

Safety Data Sheet

NFPA HAZARD RATING				U.S. TRANSPORT SUMMARY	
0	Least				
1	Slight	2	Health		Not regulated by the U.S. DOT as a hazardous material. See Section 14 for additional information.
2	Moderate	0	Flammability		
3	High	0	Reactivity		
4	Severe				

SECTION 1: IDENTIFICATION	
Product Name: RUFFIN-TUFF™ Granular Manganese 8% CFIA Registration #: 900069B Product ID/Unity #: 10125889, 1415545 Common Name: Granular manganese fertilizer Chemical Description: Manganese lignosulfonate and Manganese humate 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. Causes moderate but temporary eye irritation.			
POTENTIAL HEALTH EFFECTS:			
Eyes: Causes moderate eye irritation, including redness, tearing and itching.			
Skin: May cause mild skin irritation in the form of redness and itching.			
Inhalation: Inhalation of small amounts of dust may cause mild irritation of the upper respiratory tract. Repeated inhalation of dust may lead to signs of manganese poisoning. See Section 11 for full information.			
Ingestion: May cause upset of the gastric system.			
Preexisting Conditions: None known			
Chronic Health Effects: See Section 11 for full information.			
Carcinogenicity	NTP: Not listed	IARC: Not listed	OSHA: Not listed
OSHA HCS 2012 CLASSIFICATION: Eye Irritation Category 2B			
SIGNAL WORD: WARNING			
HAZARD STATEMENTS: Causes eye irritation.			
Percent of product with unknown toxicity: 0%			
PRECAUTIONARY STATEMENTS:			
Prevention: Wash hands thoroughly after handling.			
Response: If in eyes: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.			
Storage: See Section 7 for storage information.			
Disposal: See Section 13 for disposal information.			

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	% (wt)	CAS Reg. #
Manganese lignosulfonate	0 – 23.0%	68186-83-4
Manganese humate	0 – 21.0%	Not available
Ammonium sulfate	9.0 – 11.0%	7783-20-2
*Ingredients not specifically listed are non-hazardous and/or are considered to be confidential business information under 29 CFR 1910.1200(i).		
See Section 8 for exposure limits.		

SECTION 4: FIRST AID MEASURES

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

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 manganese, oxides of sulfur, oxides of carbon and ammonia may be formed in a fire situation.
Unusual Fire and Explosion Hazards: None known

SECTION 6: ACCIDENTAL RELEASE MEASURES

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

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/m ³ (total dust) 5 mg/m ³ (respirable)		
Manganese inorganic compounds	5 mg/m ³ (CEIL)	0.2 mg/m ³ (TWA)	1 mg/m ³ (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 (H₂O=1):	0.918
Vapor Pressure (mm Hg):	Not determined	Bulk Density:	57.28 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	
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 manganese, oxides of sulfur, oxides of carbon and ammonia may be formed in a fire situation.	

SECTION 11: TOXICOLOGICAL INFORMATION	
<u>ACUTE TOXICITY</u>	
Eye Effects:	Based upon component information, moderate but temporary eye irritation is anticipated.
Skin Effects:	Estimated LD ₅₀ >2,000 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 >6,000 mg/kg
Specific Target Organ Toxicity:	None known
<u>CHRONIC TOXICITY</u>	
Chronic Effects:	Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds. To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.
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.
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Reproductive Toxicity:	Men exposed to manganese dusts showed a decrease in fertility.

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POTENTIAL HEALTH EFFECTS:

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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.
(Ground)

IMDG: Not determined
(Sea)

IATA: Not determined
(Air)

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

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: Immediate (Acute)

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):

Manganese compounds are considered to be CERCLA hazardous substances though no RQ has been established.

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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U.S. State Worker and Community Right-To-Know (RTK) Information (CT, IL, MA, MN, NH, NJ, PA, RI):

Chemical Name	CAS #	State(s)
Manganese compounds	68186-83-4	NJ, PA
Ammonium sulfate	7783-20-2	MA, NJ, PA, RI

Canadian Domestic Substances List: All components are listed on the DSL.

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.

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