primary Label: N/A Subsidiary Label(s): N/A

Primary/Subsidiary Placards: N/A

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: N/A Packing Group: N/A

Primary Label: N/A Subsidiary Label(s): N/A

Primary/Subsidiary Placards: N/A

TDG Reportable Quantity (RQ): * Not Applicable
TDG Schedule XII: Not listed
Regulated Limit (RL): ** Not Listed

egulated Limit (RL): ** Not Listed RL for Product: Not Applicable

Other Shipping Information: None

SECTION 15: REGULATORY INFORMATION Monopotassium **Ammonium Sulfate Ammonium Nitrate** Urea **COMPONENTS: Phosphate** Eyes, Skin, Mucous Eyes, Skin, Mucous Eyes, Skin & Mucous **OSHA Target Organs:** Eves. Skin, Mucous membranes, Lungs, membranes, Lungs & membranes membranes. Lungs & Central Cardiovascular & Central Blood Nervous System Nervous Systems **Carcinogenic Potential:** Regulated by OSHA: No No No No **Listed on NTP Report:** No No No No Listed by IARC: No No Nο No IARC Group: Not applicable Not applicable Not listed Not applicable **ACGIH Appendix A:** Not listed Not listed Not listed Not listed Not applicable Not applicable Not applicable A1 Confirmed Human: Not applicable A2 Suspected Human: Not applicable Not applicable Not applicable Not applicable U.S. EPA Requirements Release Reporting **CERCLA** (40 CFR 302) Listed Substance: Not listed Not listed Not listed Not listed Not applicable Reportable Quantity: Not applicable Not applicable Not applicable Category: Not applicable Not applicable Not applicable Not applicable RCRA Waste No.: Not applicable Not applicable Not applicable Not applicable **Unlisted Substance:** Not applicable Reportable Quantity: Not applicable Characteristic: Not applicable Not applicable Not applicable Not applicable RCRA Waste No.: Not applicable Not applicable Not applicable Not applicable

^{*} 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.

SEC	TION 15: REGULATORY	INFORMATION (Cor	ntinued from Page 6)	
COMPONENTS:	<u>Urea</u>	Ammonium Nitrate	Monopotassium Phosphate	Ammonium Sulfate
SARA TITLE III				
Section 302 & 303 (40 CFR 355):				
Listed Substance:	Not listed	Not listed	Not listed	Not listed
Reportable Quantity:		Not applicable	Not applicable	Not applicable
Planning Threshold:	Not applicable	Not applicable	Not applicable	Not applicable
•	110t applicable	applicable	approudic	1101 applicable
Section 311 & 312 (40 CFR 370):	Fire N. Coulden Balance	of Bossesson N. Bossello	N. Ata Haalth '	V - Ohmania Haalib - V
Hazard Categories (product): Planning threshold:	Fire: N Sudden Release 10,000 pounds	of Pressure: <u>N</u> Reactive 10,000 pounds	ve: <u>N</u> Acute Health: 10,000 pounds	Y Chronic Health: Y 10,000 pounds
Section 313 (40 CFR 372):				
Listed Toxic Chemical:		Yes (Aqua Ammonia &	Not listed	Yes (Aqua Ammonia)
		Nitrate compounds)		, ,
Reporting Threshold:	Not applicable	10,000 pounds	Not applicable	10,000 pounds
U.S. TSCA Status				
Listed (40 CFR 710):	Yes	Yes	Yes	Yes
State Regulations				
State of California: Safe Drinking	Water and Toxins Enforcemen	t Act, 1986 (Proposition 65	5):	
Carcinogen:	No	No	No	No
Reproductive Toxin:	No	No	No	No
Other Regulations				
State Right To Know Laws:	NJ			
3 				
Canadian Regulations				
Product Information:				
Controlled Product:	Yes			
WHMIS Hazard Symbols:	Material Causing Other Toxic	Effects		
WHMIS Class & Division:	D.2A; D.2B			
Ingredient Information:	NI-	N _a	Na	Na
IDL Substance:	No	No DCI	No	No DCI
DSL or NDSL Lists:	DSL	DSL	DSL	DSL
COMPONENTS:	Diammonium Phosphate	Monoammonium Phos	Cobalt Chloride	<u>9</u>
OSHA Torget Organs				POLIS
OSHA Target Organs:	Eyes, Skin, Lungs & Centra Nervous System	Nervous System	membranes & L	
	. 15. 1546 0/010111	- , - , 		•
Carcinogenic Potential:				
Regulated by OSHA:	No	No	No	
Listed on NTP Report:	No	No	No	
Listed by IARC:	No	No	Yes	
IARC Group:	Not applicable	Not applicable	Group 2B	
ACGIH Appendix A:	Not listed	Not listed	Yes (A3)	
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	

SECTION 15: REGULATORY INFORMATION (Continued from Page 7)

COMPONENTS: <u>Diammonium Phosphate</u> <u>Monoammonium Phosphate</u> <u>Cobalt Chloride</u>

SARA TITLE III

Section 302 & 303 (40 CFR 355):

Listed Substance:Not listedNot listedNot listedReportable Quantity:Not applicableNot applicableNot applicablePlanning Threshold:Not applicableNot applicableNot applicable

Section 311 & 312 (40 CFR 370):

Planning threshold: 10,000 pounds 10,000 pounds 10,000 pounds

Section 313 (40 CFR 372):

Listed Toxic Chemical:Yes (Aqua Ammonia)Yes (Aqua Ammonia)Yes (Cobalt compounds)Reporting Threshold:10,000 pounds10,000 pounds10,000 pounds

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 No Reproductive Toxin: No No No No

Other Regulations

State Right To Know Laws: NJ

Canadian Regulations

Ingredient Information:

 IDL Substance:
 No
 No
 Yes

 DSL or NDSL Lists:
 DSL
 DSL
 DSL

SECTION 16: OTHER INFORMATION

EPA Registration number: Not applicable

Approved Product Uses: Used as a balanced food source to create healthy green phytoplankton growth in open water

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 Phyto Max in a cool, dry, well-ventilated area away from incompatible materials and products. When making dilutions, always add this product to water, or aqueous solutions, with adequate mixing to ensure a uniform solution. Do not add strong alkali or caustics to this product, as that will liberate toxic Ammonia gas.

SDS Revision Information: Revised Date: N/A, New SDS

SDS Distributed by: Bio Huma Netics

Prepared By:Frank S. Pidgeon, EHS DirectorDate Prepared:June 6, 2013

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