SAFETY DATA SHEET

This SDS complies with REACH 1907/2006 and 2001/58/EC, GHS REVISION 5, OSHA 29CFR 1910.1200

Section 1: Chemical Product and Company Identification

MANUFACTURER'S NAME
HydroGro
7815 South Hardy Drive
Tempe, AZ 85284 USA

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DATE PREPARED: September 15, 2015 **REVISION DATE: March 11, 2021**

PRODUCT NAME: **HydroFuze (Mn) Manganese**
FORMULA: Preparation/Mixture
PRODUCT USE: Supplement for professionally maintained golf courses, sport turf, lawn and landscaping

Section 2: Hazards Identification

GHS Hazard Class		Specific target organ toxicity - Single exposure – Category 1 Specific target organ toxicity - Repeated exposure – Category 2
Signal word:		Danger
Hazard Statement:		H370: Causes damage to organs (respiratory system-inhalation) H372: Causes damage to organs (respiratory system, nervous system) through prolonged (inhalation)
Precautionary Statements:	Prevention	P260: Do not breathe dust P264: Wash hands thoroughly after handling P270: Do not eat, drink or smoke when using this product P281: Use personal protective equipment as required
	Response	P308+P311: IF exposed or concerned: Call a POISON CENTER/doctor P314: Get medical advice if you feel unwell
	Storage	P405: Store locked up
	Disposal	P501: Dispose of contents/container in accordance with waste disposal requirements of your country, state, or local authorities
		Hazards not otherwise classified (HNOC) or not covered by GHS - None
HAZARD CLASSIFICATION:		Not classified as hazardous based on IATA, IMDG, and DOT.
FIRE AND EXPLOSION:		Not considered flammable or combustible, but this product will burn if involved in a fire. Product emits toxic fumes when burned.
POTENTIAL HEALTH EFFECTS:		<1 % of mixture consists of ingredients of unknown acute toxicity
APPEARANCE:		Tan -Blend of crystals and powders

NFPA Rating:

Component	Health (Blue)	Flammability (Red)	Reactivity (Yellow)	Special (White)
HydroFuze (Mn) Manganese	1	0	0	-----

Section 3: Composition, Information on Ingredients

PRODUCT COMPOSITION	APPROX %	CAS NO.	EC NUMBER	CANADA DSL
Manganese Carbonate	100	598-62-9	209-942-9	Y

Some items on this SDS may be designated as trade secrets (TS). Bonafide requests for disclosure of trade secret information to medical personnel must be made in accordance with the provisions contained in 29 CFR 1910.1200 I 1-13.

Section 4: First Aid Measures

Description of First Aid Measures

Inhalation	Remove to fresh air. If not breathing, provide CPR (cardio pulmonary resuscitation). Get immediate medical attention.
Skin Contact	Wash skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing. Not expected to require first aid measures.
Eye Contact	Flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention if irritation develops or persists.
Ingestion	Do NOT induce vomiting. Never give anything to an unconscious person. Get immediate medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms/Injuries after Inhalation	May causes respiratory tract irritation. Acute poisoning can occur from excessive inhalation.
Symptoms/Injuries after Skin Contact	May causes skin irritation. Symptoms may include redness, drying, defatting, and cracking of the skin.
Symptoms/Injuries after Eye Contact	May causes eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/Injuries after Ingestion	May be harmful if swallowed. Effects may include sluggishness, sleepiness, and weakness in the legs.

Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately.

Section 5: Fire-fighting Measures

Suitable extinguishing media	Use foam, dry chemical, carbon dioxide, or any media suitable to extinguish the surrounding fire
Special hazards arising from the substance or mixture	None
Protective actions fire-fighters	Wear standard protective equipment and self contained breathing apparatus for firefighting if necessary.
Further information	None

Section 6: Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures
Wear proper personal protective equipment. Avoid breathing dust.

Environmental precautions
Prevent further spillage if safe to do so. Prevent spills or contaminated rinse water from entering sewers or watercourses.

