

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY**Product Name: **Emerald Isle Solutions Nutri-Rational TrueFoliar Mg-Mn 6-0-0**Recommended use: This product is a concentrated liquid fertilizer for landscape use.**Supplier/Manufacturer**Lebanon Seaboard Corporation
1600 East Cumberland Street
Lebanon PA 17042

Tel: 800-233-0628 (717-273-0685)

Supplier Email: customerservice@lebsea.comEmergency telephone numbers

Chemtrec (Spill) 1-800-424-9300

Prosar (Health) 888-208-1368

2. HAZARDS IDENTIFICATION**Signal Word:** Warning**Hazard Statements:**

H290: May be corrosive to metals

H302: Harmful if swallowed (Category 4)

H315: Causes skin irritation with prolonged contact (Category 2)

H319: Causes serious eye irritation (Category 2A).

May irritate the digestive tract if ingested.

**Pictograms****Precautionary Statements for handling:** Also see Section 7.

P220: Keep/Store away from clothing and combustible materials.

P234, P406: Keep only in original container, or store in corrosive resistant container with a resistant inner liner.

P390: Absorb spillage to prevent material-damage.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301, P330: IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

P332, P352: If skin irritation occurs: Wash with plenty of soap and water.

P351, P337: In case of eye contact, rinse cautiously with water for several minutes. Remove contact lenses if easy to do and continue rinsing. If eye irritation persists: seek medical attention.

P362: Take off contaminated clothing and wash before reuse.

Precautionary Statements for disposal - Dispose in accordance with all federal, state and local regulations.**Hazards not otherwise classified (HNOC):** Contains oxidizers in water solution. May intensify fire only if evaporated to dryness. If clothes are wetted with product, they may become quite flammable and reactive when dry.

Unknown acute toxicity: 0% of the mixture consists of ingredients of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight %
Seaweed extract aqueous solution	84775-78-0	30 - 35
Manganese nitrate	10377-66-9	15 - 20
Magnesium nitrate	13446-18-9	10 - 15
Urea	57-13-6	1 - 5
Fulvic Acids	479-66-3	1 - 3
Potassium sorbate	24634-61-5	0.1
Water	7732-18-5	Balance

4. FIRST AID MEASURES

Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact	Wash with soap and water. If injury occurs, or if discomfort or irritation persists contact a physician.
Inhalation	If inhaled and discomfort occurs, move to fresh air, and keep person at rest in a position comfortable for breathing. If difficulty in breathing occurs and/or persists, administer oxygen and get medical attention. If medical advice is needed, have product container or label on hand.
Ingestion	Rinse mouth. Drink Plenty of water. If discomfort occurs, seek medical attention. Do not induce vomiting of an unconscious person.

Self-protection of the first aider: When spraying, use dust/mist mask or any appropriate personal protective equipment as required.

Most important symptoms and effects, both acute and delayed:

Symptoms: Eye irritation on contact with redness, tearing and burning sensation. Skin irritation with prolonged contact. May irritate the digestive tract if ingested in quantity, causing nausea, vomiting and diarrhea. Mist inhalation can result in irritation with nasal discomfort; skin irritation possible, but not likely with normal diluted use.

Large oral doses of nitrates may cause dizziness, abdominal pain, vomiting, bloody diarrhea, weakness, convulsions, and collapse. May interfere with blood's capability to carry oxygen (methemoglobinemia), as evidenced by bluish color to skin and lips. Mist inhalation can result in irritation with nasal discomfort; skin irritation possible, but not likely with normal diluted use.

Chronic overexposure to manganese compounds may result in CNS effects such as weakness, sleepiness, emotional instability and spastic gait. These effects can be permanent. Chronic overexposure to manganese can cause "manganism," characterized by fatigue, irritability, headaches and asthenia. Symptoms are reversible when exposure stops. When later changes occur, some permanent brain damage can result resembling Parkinson's disease. High or repeated exposures may damage the kidneys or liver.

Indication of any immediate medical attention and special treatment needed: Treat Symptoms. Consider manganese toxicity and/or nitrate toxicity if ingested in quantity.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Liquid product is not a fire hazard, and will not burn. Use extinguishing media suitable to local circumstances and the surrounding environment. Options in this case include water, CO₂, ABC Dry Chemical extinguisher, or foam.

