

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: TerraBiotics BioPro pH PERFECT **Date of Preparation:** 7/28/99 **Model:** 57103 & 57104
NFPA HAZARD RATINGS: Health(3) Fire(0) Reactivity(0) (0)least (1)slight (2)moderate (3)high (4)extreme

Section 1-CHEMICAL PRODUCT and COMPANY IDENTIFICATION

General Product Composition: Water treatment additive containing Sulfuric Acid and Urea. **Intended Use:** Turf Management.
Manufactured for: Spindler Enterprises, Inc., P.O. Box 6112, Lakeland, Fl. 33807. **Phone:** (863) 619-9822. **Emergency Telephone:** CHEMTREC 1-800-424-9300.

Section 2-COMPOSITION/INFORMATION on INGREDIENTS

HAZARDOUS INGREDIENT NAME	FORMULA	CAS No.
Monocarbamide Dihydrogen Sulfate	CO(NH ₂) ₂ •H ₂ SO ₄	21351-39-3
Sulfuric Acid	H ₂ SO ₄	7664-13-6
Urea	CO(NH ₂) ₂	57-13-6
Water	H ₂ O	7332-18-5

TRACE IMPURITIES: None known.

EXPOSURE LIMITS: ((REFER TO SECTION 8))

Section 3-HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: *Potential Health Effects:* **Primary Entry Routes:** Eyes, skin, ingestion, inhalation. **Target Organs:** Eyes, skin, gastrointestinal tract, respiratory tract. **Acute Effects:** **Inhalation:** Repeated or prolonged inhalation may cause severe irritation of nose, throat and respiratory tract. **Eye:** Product is a severe eye irritant. Direct contact with liquid or exposure to mists may cause burning, tearing, redness, swelling, corneal damage and irreversible eye damage. **Skin:** Product is a severe skin irritant. May cause skin burns. Prolonged or repeated contact may cause redness, swelling, burns and severe skin damage. **Ingestion:** Product is toxic and may be harmful or fatal if swallowed. Ingestion may result in severe irritation and burns of mouth, throat and digestive tract. **Carcinogenicity:** **IARC:** NO, **NTP:** NO, **OSHA:** (*Sulfuric acid*), Suspected human carcinogen. **Medical Conditions Aggravated by Long-Term Exposure:** Serious eye and/or skin burning. Persons with pre-existing skin disorders may be more susceptible to the effects of this material. **Chronic Effects:** Respiratory symptoms associated with pre-existing lung disorders (asthma-like conditions) may be aggravated by exposure to this product.

Section 4-FIRST AID MEASURES

Ingestion: DO NOT INDUCE VOMITING. CORROSIVE MATERIAL-CAUSES ACID BURN. If victim is conscious and alert, immediately rinse mouth with water and dilute ingested material by giving one glass of milk or water to drink. Call a physician or Poison Control Center. **Eye Contact:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Get immediate medical assistance. Do not allow victim to rub or keep eyes closed. **Skin Contact:** Remove any contaminated clothing or shoes. If skin surface is damaged, apply a clean dressing. If skin surface is not damaged, wash skin with plenty of gentle soap and water. In either case, get immediate medical assistance. Launder clothes before reuse. **Inhalation:** Immediately remove from exposure to fresh air. Get medical assistance. If victim is not breathing, artificial respiration should be administered. **Note to Physicians:** Product is corrosive to skin & eyes; pH is less than 1.0. **Special Precautions/Procedures:** None known.

Section 5-FIRE FIGHTING MEASURES

Flash Point: NA. **Flammability Classification:** Non flammable. **Extinguishing Media:** Water spray, dry chemical, carbon dioxide. **Unusual Hazards Fire or Explosion:** Containers exposed to fire may rupture violently. Keep containers cool with water spray. Product decomposes vigorously if heated above 230°. **Hazardous Combustion Products:** Oxides of nitrogen & sulfur. **Fire-Fighting Instructions:** Fire fighters should wear full protective equipment and self-contained breathing apparatus. Prevent runoff from entering water systems. Keep non-essential personnel out of fire area.

Section 6-ACCIDENTAL RELEASE MEASURES

Spill/Leak Procedures: **Small Spills:** Wear protective equipment. (See Section 8). Prevent spill from entering water systems. Absorb spill on inert material such as clay, vermiculite or kitty litter. Place absorbed material into labeled container for proper disposal. **Large Spills:** Dike to prevent spill from entering water systems. **Cleanup:** Dilute remaining pools of product 3 to 1 with water; then neutralize with sodium bicarbonate, calcium carbonate (limestone), soda ash or sodium carbonate. If spill is of major proportions, soil may need to be excavated.