Methods and materials for containment and cleaning up
In case of small spills, use appropriate tools to put the spilled material in a plastic container. Dispose of according to the requirements of your country, state, or local authorities.
In case of large spills, use a shovel to put the material into a plastic container. Dispose of according to the requirements of your country, state, or local authorities.

Reference to other Sections For personal protection reference section 8. For disposal reference section 13.

Section 7: Handling and Storage

Precautions for safe handling

Use only with adequate ventilation.
Do not inhale dust.
Keep out of reach of children.
Wear proper protective equipment when handling this material.
Avoid contact with skin, eyes, or clothing.
Wash hands and face after handling this material.
A plastic container should be used for disposal.
For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Store upright in a cool, dry place.
Keep container closed when not in use.
Do not store with acids and strong oxidizers.
Utilize chemical segregation.
Follow all applicable local regulations for handling and storage.

Specific uses

This product is intended to be used as a supplement for professionally maintained golf courses, sport turf, landscaping and specialty crops.

Section 8: Exposure Controls/Personal Protection

Control Parameters

PRODUCT COMPOSITION	ACGIH TLV	OSHA PEL	NIOSH REL
Manganese Carbonate (All Mn compounds)	5 mg/m³	5 mg/m³	--

NIOSH-- No Occupational exposure values

Exposure controls

VENTILATION:	Always provide good general, mechanical room ventilation where this chemical/material is used.
SPECIAL VENTILATION CONTROLS:	None
RESPIRATORY PROTECTION:	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or the CEN European Standards (EU). Use a NIOSH/MSHA or European Standard (EN) approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
PROTECTIVE GLOVES:	Neoprene, butyl, or nitrile rubber gloves are recommended.
EYE PROTECTION:	Recommend eye protection using safety glasses or goggles.
SKIN PROTECTION:	Suitable protective clothing to prevent skin contact
WORK/HYGIENE PRACTICES:	Avoid breathing dust. Avoid contact with eyes. Wash hands after handling.
OTHER EQUIPMENT:	Make safety shower, eyewash stations, and hand washing equipment available in the work area.

Section 9: Physical and Chemical Properties

	PRODUCT CRITERIA
APPEARANCE - COLOR:	Blend of crystals and powders – Tan
PHYSICAL STATE:	Powder
ODOR:	None
ODOR THRESHOLD	No data available
PH	4.4 – when mixed with water
MELTING POINT/FREEZING POINT:	No data available
INITIAL BOILING POINT AND BOILING RANGE:	No data available
FLASH POINT:	No data available
EVAPORATION RATE:	No data available
FLAMMABILITY (Solid, gas)	Not flammable
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	Not Measured
VAPOR PRESSURE	No data available

VAPOR DENSITY (AIR = 1)	No data available
RELATIVE DENSITY (@25 °C):	1.0-1.2 g/ml (tapped 1.14 g/ml)
SOLUBILITY(IES)	Soluble in water
OXIDIZING PROPERTIES	Not an oxidizer
PARTITION COEFFICIENT: n-octanol/water	No data available
AUTO IGNITION TEMPERATURE	No data available
DECOMPOSITION TEMPERATURE	No data available
VISCOSITY	No data available

Section 10: Stability and Reactivity

Reactivity:	Reacts with strong acids and strong oxidizers.
Chemical Stability:	Stable under recommended conditions. May discolor slowly in air.
Possibility of Hazardous Reactions:	Will not occur under normal temperatures and pressures.
Conditions to Avoid:	Excess dust generation and incompatible materials.
Incompatibility (Materials to avoid):	Contact with acids may generate carbon dioxide gas. Oxidizes toxic sulfur dioxide to the more toxic sulfur trioxide and causes violent decomposition of hydrogen peroxide.
Hazardous Decomposition Products:	At higher temperatures (7300C) forms manganese oxides, carbon dioxide and carbon monoxide

