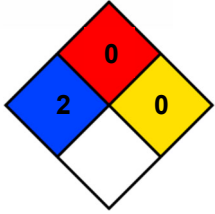




SAFETY DATA SHEET

Probiotic Solutions® Bio Genesis®



| HMIS | |
|-----------------|---|
| HEALTH | 2 |
| FLAMMABILITY | 0 |
| PHYSICAL HAZARD | 0 |
| PPE | B |

SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

| | | |
|---------------------------------|--|---|
| PRODUCT IDENTIFIER: | Probiotic Solutions® Bio Genesis® | Product #007 |
| GENERAL USE: | Used to balance microbial ecosystems for bioremediation of water and soil for increased bio-oxidation. | |
| PRODUCT DESCRIPTION: | A hazy brown liquid having a slight characteristic odor. | |
| SUPPLIER INFORMATION: | Bio Huma Netics, Inc. 1331 W Houston Avenue Gilbert, AZ 85233 | EMERGENCY PHONE NUMBERS |
| For Additional SDS call: | PHONE: (480) 961-1220 | CHEMTREC: (In the USA) 800-424-9300 (International) 703-527-3887 |

SECTION 2: HAZARDS IDENTIFICATION

| | |
|--------------------------|---|
| HAZARDS OVERVIEW: | <p>A hazy brown liquid having a slight characteristic odor. The liquid and mists can be irritating to the eyes and possibly the skin. Inhalation of mists may be irritating to the entire respiratory tract. Ingestion of this product may cause gastrointestinal irritation, with cardiovascular and central nervous system effects.</p> <p>CLASSIFICATION: MILD SKIN IRRITATION – HAZARD CATEGORY 3 SIGNAL WORD: WARNING HAZARD STATEMENT: H316 - WARNING - causes mild skin irritation PRECAUTIONARY STATEMENT: P332+P313; If skin irritation occurs: Get medical attention/advice.</p> <p>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</p> |
|--------------------------|---|

SECTION 3: COMPOSITION & INFORMATION ON INGREDIENTS

| COMPONENT | CAS # | OSHA HAZARD | WT % | ACGIH | | OSHA | |
|----------------------|-----------|--|---------|----------------------|------|----------------------|------|
| | | | | 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. | 11 ± 2 | 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 | 2 ± 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, 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 if irritation persists. |
| 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: | Based on component information, this product may be slightly to 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

| | | | |
|---|---|------------------------------|--|
| 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, moderately alkaline 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, 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, with toxic carbon monoxide, carbon dioxide, phosphorus oxides, nitrogen oxides, sulfur oxides and potassium oxide with trace or ultra-trace toxic oxide amounts, of iron, manganese, magnesium, calcium, zinc 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 alkalinity, of the remaining liquid, using a dilute acid solution appropriate for neutralizing alkaline liquids. Liberally cover the spill area with sodium bicarbonate. Flush the spill area with water; collect the rinsates for disposal or sewer, as appropriate. |
| 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. Do not store in direct sunlight. Protect the eyes, skin and clothing from contact with this product. Wear the recommended protective equipment. Avoid breathing the vapors or mists. Use with adequate ventilation. Do not take internally. 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

| | | | |
|---------------------------------|------------------------------------|--|---------------------------|
| Appearance: | Hazy, brown | Bulk Density (pounds/ft³): | Not applicable |
| Physical State: | Liquid | Vapor Pressure: | No data available |
| Odor: | Slight, 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 / 13.5% |
| Molecular Weight: | Not applicable | % Volatile: | No data available |
| 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 1.05 – 1.15 @ 20° C. | pH (as is): | 8.0 to 9.0 |
| Density (pounds/gallon): | Approximately 8.76 | 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, caustics & strong alkali and all acids.

HAZARDOUS DECOMPOSITION PRODUCTS: When heated to dryness and decomposition, it emits toxic Ammonia gas, with toxic oxides of carbon, phosphorus, nitrogen, sulfur and potassium oxide with trace or ultra-trace toxic oxide amounts, of iron, manganese, magnesium, calcium, 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>Diammonium Phosphate</u> |
|--|--|--|
| Eye Contact: | No data available | No data available |
| Skin Contact: | No data available | No data available |
| Oral Rat LD ₅₀ : | 8,471 mg/kg | Greater than 1,000 mg/kg |
| Dermal Rabbit LD ₅₀ : | No data available (Rabbit, Subcutaneous LD ₅₀ : 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 | No data available |
| Carcinogenicity: | Oral Rat TD _{Lo} : 821 gm/kg/1 year; Tumorigenic – Neoplastic by RTECS criteria; Blood – Tumors; Blood – Lymphomas 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, Lungs & Central Nervous System |
| Medical Conditions Aggravated By Exposure: | Skin, Respiratory or Cardiac disorders | Skin or Respiratory disorders |

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE:

This product is soluble in water and may slightly 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

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 | | |
| | Hazard Class: N/A | UN Number: N/A | Packing Group: N/A |
| | Primary Label: None | Subsidiary Label(s): None | |
| | Primary/Subsidiary Placards: | None | |
| DOT Reportable Quantity (RQ): | Not listed | RQ for Product: | Not applicable |
| Marine Pollutant: | No | | |
| 2012 North American Emergency Response Guidebook No.: | N/A | | |
| TDG PROPER SHIPPING NAME: | NOT RESTRICTED | | |
| | Hazard Class: N/A | UN Number: None | Packing Group: N/A |
| | Primary Label: None | Subsidiary Label(s): | None |
| | Primary/Subsidiary Placards: | None | |
| TDG Reportable Quantity (RQ): * | Not applicable | | |
| TDG Schedule XII: | Not listed | | |
| Regulated Limit (RL): ** | Not listed | RL for Product: | N/A |
| 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>Urea</u> | <u>Diammonium Phosphate</u> |
|---------------------------------------|---|--|
| <u>OSHA Target Organs:</u> | Eyes, Skin, Mucous membranes, Lungs, Cardiovascular & Central Nervous Systems | Eyes, Skin, Lungs & Central Nervous System |
| <u>Carcinogenic Potential:</u> | | |
| Regulated by OSHA: | No | No |
| Listed on NTP Report: | No | No |
| Listed by IARC: | No | No |
| IARC Group: | Not applicable | Not applicable |
| ACGIH Appendix A: | 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)

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

SARA TITLE III

Section 302 & 303 (40 CFR 355):

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

SECTION 15: REGULATORY INFORMATION (Continued from Page 5)

| COMPONENTS: | <u>Urea</u> | <u>Diammonium Phosphate</u> |
|--|--|---|
| 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 |
| Section 313 (40 CFR 372): | | |
| Listed Toxic Chemical: | Not listed | Yes (Aqua Ammonia) |
| Reporting Threshold: | Not applicable | 10,000 pounds |

U.S. TSCA Status

| | | |
|-----------------------------|-----|-----|
| Listed (40 CFR 710): | Yes | Yes |
|-----------------------------|-----|-----|

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: | Yes |
| WHMIS Hazard Symbols: | Material Causing Other Toxic Effects |
| WHMIS Class & Division: | D.2B |

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:

Store Bio Genesis® 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 toxic, corrosive Ammonia gas.

SDS Revision Information: Revised Date: 9/03/2020

SDS Distributed by: Bio Huma Netics, Inc. dba Probiotic Solutions

| | | | |
|--------------|----------------------------------|----------------|------------------|
| Prepared By: | Andrew Emerson, Project Engineer | Date Prepared: | December 9, 2019 |
|--------------|----------------------------------|----------------|------------------|

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