SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

1.1 Product Identifier

Trade Name Renaissance

SDS Date 15 April 2024

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Product Use: Turf Fertilizer

Uses Advised Against: To be used only where there is a recognized need. Do not exceed the appropriate dose rates.

1.3 Details of the Supplier of the Substance or Mixture

Manufacturer:
Floratine Products Group, Inc.
355 East South Street
Collierville, TN 38017 USA
+1 901-853-2898

Importer:
Turfcare Australia
Shane Summerhayes
115 PITTOWN RD. MCGRATHS HILL
SYDNEY NSW Australia 6400
+61 (425) 280300
shane@turfcareaus.com.au

1.4 Emergency Telephone Number

Emergency Spill Information 1(800) 535-5053 for US and Canada (INFOTRAC)
+1(352) 323-3500 for International Calls (call INFOTRAC collect)

Other Product Information: cs@floratine.com

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

CLP/GHS Classification (1272/2008):
Eye Damage Category 1 (H318)
Aquatic Chronic Toxicity Category 3 (H412)

2.2 Label Elements

Danger!

Contains Manganese Compound

Hazard Phrases
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting results.

Precautionary Phrases:
P273 Avoid release to the environment.
P280 Wear eye protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.
P501 Dispose of contents and container in accordance with local and national regulations.

2.3 Other Hazards: None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical Name	**CAS Number / EINECS Number / REACH Reg. Number**	**% (w/w)**	**CLP/GHS Classification (1272/2008)**
Iron Compound	7720-78-7 / 231-753-5	1-<10%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)
Zinc Compound	Proprietary	<7%	Aquatic Acute 1 (H400)
Manganese Compound	7785-87-7 / 232-089-9	<3.5%	Eye Dam. 1 (H318) STOT RE 2 (H373) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411)
Magnesium Salt	7487-88-9 / 231-298-2	<6%	Not hazardous
Sodium Molybdate	7631-95-0/ 231-551-7	<1%	Not hazardous

See Section 16 for full text of GHS Classifications.

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures
First Aid

Eye contact: In case of contact with eyes, flush immediately with water for 20 minutes while lifting the upper and lower lids. Get immediate medical attention.

Skin contact: Wash with soap and water. Get medical attention if irritation develops or persists.

Inhalation: Remove victim to fresh air. Get medical attention if irritation develops or persists.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. If the person is alert, have them rinse their mouth with water and sip one glass of water. Call a poison center or physician for advice. Never give anything by mouth to an unconscious or drowsy person.

See Section 11 for more detailed information on health effects.

4.2 Most Important symptoms and effects, both acute and delayed: Causes severe eye irritation or damage. May cause skin irritation. Swallowing may cause nausea and diarrhea. Prolonged overexposure to manganese

compounds may cause headache, apathy, muscle weakness and neurological effects such as euphoria, impulsiveness and insomnia.

4.3 Indication of any immediate medical attention and special treatment needed: If eye contact occurs, get immediate medical attention.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media: Use media appropriate for the surrounding fire. Cool fire exposed containers with water.

5.2 Special Hazards Arising from the Substance or Mixture
Unusual Fire and Explosion Hazards: None
Combustion Products: Oxides of carbon, sulfur, manganese, magnesium, zinc, iron, and molybdate.

5.3 Advice for Fire-Fighters: Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.

SECTION 6: ACCIDENTAL RELEASE MEASURES

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6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective equipment. Avoid direct contact with spilled material.

6.2 Environmental Precautions:

Prevent entry in storm sewers and waterways. Report spill as required by local and national regulations.

6.3 Methods and Material for Containment and Cleaning Up:

Collect with an inert absorbent material and place in an appropriate container for disposal. Wash spill site with water. Contain large spills and collect as much liquid as possible into containers for use.

6.4 Reference to Other Sections:
Refer to Section 8 for personal protective equipment and Section 13 for disposal information.

SECTION 7: HANDLING and STORAGE

7.1 Precautions for Safe Handling:
Prevent contact with eyes. Avoid contact with skin and clothing. Use with adequate ventilation. Use reasonable care in handling. Do not eat, drink or smoke while using product. Wash thoroughly with soap and water after handling.

7.2 Conditions for Safe Storage, Including any Incompatibilities:
Protect containers from physical damage. Keep from freezing. Keep containers closed. Empty containers retain product residues. Follow all SDS precautions in handling empty containers. Store away from food and feed.