Section 11: Toxicological Information

GHS Required Criteria	Toxicity Criteria	Toxicity Information	Comments	Chemical Constituent
Acute Toxicity	LD50(Oral/Rat):	> 2000 mg/kg		Manganese Carbonate
Skin Corrosion/Irritation	Data not available			
Serious Eye Damage / Eye Irritation	Data not available			
Respiratory or Skin Sensitization	Data not available			
Germ Cell Mutagenicity	Data not available			
Carcinogenicity	NTP	Not listed		
	IARC	Not listed		
	OSHA	Not listed		
Reproductive Toxicity	Data not available			
STOT -- Single Exposure	Acute inhalation exposure to high concentrations of manganese dusts (specifically MnO2 and Mn3O4) can cause an inflammatory response in the lung, which, over time, can result in impaired lung function. Lung toxicity is manifested as an increased susceptibility to infections such as bronchitis and can result in manganic pneumonia" (CICAD 12 (1999)).			Manganese Carbonate
STOT – Repeated Exposure	The most commonly occurring manganese-bearing minerals include manganese dioxide, manganese carbonate, and manganese silicate and manganese trioxide. In general, the available data indicate that exposure to excess manganese for 14 days or less (acute duration) or up to a year (intermediate duration) has an effect on the respiratory system and the nervous system, with little to no effect on other organ systems (CICAD 63 (2004), CICAD 12 (1999)).			Manganese Carbonate
Aspiration Hazard	Data not available			

STOT = Specific Target Organ Toxicity

Section 12: Ecological Information

		Chemical Constituent
Toxicity:	No information is available.	
Persistence and degradability:	No information is available.	
Bioaccumulative potential	No information is available.	
Mobility in soil:	No information is available.	
PBT and vPvB assessment:	PBT/vPvB assessment not available as chemical assessment not required/not conducted	
Other adverse effects:	No information is available.	

Section 13: Disposal Considerations

Waste from residues/unused products: Follow the waste disposal requirements of your country, state, or local authorities.

Contaminated packaging: Contaminated packaging material should be disposed of as stated above for residues and unused product.

Rinsate: Do not dispose of rinse water containing product in a sanitary sewer system or stormwater drainage system.

Section 14: Transport Information

DOT TRANSPORT:		Not Regulated
ADR = International Carriage of Dangerous Goods by Road		Not Regulated
RAIL TRANSPORT:		Not Regulated
SEA TRANSPORT:	IMDG	Not Regulated
AIR TRANSPORT:	IATA/ICAO	Not Regulated

Section 15: Regulatory Information

TOXIC SUBSTANCE CONTROL ACT (TSCA) STATUS:
This product is in compliance with rules, regulations, and orders of TSCA. All components are either listed on the TSCA inventory or are considered exempt.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTION 313 SUPPLIER NOTIFICATION:

This regulation requires submission of annual reports of toxic chemical(s) that appear in section 313 of the Emergency Planning and Community Right To Know Act of 1986 and 40 CFR 372. This information must be included in all SDS's that are copied and distributed for the material.
The Section 313 toxic chemicals contained in this product are: None

CALIFORNIA PROPOSITION 65:

This regulation requires a warning for California Proposition 65 chemical(s) under the statute.
The California proposition 65 chemical(s) contained in this product are: None

STATE RIGHT-TO-KNOW TOXIC SUBSTANCE OR HAZARDOUS SUBSTANCE LIST:

Massachusetts's hazardous substance(s):	Not listed
New Jersey	Not listed
Pennsylvania	Not listed

CANADA:
WHMIS-2015: This SDS is in compliance with WHMIS 2015 (HPR / new HPA).

EUROPEAN UNION:
This product has been reviewed for compliance with the following European Community Directives: REACH 1907/2006; Regulation (EC) No 1272/2008 on classification, labeling, and packaging (CLP) of substances and mixtures.

Section 16: Other Information

Initial issue date:	September 15, 2015
Final revision date:	March 11, 2021
Revision Number:	1
Revision explanation	Address change
Information Sources:	RTECS, ECHA, REACH, OSHA 29CFR 1910.1200

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