

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Turf Complex III (24-0-0) Date of Preparation: 7/28/99 **Model:** 57986 and 57096
NFPA HAZARD RATINGS: Health(1) Fire(0) Reactivity(0) (0)least (1)slight (2)moderate (3)high (4)extreme

Section 1-CHEMICAL PRODUCT and COMPANY IDENTIFICATION

General Product Composition: Urea Ammonium Nitrate, Manganese Sulfate, Ferrous Sulfate, and Citric Acid. 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.
Citric Acid	$C_3H_5O(COOH)_3H_2O$	77-92-9
Ferrous Sulfate	$FeSO_4$	7720-78-7
Manganese Sulfate	$MnSO_4$	7785-87-7
Urea Ammonium Nitrate	$CO(NH_2)_2+NH_4NO_3$	15978-77-5

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. **Target Organs:** Eyes, skin, gastrointestinal tract. **Acute Effects:** *Inhalation:* None known. *Eye:* May cause irritation, redness and/or burning. *Skin:* May cause irritation, redness and/or burning. *Ingestion:* May be harmful if swallowed. May cause abdominal cramps, nausea, vomiting and/or diarrhea.
Carcinogenicity: IARC: NO; NTP: NO; OSHA: NO. **Medical Conditions Aggravated by Long-Term Exposure:** Persons with existing skin lesions should exercise caution when using or handling this product. These individuals should also avoid all contact with possible spray mist.
Chronic Effects: Prolonged or repeated skin contact may cause dermatitis. Ingestion may irritate gastrointestinal tract.

Section 4-FIRST AID MEASURES

Inhalation: Remove to fresh air. **Eye Contact:** Flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists or develops. **Skin Contact:** Remove any contaminated clothing. Wash affected area with mild soap and water. Get medical attention if irritation persists or develops. Launder contaminated clothing before reuse. **Ingestion:** Give 2 or 3 glasses of water to drink. Induce vomiting by touching back of throat with finger. Get immediate medical attention. *After first aid, get appropriate in-plant, paramedic, or community medical support.*
Note to Physicians: No specific antidote. Treat symptomatically. **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, foam.
Unusual Fire or Explosion Hazards: Containers exposed to fire may rupture violently. Keep containers cool with water spray.
Hazardous Combustion Products: Oxides of carbon, nitrogen and 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. 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:** 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:** Safety glasses/goggles/face shield recommended. Impervious gloves, protective clothing and impervious boots suggested.

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

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Ferrous Sulfate	NA	NA	1	NA	1	NA	NA
Ammonium Nitrate	5*	NA	NA	NA	NA	NA	NA

*as respirable dust, if generated; also CA OSHA limit.

Section 9-PHYSICAL/CHEMICAL PROPERTIES

Physical State: Liquid. **Solubility in Water:** Soluble. **Density:** 10.48 lbs. per gal. **Specific Gravity (@ 68°F):** 1.26. **pH:** °ND.

Section 10-STABILITY AND REACTIVITY

Stability: Stable under normal conditions of use and storage. **DO NOT FREEZE.** **Polymerization:** NO. **Chemical Incompatibilities:** None known. **Conditions to Avoid:** Extreme heat. Do not freeze. **Hazardous Decomposition Products:** Oxides of carbon, nitrogen, and sulfur.

Section 11-TOXICOLOGICAL INFORMATION

No lab tests for this product for the following: Eye Effects, Skin Effects, Acute Inhalation 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:** ammonium nitrate **Shipping Symbols:** (none) **Hazard Class:** 5.1 **ID No.:** UN1942 **Packing Group:** III **Label:** Oxidizer. **Packaging Authorizations:** a) **Exceptions:** 152, b) **Non-bulk Packaging:** 213, c) **Bulk Packaging:** 240. **Quantity Limitations:** a) **Passenger, Aircraft, or Railcar, Special Provisions (172.102):** 25kg, b) **Cargo Aircraft Only:** 100kg. **Vessel Stowage Requirements:** a) **Vessel Stowage:** A; b) **other stowage provisions:** 48, 59, 60, 116.

Section 15-REGULATORY INFORMATION

EPA Regulations: Not regulated by EPA under FIFRA or FQPA. **OSHA Regulations:** Refer to Sections 2 & 8. **State Regulations:** The following appear on state RTK Chemical Lists: Ammonium nitrate: FL & NJ; urea: CA & MN; manganese sulfate & citric acid: CA; ferrous sulfate: CA & NJ. Check with specific state authorities since regulations vary within the states. **Other Regulations:** Section 304: ferrous sulfate: 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