

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: TUFF GREENS (0-0-13)

MSDS No.: 99-57502

Date of Preparation: 05/07/97

Date of Revision: 12/3/02

NFPA HAZARD RATINGS: Health (4) Fire (0) Reactivity (2)

(0) least (1) slight (2) moderate (3) high (4) extreme

Section 1-CHEMICAL PRODUCT and COMPANY IDENTIFICATION

General Product Composition: Unique blend of potassium, calcium, silica, iron and organic acids. **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.	% Wt.
Potassium Hydroxide	KOH	1310-58-3	24.8

TRACE IMPURITIES: Organic acids derived from composting. **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:* Harmful if inhaled. Irritation or burns to respiratory system. *Eye:* Avoid contact with eyes. Causes severe burning. Causes permanent eye damage. *Skin:* Avoid contact with skin. Causes severe burning. *Ingestion:* May be fatal if swallowed. Causes severe burns to mouth, throat and stomach. **Carcinogenicity:** **IARC:** NO, **NTP:** NO, **OSHA:** NO. **Medical Conditions Aggravated by Long-Term Exposure:** Corrosive to eyes, skin and internal organs. **Chronic Effects:** Prolonged or repeated skin contact will cause severe burns. Ingestion will severely damage gastrointestinal tract.

Section 4-FIRST AID MEASURES

Inhalation: Remove to fresh air. **Get immediate medical attention.** **Eye Contact:** Flush eyes with plenty of water for at least 15 minutes. **Get immediate medical attention.** **Skin Contact:** Remove any contaminated clothing. Wash affected area with mild soap and water. **Get immediate medical attention.** Launder contaminated clothing before reuse. **Ingestion:** Call a physician or Poison Control Center. If swallowed, DO NOT induce vomiting. If conscious, give large amounts of water to drink. Follow with diluted vinegar, fruit juice or white of eggs beaten with water. **Get immediate medical attention.** *After first aid, get appropriate in-plant, paramedic, or community medical support.* **Note to Physicians:** Product is corrosive to eyes, skin and internal organs. **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, or foam. **Unusual Fire or Explosion Hazards:** Containers exposed to fire may rupture violently. Keep containers cool with water spray. Product reacts violently with water to generate high degrees of heat. Prevent splashing. **Hazardous Combustion Products:** Oxides of carbon and nitrogen. **Fire-Fighting Instructions:** Fire fighters should wear full protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. 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/clothing. Do not swallow. 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.

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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, impervious gloves/boots and protective clothing **strongly recommended.**

Section 8 (Cont.)

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

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH
	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
Potassium Hydroxide	NA	NA	Ceiling=2		2	NA	NA

Section 9-PHYSICAL/CHEMICAL PROPERTIES

Physical State: Liquid.

Appearance & Odor: Chocolate-brown liquid.

Solubility in Water: Soluble.

Density: 9.5 lbs. per gal.

Specific Gravity (@ 68°F): 1.139

pH (@68°F): 13.8.

Section 10-STABILITY AND REACTIVITY

Stability: Stable under normal conditions of use and storage. DO NOT FREEZE. **Polymerization:** NO. **Chemical**

Incompatibilities: Strong acids. Reacts with most metals to liberate hydrogen gas that may form an explosive mixture with air.

Conditions to Avoid: Extreme heat. Freezing temperatures. **Hazardous Decomposition Products:** Oxides of carbon and nitrogen.

Section 11-TOXICOLOGICAL INFORMATION

No lab tests on this product for the following: 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 will 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: Corrosive liquids, n.o.s. (Potassium hydroxide, calcium nitrate).

Shipping Symbols: NA **Hazard Class:** 8 **ID No.:** UN1760 **Packing Group:** II **Label:** Corrosive **Packaging Authorizations:**

a) Exceptions: 154, **b) Non-bulk Packaging:** 202, **c) Bulk Packaging:** 242. **Quantity Limitations:** Passenger, Aircraft, or

Railcar; Special Provisions (172.102): 1L, **b) Cargo Aircraft Only:** 30L. **Vessel Stowage Requirements:** a) Vessel

Stowage: B

Section 15-REGULATORY INFORMATION

EPA Regulations: Not regulated by EPA under FIFRA or FQPA. **OSHA Regulations:** Refer to Sections 2 & 8. **State**

Regulations: Potassium hydroxide appears on the CA, FL, NJ & MN RTK Chemical Lists; calcium nitrate appears on the NJ RTK

Chemical List. Check with specific state authorities since regulations vary within the states. **Other Regulations:** Potassium

hydroxide is listed as a Section 304 chemical (CERCLA RQ=1,000 lbs.). **SARA Title III; Sections 311/312: Sudden Release of**

Pressure (N), Reactivity (Y), Fire (N),

Immediate (Acute) Health (Y), Delayed (Chronic) Health (Y).

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