Section 7- HANDLING and STORAGE

Handling Precautions: Avoid contact with skin, eyes and clothing. Do not take internally. Wash after handling. Do not contaminate water by disposal of equipment wash waters. **Storage Requirements:** Store in a cool, dry area preferably locked and out of reach of children and animals.

Section 8-EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use in open, outdoor areas only. **Respiratory Protection:** In confined areas, NIOSH/MSMA approved respirator. **Protective Clothing/Equipment:** Chemical goggles/face shield recommended. Impervious gloves, protective clothing and impervious boots suggested. Impervious clothing should be worn as needed. Eye wash and quick drench shower facilities should be available in work area. Thoroughly clean shoes and wash contaminated clothing before reuse. Product will cause deterioration of cotton, leather and nylon.

EXPOSURE GUIDELINES: {Numbers represent mg/M³ unless otherwise indicated}.

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Sulfuric acid	1	NA	1	3	1	NA	15

Section 9-PHYSICAL/CHEMICAL PROPERTIES

Physical State: Liquid. **Appearance & Odor:** Clear, colorless liquid. **Solubility in Water:** Completely soluble. **Density:** 12.65 lbs. per gal. **Specific Gravity (@ 68°F):** 1.51. **pH:** less than 1.0 (@ 68°F).

Section 10-STABILITY AND REACTIVITY

Stability: Stable under normal conditions of use and storage. DO NOT FREEZE. **Polymerization:** NO. **Chemical Incompatibilities:** Alkalies. Product reacts with metals to yield hydrogen gas, which will burn and may explode. **Conditions to Avoid:** Extreme heat. Do not freeze. **Hazardous Decomposition Products:** Oxides of nitrogen & sulfur.

Section 11-TOXICOLOGICAL INFORMATION

No lab tests on this product for: Eye Effects, Skin Effects, Acute Inhalation Effects, Acute Oral Effects, Chronic Effects, Carcinogenicity, Mutagenicity, & Teratogenicity.

Section 12-ECOLOGICAL INFORMATION

Ecotoxicity: Accidental spills of undiluted product may cause vegetation kills. **Environmental Fate:** Keep out of any body of water.

Section 13-DISPOSAL CONSIDERATIONS

Disposal: Consult local, state or federal regulatory agencies for acceptable disposal procedures and locations. Disposal in waterways or sewers may be prohibited.

Section 14-TRANSPORT INFORMATION

DOT Transportation Data (49 CFR 172.101): Shipping Name: Corros. **ID No.:** UN 3142 (Monocarbamide Dihydrogen Sulfate).

Shipping Symbols: NA. **Hazard Class:** 81760. **Packing Group:** I. **Label:** Corrosive. **Packaging Authorizations:** a) Exception: none, b) Non-bulk Packaging: 201, c) Bulk Packaging: 243. **Quantity Limitations:** a) Passenger, Aircraft, or Railcar: Special Provisions (172.102): 0.5 L, b) Cargo Aircraft Only: 2.5L. **Vessel Stowage Requirements:** a) Vessel Stowage: b) Other Stowage Provisions: 40.

Section 15-REGULATORY INFORMATION

EPA Regulations: Not regulated by EPA under FIFRA or FQPA. **OSHA Regulations:** Refer to sections 2 & 8. **State Regulations:** Sulfuric acid appears on the CA, FL, MN & NJ RTK Chemical Lists; Urea appears on the CA & MN RTK Chemical Lists. Check with specific state authorities since regulations vary within the states. **Other Regulations:** Sulfuric acid is a Section 313 chemical, Section 302 chemical (TPQ=1,000 lbs) and Section 304 chemical (CERCLA RQ=1,000 lbs). SARA Title III; Sections 311/312: **Sudden Release of Pressure (N), Reactivity (N), Fire (N), Immediate (Acute) Health (Y), Delayed (Chronic) Health (N).**

Section 16-OTHER INFORMATION

DISCLAIMER: The information on this MSDS was obtained from current and reliable sources intended for persons having related technical skills. However, the data is provided without warranty, expressed or implied, regarding its correctness or accuracy. It is the users responsibility to determine safe conditions for use of the product and to assume liability for loss, injury, damage, or expense resulting from improper use. ND= Not Determined; NA= Not Applicable; NIA= No Information Available