Lebanon Seaboard Corporation

SAFETY DATA SHEET

Revision Date: 03/07/2016

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product Name: **Emerald Isle Solutions Nutri-Rational TrueFoliar K 2-0-16**

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.com

Emergency telephone numbers: Chemtrec (Spill) 1-800-424-9300 Prosar (Health) 888-208-1368

2. HAZARDS IDENTIFICATION

Signal Word: Warning

Hazard Statements:
H302: Harmful if swallowed (Category 4)
H315: Causes skin irritation (Category 2)
H319: Causes serious eye irritation (Category 2A)
May irritate the digestive tract if ingested.

Pictogram: Exclamation Point

Precautionary Statements for handling: See also Section 7.
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, P310: 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.
P352: In case of skin contact, wash with plenty of soap and water. Seek medical attention if irritation persists.
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): Highly alkaline: pH 9.9. Contains oxidizers in water solution. May intensify fire if evaporated to dryness. If clothes are wetted with product, they may become quite flammable and reactive when dry.

Unknown acute toxicity <1% of the mixture consists of ingredients of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight %
Potassium citrate	6100-05-6	10 - 15
Potassium carbonate	584-08-7	10 - 15
Ferric ammonium EDTA	68413-60-5	5 - 10
Magnesium nitrate	10377-60-3	5 - 7
EDTA tripotassium salt	17572-97-3	1 - 5
Sodium glucoheptonate	31138-65-5	1 - 5
Magnesium sulfate	10034-99-8	1 - 5
Glycine	56-40-6	1 - 5
Manganese nitrate	10377-66-9	1 - 3
Diammonium EDTA	304675-80-7	0.5
Potassium sorbate	24634-61-5	0.09
Nanhazardous ingredients	Various	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 plenty of water. If irritation or injury occurs, or if discomfort 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 — If swallowed: Rinse mouth. Drink Plenty of water. Call a poison center or doctor if you feel unwell. 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: 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.
Eye irritation on contact with redness, tearing and burning sensation.
Mist inhalation can result in irritation with nasal discomfort; skin irritation possible, but not likely with normal 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. 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.

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, CO_2, ABC Dry Chemical extinguisher, or foam.

Specific hazards arising from the chemical
Do not allow nitrates to evaporate to dryness (fire hazard). Contains oxidizers in water solution. May intensify fire if evaporated to dryness. If clothes are wetted with product, they may become quite flammable and reactive when dry.

Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire, do not breathe fumes.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

Personal Precautions	Use reasonable personal protective equipment as required to prevent contact with eyes or skin, and to avoid breathing mist.
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. Absorb spillage to prevent material damage.
Methods for clean-up	Absorb spillage to prevent material damage.Use reasonable personal protective equipment as required. 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 out of the reach of children.
Incompatible materials	Avoid strong acids or other reactive substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH*
Manganese nitrate	0.2 mg/m^3 TWA (Manganese)	1 mg/m^3 TWA (Manganese fume)	No information
Magnesium nitrate	No information	No information	No information
Iron salts, soluble, as Fe	1 mg/m^3 TWA	No information	No information

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

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

Individual protection measures
Wear protective gloves/protective clothing/eye protection/face protection.

Eye protection	Wear eye and face protection: safety glasses, or goggles if eye contact with concentrated product is likely.
Skin and Body Protection	Gloves and normal work coveralls recommended.
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. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMCIAL PROPERTIES

Physical state	Aqueous Liquid
Appearance	Solution
Color	Mixed, various
Odor	Slight
Odor Threshold	No information available
pH	9.9 (Alkaline)
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	1.278 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 water solution. May intensify fire if evaporated to dryness. If clothes are wetted with product, they may become quite flammable and reactive when dry.

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 (NOx), Ammonia, Oxides of sulfur, Hydrogen chloride and Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

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

Symptoms	Causes serious eye irritation with burning, redness, tearing. 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. 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.
Sensitization	No information available.
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	Not classified as carcinogenic, although ingested nitrates that can result in endogenous nitrosation producing substances which are probably carcinogenic in humans (IARC-Group 2A). Contains EDTA. EDTA is not carcinogenic, but substances similar to EDTA (Nitrilotriacetic acid [NTA] and its salts) were determined to be "possibly carcinogenic to humans" (Group 2B) by IARC, a compound which "may reasonably be anticipated to be a carcinogen" by NTP and a "select carcinogen" by OSHA. EDTA may contain trace amounts of NTA.
Reproductive toxicity	No information available
STOT - single exposure	No information available
STOT - repeated exposure	No information available
Chronic toxicity	Repeated small oral doses of nitrates may cause weakness, depression, headache, and mental impairment. Chronic exposures may affect ability of blood to carry oxygen, causing the lips and skin to turn blue. . Chronic overexposure to manganese compounds may result in CNS effects such as weakness, sleepiness, emotional instability and spastic gait.
Target Organ Effects	CNS, Kidney, Liver. (see Symptoms, above)
Aspiration hazard	No information available

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

DOT Description: None
This product is not a hazardous material and is not regulated by the United States Department of Transportation (D.O.T).

IMDG: Not a dangerous good.
ICAO/IATA: Not a dangerous good.

15. REGULATORY INFORMATION

A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

SARA 311/312 Hazard Categories

Acute:	Yes
Chronic:	Yes
Fire:	No
Sudden release of pressure:	No
Reactive:	No

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)

CERCLA: EDTA: RQ = 5000 Lbs

Clean Air Act: No information is available.
Clean Water Act: No information is available.

State Regulations – General: This product may be regulated, have exposure limits or other information identified as the following: Manganese compounds, n.o.s., Manganese compounds, inorganic, Manganese inorganic salts, Water Dissociable Nitrate Compounds.

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.

International

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)

16. OTHER INFORMATION

Other Information

Disclaimer

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.