Specific hazards arising from the chemical

This product is an aqueous mixture, which will not burn. If evaporated to dryness, the solid residue may pose a fire hazard. Dry ingredients in this product are an oxidizing agents, which may cause spontaneous ignition of combustible materials in dry form. Do not allow nitrates to evaporate to dryness (fire hazard). Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire, do not breathe fumes. If clothes are wetted with product, they may become quite flammable and reactive when dry.

Explosion data

Sensitivity to mechanical impact:	None
Sensitivity to static discharge:	None

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and standard protective gear. If clothes are wetted with product, they may become quite flammable and reactive when dry.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

Personal Precautions	Wear protective gloves, protective clothing, eye protection, and face protection. Use reasonable personal protective equipment as required to prevent contact with eyes or skin, and to avoid breathing mist. Take off all contaminated clothing and wash before re-use.
Environmental precautions	Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.
Methods for containment	Prevent further leakage or spillage, if safe to do so.
Methods for clean-up	Use reasonable personal protective equipment as required. Absorb spillage to prevent material damage. Soak up excess with inert absorbent material, or take up mechanically, placing in appropriate containers for disposal. Avoid creating mist. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Safe Handling	Use personal protective equipment during use as required to prevent contact with eyes or skin, and to avoid breathing mist. Wash hands thoroughly after handling.
Storage Conditions	Store in original container or in a corrosive-resistant container with a resistant inner liner. Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat. Store away from clothing and combustible materials. Keep out of the reach of children.
Incompatible materials	Avoid strong acids or alkali, or other reactive substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH*
Magnesium nitrate (13446-18-9)	None established	None established	None established
Manganese nitrate (10377-66-9)	0.2 mg/m ³ TWA (Mn)	1 mg/m ³ TWA (Mn fume) 5 mg/m ³ Ceiling (Mn)	500 mg/m ³ (Mn)

*IDLH refers to amounts that are "Immediately Dangerous to Life or Health"

Engineering controls: Avoid breathing fine, inhalable mists during application.

Individual protection measures

Wear protective gloves, protective clothing, eye protection, and face protection.

Eye protection	Wear eye and face protection: safety glasses, or goggles if eye contact with concentrated product is likely. Eyewash facilities should be available.
Skin and Body Protection	Gloves and apron or normal work coveralls recommended. Emergency showers should be available.
Respiratory Protection	Dust/mist mask recommended for misty conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene

When using product, do not eat, drink or smoke. Wash hands thoroughly after handling. Remove and wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Aqueous Liquid
Appearance	Solution
Color	Mixed, various
Odor	Slight
Odor Threshold	No information available
pH	2.3 (Very Acidic)
Melting point/freezing point	No information available
Boiling point / boiling range	No information available
Flash point	Not applicable
Evaporation rate	No information available
Flammability (solid, gas)	Will not burn
Flammability Limit in Air	
Upper flammability limit:	Will not burn
Lower flammability limit:	Will not burn
Vapor pressure	Similar to water
Vapor density	No information available
Specific Gravity	1.299 g/cc
Water solubility	Fully soluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	Will not burn
Decomposition temperature	No information available
Oxidizing properties	Contains oxidizers in aqueous solution. Will not support fire as a solution.

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable.

Possibility of Hazardous Reactions

May release heat and fumes when mixed in solution with incompatible reactive materials.

Hazardous polymerization

Will not occur.

Conditions to avoid

None known

Incompatible materials

Strong acids or alkali, or other reactive substances.

Hazardous Decomposition Products

May emit toxic fumes under fire conditions, such as Nitrogen oxides (NO_x), Ammonia, Oxides of sulfur, manganese compounds, Hydrogen chloride and Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Routes of exposure: Ingestion, eyes (contact), skin (contact), mist inhalation

Symptoms: Eye irritation on contact with redness, tearing and burning sensation. Skin irritation with prolonged contact. May irritate the digestive tract if ingested in quantity, causing nausea, vomiting and diarrhea. Large oral doses of nitrates may cause dizziness, abdominal pain, vomiting, bloody diarrhea, weakness, convulsions, and collapse, and rarely, death. May interfere with blood's capability to carry oxygen (methemoglobinemia), as evidenced by bluish color to skin and lips.

Chronic overexposure to manganese compounds may result in CNS effects such as weakness, sleepiness, emotional instability and spastic gait. These effects can be permanent. Chronic overexposure to manganese can cause "manganism", characterized by fatigue, irritability, headaches and asthenia. Symptoms are reversible when exposure stops. When later changes occur, some permanent brain damage can result resembling Parkinson's disease. High or repeated exposures may damage the kidneys or liver. Such high exposure would likely require significant ingestion of product.