7.3 Specific end use(s):
Industrial uses: None identified
Professional uses: Turf Fertilizer

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:

Chemical Name	US OEL	EU IOEL	UK OEL	Biological Limit Value
Iron compound	None Established	None Established	None Established	None Established

Zinc Compounds	None Established	None Established	None Established	None Established
Manganese Compound	0.2 mg/m3 TWA (as Mn) ACGIH TLV 5 mg/m3 Ceiling (as Mn) OSHA PEL	None Established	0.5 mg/m3 TWA (as Mn)	None Established
Magnesium salt	None Established	None Established	None Established	None Established
Sodium Molybdate (as molybdenum soluble compounds)	0.5 mg/m3 TWA (respirable) ACGIH TLV 5mg/m3 OSHA PEL	None Established	5mg/m3 TWA 10mg/m3 STEL	None Established

8.2 Exposure Controls:

Recommended Monitoring Procedures: None established.

Appropriate Engineering Controls: Good outdoor ventilation should be adequate under normal conditions of use.

Personal Protective Measures

Eye/face Protection: Chemical goggles recommended to avoid eye contact.

Skin Protection: Impervious clothing is recommended if needed to avoid skin contact.

Hands: Impervious gloves are recommended if needed to avoid skin contact.

Respiratory Protection: None needed under normal use conditions with adequate ventilation. If mists are excessive, an approved particulate respirator can be used. Use respirators in accordance with local and national regulations.

Other protection: Suitable washing facilities should be available in the work area.

SECTION 9: PHYSICAL and CHEMICAL PROPERTIES

9.1 Information on basic Physical and Chemical Properties

Appearance: Dark Brown Liquid
Odor Threshold: Not available
Melting/Freezing Point: Not determined
Flash Point: Not flammable
Lower Flammability Limit: Not applicable
Upper Flammability Limit: Not applicable
Vapor Density(Air=1): Not applicable
Solubility: Complete
Autoignition Temperature: None
Viscosity: Not applicable
Oxidizing Properties: None
Molecular Formula: Mixture

Odor: Slight ammonia and ferrous odor.
pH: 4.4-6.4
Boiling Point: 104-110°C
Evaporation Rate: Not applicable
Vapor Pressure: Greater than 1

Relative Density: 1.24
Octanol/Water Partition Coefficient: Not determined
Decomposition Temperature: Not determined
Explosive Properties: None
Specific Gravity (H_2O= 1): 1.24
Molecular Weight: Mixture

9.2 Other Information: None available

SECTION 10: STABILITY and REACTIVITY

10.1 Reactivity: Not reactive under normal conditions.

10.2 Chemical Stability: Stable.

10.3 Possibility of Hazardous Reactions: None known.

10.4 Conditions to Avoid: Avoid excessive heat and freezing.

10.5 Incompatible Materials: Incompatible with oxidizing agents.

10.6 Hazardous Decomposition Products: Decomposition may produce oxides of carbon, sulfur, manganese, magnesium, zinc, iron, and molybdate.

10.7

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Potential Health Effects:

Eye Contact: Causes irritation with redness, tearing and stinging. Eye damage may occur.

Skin contact: Skin contact may cause irritation.

Inhalation: Excessive inhalation of dust may cause upper respiratory tract irritation.

Ingestion: Swallowing may cause gastrointestinal effects including abdominal cramps, nausea and diarrhea.

Acute toxicity: No acute toxicity data available for the product.
Calculated ATE for the mixture: Oral 2780 mg/kg

Iron compound: Oral rat LD50 319 mg/kg; Dermal rat LD50 >2000 mg/kg
Zinc Compound: Oral rat LD50 >2000 mg/kg, Dermal rat LD50 >2000 mg/kg
Manganese Compound: Oral rat LD50 2150 mg/kg, Inhalation rat LC50 >4.45 mg/L/4 hr,
Magnesium salt: Oral rat LD50 >2000 mg/kg
Sodium Molybdate: Oral rat LD50 4233 mg/kg

Skin corrosion/irritation: Manganese Compound and Magnesium salt are not irritating based on data from structurally similar chemicals. Iron compound is irritating to rabbit skin.

Eye damage/ irritation: Manganese Compound has been shown to cause irreversible eye irritation in rabbit eyes. Iron compound is irritating to rabbit eyes. Magnesium salt is not irritating to eyes based on data from a structurally similar chemical.

Respiratory Irritation: No data available. Expected to cause only temporary irritation.

Respiratory Sensitization: No data available.

