

| NFPA HAZARD RATING | | | | U.S. TRANSPORT SUMMARY | |
|--------------------|----------|---|--------------|------------------------|--|
| 0 | Least | | | | |
| 1 | Slight | 2 | Health | | |
| 2 | Moderate | 0 | Flammability | | |
| 3 | High | 0 | Reactivity | | |
| 4 | Severe | | | | |

Not regulated by the U.S. DOT as a hazardous material. See Section 14 for additional information.

| SECTION 1: IDENTIFICATION | |
|---|---|
| Product Name: RUFFIN-TUFF™ Granular Iron 10% CFIA Registration #: 950101B Product ID/Unity #: 10125886, 1425562 Common Name: Granular iron fertilizer Chemical Description: Iron lignosulfonate Recommended Uses: Fertilizer product – See product label for full directions for use. Restrictions for Use: See product label for any potential restrictions on use. | Manufactured For: WINFIELD SOLUTIONS, LLC P. O. Box 64589 St. Paul, MN 55164-0589 |
| MEDICAL EMERGENCY TELEPHONE NUMBER: 1-877-424-7452 (24hrs) Non-Emergency Business Inquiries: 1-855-494-6343 Mon – Fri 8am – 5pm (Central Standard Time) | |
| FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL: CHEMTREC 1-800-424-9300 (24 hours) | |

| SECTION 2: HAZARDS IDENTIFICATION | |
|---|---|
| EMERGENCY OVERVIEW: Dark brown granules with no noticeable odor. Based on currently available data, this product does not meet the regulatory definition of a hazardous substance. However, good industrial hygiene practices should be used in handling the product. | |
| POTENTIAL HEALTH EFFECTS: Eyes: Dust may cause mild mechanical eye irritation. Skin: May cause mild skin irritation in the form of redness and itching. Inhalation: Inhalation of dust may cause mild irritation of the upper respiratory tract. Ingestion: May cause upset of the gastric system. Preexisting Conditions: None known Chronic Health Effects: None known | |
| Carcinogenicity | NTP: Not listed IARC: Not listed OSHA: Not listed |
| OSHA HCS 2012 CLASSIFICATION: This product does not meet the definition of a hazardous substance under OSHA's Hazard Communication Standard. | |
| SIGNAL WORD: CAUTION | |
| HAZARD STATEMENTS: None required | |
| Percent of product with unknown toxicity: 0% | |
| PRECAUTIONARY STATEMENTS: Prevention: See Section 8 for personal protection equipment. Response: See Section 4 for first aid information. Storage: See Section 7 for storage information. Disposal: See Section 13 for disposal information. | |

RUFFIN-TUFF™ Granular Iron 10%

| SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS | | |
|--|-------------|--------------------------|
| Ingredient | % (wt) | CAS Reg. # |
| Iron lignosulfonate/iron humate | 0.0 – 37.5% | 62997-05-1/Not available |
| Ammonium sulfate | 9.0 – 11.0% | 7783-20-2 |
| *Ingredients not specifically listed are non-hazardous and are considered to be confidential business information under 29 CFR 1910.1200(i). | | |
| See Section 8 for exposure limits. | | |

| SECTION 4: FIRST AID MEASURES | |
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| Inhalation: | Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs. |
| Ingestion: | Seek medical attention or call a poison control center immediately for treatment advice. Do not induce vomiting unless instructed to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. |
| Eyes: | Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention if irritation persists. |
| Skin: | Remove contaminated clothing and wash before re-using. Flush skin with water and then wash with soap and water. Seek medical attention if irritation persists. |

| SECTION 5: FIRE FIGHTING MEASURES | |
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| Suitable Extinguishing Media: | Water fog, foam, dry chemical, carbon dioxide (CO ₂), water spray |
| Special Fire Fighting Procedures: | Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Avoid breathing vapors; keep upwind. |
| Hazardous Combustion Products: | Oxides of sulfur, ammonia and other toxic gases may be formed in a fire situation. Carbon monoxide and other asphyxiates may form as well. |
| Unusual Fire and Explosion Hazards: | None known |

| SECTION 6: ACCIDENTAL RELEASE MEASURES | |
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| Personal Precautions: | Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product. |
| Environmental Precautions: | Keep spilled product and any rinse water from entering sewers or waterways. |
| Methods for Containment: | Contain spilled product by sweeping up if a small spill or by diking area with sand or earth if a large spill. |
| Methods for Clean-up: | Vacuum, scoop or sweep up material and place in a container for disposal. If product is uncontaminated, spilled material may be applied at the rate recommended on the label. Never return spills to original containers for re-use. After removal of spilled product, flush contaminated area thoroughly with water. |
| Other Information: | None known |

| SECTION 7: HANDLING AND STORAGE | |
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| Handling: | Avoid breathing dust. Use only outdoors or in a well-ventilated area. Immediately clean up spills that occur during handling. Keep containers closed when not in use. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. |
| Storage: | Store in a cool, dry area away from children, feed and food products. Store away from incompatible materials. Protect packaging from physical damage. Protect from exposure to fire conditions. |
| Minimum Storage Temperature: | Not applicable |
| Other Precautions: | Consult Federal, state and local laws and regulations pertaining to storage. |