Sensitization	No information available.
Germ cell mutagenicity	Potassium Sorbate induced chromosome aberrations in cultured Chinese hamster cells. Cytogenetic Analysis (Hamster-Lung) 10 gm/L; Cytogenetic Analysis (Hamster-Fibroblast) 4 gm/L/48 hours; Sister Chromatid Exchange (Hamster Lung) 10 gm/L. (Note that potassium sorbate is often used as an approved food preservative.)
Carcinogenicity	None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP. However, ingested nitrates that can result in endogenous nitrosation is probably carcinogenic in humans (IARC-Group 2A). This product contains detectable quantities of a chemical (EDTA) known to the State of California to cause cancer.
Reproductive toxicity	Reproductive toxicity - mouse - male - Oral: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count). (Manganese compounds). Men exposed to manganese dusts showed a decrease in fertility.
STOT - single exposure	No information available
STOT - repeated exposure	No information available
Chronic toxicity	See above under "Symptoms"
Target Organs	Skin, eyes, nervous system, brain, liver, kidneys
Aspiration hazard	No information available
Other:	High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds. Prolonged or repeated inhalation may cause: Pneumonia.

Manganese nitrate (10377-66-9)

- Oral LD50 Rat: 9 g/kg (related to Manganese)
- 500 mg/m³ IDLH (related to Manganese)

Magnesium nitrate, hexahydrate (13446-18-9)

- Oral LD50 Rat: 5440 mg/kg

12. ECOLOGICAL INFORMATION

Fertilizers may be harmful to aquatic life with short term effects, causing algal bloom and increased BOD, depending on the amount released.

Persistence and degradability	No information available
Bioaccumulation	No information available
Other adverse effects	No information available

13. DISPOSAL CONSIDERATIONS

This material, as supplied is not a hazardous waste according to federal regulations (40 CFR 261).

Disposal of wastes:

This product is a non-hazardous waste material suitable for approved solid waste landfills.
No EPA Waste Numbers are applicable for this product's components.
Dispose of in accordance with Local, State, and Federal regulations.

Contaminated packaging

No US Federal special packaging considerations at the date of this document. Follow local regulations.

14. TRANSPORT INFORMATION

US DOT Information

Shipping Name: Corrosive Liquid, Oxidizing n.o.s (Manganese Nitrate solution mixture)
Hazard Class: 8 (5.1)
UN/NA #: UN 3093
Packing Group: II
Required Label(s): Corrosive, Oxidizer

Canada Transportation of Dangerous Goods Information

Shipping Name: Corrosive Liquid, Oxidizing n.o.s (Manganese Nitrate solution mixture)
Hazard Class: 8 (5.1)
UN/NA #: UN 3093
Packing Group: II

Required Label(s): Corrosive, Oxidizer

15. REGULATORY INFORMATION

A: General Product Information

All components are on the U.S. EPA TSCA Inventory List. This product is a hazardous material -Corrosive; oxidizer.

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4):

Manganese nitrate (10377-66-9) SARA 313:

- 1% *de minimis* concentration (related to Manganese)
- 1 % *de minimis* concentration (Chemical Category N511) (related to Water Dissociable Nitrate Compounds)

Magnesium nitrate (10377-60-3) SARA 313:

- 1% *de minimis* concentration (Chemical Category N511) (related to Water Dissociable Nitrate Compounds)

SARA 311/312 Hazard Categories

Acute: Yes
Chronic: Yes
Fire: No, unless dried to solid.
Sudden release of pressure: No
Reactive: Contains oxidizers in aqueous solution. Not reactive in solution.
Clean Air Act: No information is available.
Clean Water Act: No information is available.

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS#	CA	MA	MN	NJ	PA	RI
Manganese Nitrate (related to Mn) ¹	10377-66-9	Yes ¹	Yes ¹	Yes ¹	Yes ¹	Yes ¹	Yes ¹

Other state regulations may apply. Check individual state requirements.

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS#	Minimum Concentration
Manganese Nitrate	10377-66-9	1% (related to elemental manganese, Mn)

Component Related Regulatory Information :

This product may be regulated, have exposure limits or other information identified as the following: Manganese (7439-96-5), Manganese compounds, n.o.s., Manganese compounds, inorganic, Manganese inorganic salts, Water Dissociable Nitrate Compounds.

16. OTHER INFORMATIONDisclaimer

The information provided in this material safety data sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.