Skin Sensitization: Magnesium salt and Iron compound were negative in a mouse local lymph node assay.

Germ Cell Mutagenicity: Manganese Compound was negative in an in vitro mammalian chromosome aberration test with a structurally similar material. Iron compound was negative in an in vitro mammalian chromosome aberration test and in an in vivo chromosome aberration assay. Magnesium salt was negative in an AMES test, in an in vitro mammalian cell gene mutation test using Chinese hamster lung cells and in an in vivo micronucleus assay.

Carcinogenicity: No data available. None of the components of this product are listed as carcinogens by IARC or the EU CLP.

Reproductive Toxicity: Magnesium salt is not toxic to reproduction based on studies with structurally similar chemicals.

Specific Target Organ Toxicity:

Single Exposure: None known.

Repeat Exposure: Overexposure to manganese compounds have been shown to cause headache, apathy, muscle weakness and neurological effects such as euphoria, impulsiveness and insomnia.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity: No toxicity data available for the product.
Manganese Compound: 48 hr LC50 daphnia magna 6.8 mg/L, 72 hr LC50 Desmodesmus subspicatus 61 mg/L
Zinc Compound: 96 hr LC50 Oncorhynchus mykiss 0.136 mg/L, 48 hr EC50 daphnia magna 0.068 mg/L
Iron compound: No toxicity data available
Magnesium salt: 96 hr LC50 Oryzias latipes > 96.4 mg/L, 48 hr EC50 daphnia magna > 88.7 mg/L, 72 hr EC50 Algae > 99.2 mg/L

12.2 Persistence and degradability: Biodegradation is not applicable to inorganic substances.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: In the soil, product follows natural cycle to provide plant nutrients.

12.5 Results of PBT and vPvB assessment: Not required.

12.6 Other Adverse Effects: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:
Dispose in accordance with local/ and national regulations. Not considered hazardous waste according to EU regulations.

SECTION 14: TRANSPORTATION INFORMATION

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
US DOT		Not Regulated			
IMDG		Not Regulated			
IATA/ICAO		Not Regulated			

14.6 Special Precautions for User: None

14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code: Not determined.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

International Chemical Inventories

US EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory or exempt.

Australia: All of the components in this product are listed on the Australian Inventory of Chemical Substances (AICS) or exempt.

New Zealand: All of the components in this product are listed on the New Zealand Inventory of Chemicals (NZIoC) or exempt.

SECTION 16: OTHER INFORMATION

Date: January 20, 2016
Revision History: Section 2: Classification, Labeling Elements, Section 3: Composition, Section 4: Eyes, Most Important symptoms and effects, Section 8 Exposure Limits, Section 11: ingestion, Acute Toxicity, Skin corrosion/irritation, Eye damage/ irritation, Skin Sensitization, Germ Cell Mutagenicity, Reproductive Toxicity, Specific Target Organ Toxicity, Section 12: Toxicity, Section 14 Transportation, Section 16: CLP/GHS Classification and H Phrases for Reference
Date of Previous SDS: January 5, 2016

CLP/GHS Classification and H Phrases for Reference (See Section 3)
Acute Tox. 4 Acute Toxicity Category 4
Aquatic Acute 1 Aquatic Acute Toxicity Category 1
Aquatic Acute 2 Aquatic Acute Toxicity Category 2
Aquatic Chronic 2 Aquatic Chronic Toxicity Category 2
STOT RE 2 Specific Target Organ Toxicity – Repeat Exposure Category 2
Eye Dam 1 Eye Damage Category 1
Eye Irrit. 2 Eye Irritation Category 2
Skin Irrit. 2 Skin Irritation Category 2
H302 Harmful if swallowed
H315 Causes skin irritation
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H373 May cause damage by inhalation through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H401 Toxic to aquatic life.
H411 Toxic to aquatic life with long lasting results.

This safety data sheet provides health and safety information. The product is to be used in applications consistent with best farming practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information data sheet is to the best of Floratine's knowledge correct as at the date of publication. Neither Floratine, importer nor local supplier accepts liability for any loss or damage resulting from reliance on this information. Further information on this product may be obtained from the supplier whose name, address and telephone number will be found on the product container. The information provided herein is offered solely for your consideration, investigation, and verification. This information herein is provided by Floratine in good faith as accurate at the time of writing but without guarantee. This information includes information which has been generated by other parties and provided to Floratine and which Floratine has not independently verified. The information provided herein relates only to the specific product designated and may not be valid if the product is used in combination with any other materials or in any process.