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| SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION | | | |
|---|---|---------------|-----------|
| Exposure Guidelines | | | |
| Component: | OSHA PEL | ACGIH TLV | NIOSH REL |
| Particulates not otherwise classified | 15 mg/m3 (total dust) 5 mg/m3 (respirable) | | |
| Ferrous sulfate (as Fe) | | 1 mg/m3 (TWA) | |
| Respiratory Protection: If dust concentration exceeds permissible levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for general particulates. | | | |
| Engineering Controls: Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred. | | | |
| Protective Gloves: Wear chemically protective gloves to prevent exposure to skin. Eye Protection: Wear chemical goggles or safety glasses and full face shield. Contact lenses are not eye protective devices. An emergency eyewash or water supply should be readily available to the work area. Other Protective Clothing or Equipment: Wear long-sleeve shirt, long pants and shoes plus socks to prevent skin contact. | | | |
| Work/Hygienic Practices: Never eat, drink, nor use tobacco in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. | | | |

| SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES | | | |
|---|---|--|------------------------|
| Physical State: | Solid | Specific Gravity (H ₂ O=1): | Not determined |
| Vapor Pressure (mm Hg): | Not determined | Bulk Density: | 58 lbs/ft ³ |
| Vapor Density (Air=1): | Not applicable | Melting Point/Freezing Point: | Not determined |
| Solubility in Water (wt %): | Not determined | Boiling Point/Range: | Not determined |
| Viscosity: | Not applicable | pH: | Not determined |
| Appearance and odor: | Dark brown granules with no noticeable odor | Flash Point: | Non-combustible |

| SECTION 10: STABILITY AND REACTIVITY | |
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| Reactivity: None known Chemical Stability: Product is stable at ambient temperature and pressure, under normal storage and handling conditions. Possibility of Hazardous Reactions: Will not occur. Conditions to Avoid: Avoid excessive heat and/or damp areas. Incompatible Materials: Strong acids and bases Hazardous Decomposition Products: Oxides of sulfur and other toxic gases may be formed in a fire situation. Carbon monoxide and other asphyxiates may form as well. | |

| SECTION 11: TOXICOLOGICAL INFORMATION | |
|---------------------------------------|---|
| ACUTE TOXICITY | |
| Eye Effects: | Dust may cause mild mechanical irritation. |
| Skin Effects: | Estimated LD ₅₀ = 2,009 mg/kg; Contact may cause redness and itching. |
| Acute Inhalation Effects: | Estimated LC ₅₀ is not available, however based upon component data it is unlikely that this product is toxic by inhalation. |
| Acute Oral Effects: | Estimated LD ₅₀ = 4,785 mg/kg |
| Specific Target Organ Toxicity: | None known |
| CHRONIC TOXICITY | |
| Chronic Effects: | None known |
| Carcinogenicity: | No component is anticipated to have carcinogenic effects. |
| Mutagenicity: | No component is anticipated to have mutagenic effects. |
| Teratogenicity: | No component is anticipated to have teratogenic effects. |
| Reproductive Toxicity: | No component is anticipated to have effects on the reproductive system. |

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POTENTIAL HEALTH EFFECTS:

Eyes: Dust may cause mild mechanical eye irritation.

Skin: May cause mild skin irritation in the form of redness and itching.

Inhalation: Inhalation of dust may cause mild irritation of the upper respiratory tract.

Ingestion: May cause upset of the gastric system.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: Not determined

ECOTOXICITY DATA:

Fish Acute and Prolonged Toxicity: Not determined

Aquatic Invertebrate Acute Toxicity: Not determined

Aquatic Plant Toxicity: Not determined

Bird Acute and Prolonged Toxicity: Not determined

Honeybee Toxicity: Not determined

ENVIRONMENTAL EFFECTS:

Soil Absorption/Mobility: Not determined

Persistence and degradability: Not determined

Bioaccumulative Potential: Not determined

Other adverse effects: Not determined

SECTION 13: DISPOSAL CONSIDERATIONS

Waste: Dispose of in accordance with applicable Federal, state and local laws and regulations.

Container: Ensure all product has been emptied from the sack/bag. Dispose of emptied container in accordance with applicable Federal, state and local laws and regulations.

RCRA Characteristics: It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste.

SECTION 14: TRANSPORT INFORMATION

DOT: This product is not regulated by the U.S. Department of Transportation as a hazardous material for ground shipment.

IMDG: Not determined

IATA: Not determined

TDG: This product is not regulated by the TDG as a hazardous material for ground shipment.

SECTION 15: REGULATORY INFORMATION

TSCA Inventory: All components are listed or are exempt from listing on the TSCA inventory.

SARA Title III Information:

Section 302 - Extremely hazardous substances: None listed

Section 311/312 - Hazard Categories: None

Section 313 - The following chemicals are subject to the reporting requirements of Section 313 of Title III, Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372:
None listed

CERCLA - This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):
None listed

California Proposition 65: This product does not contain any chemicals known to the state of California to cause cancer and/or reproductive harm.

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RUFFIN-TUFF™ Granular Iron 10%

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|--|--------------|-----------------|
| U.S. State Worker and Community Right-To-Know (RTK) Information (CT, IL, MA, MN, NH, NJ, PA, RI): | | |
| Chemical Name | CAS # | State(s) |
| Ammonium sulfate | 7783-20-2 | MA, NJ, PA, RI |
| Canadian Domestic Substances List: Not determined | | |
| WHMIS Classification: D2B | | |

SECTION 16: OTHER

Disclaimer: The information presented herein is based on available data from reliable sources and is correct to the best of WinField Solutions' knowledge. WinField Solutions, LLC makes no warranty, express nor implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

Revision Date: November 03, 2015

Supersedes document dated: February 13, 2008

Sections Revised: All