

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY**Product Name: **Roots Fe 8%**Recommended use :This product is a concentrated liquid fertilizer for landscape use.**Supplier/Manufacturer**Lebanon Seaboard Corporation
1600 East Cumberland Street
Lebanon PA 17042Tel: 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**Pictogram**: Exclamation Point**Hazard Statements**:May irritate the digestive tract if ingested.
Keep out of reach of children.**Precautionary Statements**:

P264: Wash hands thoroughly after handling.

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

P301, P330: IF SWALLOWED: Rinse mouth, and Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements for disposal - Dispose in accordance with all federal, state and local regulations.

Hazards not otherwise classified (HNOC): None

Note: Preservatives used in this product are not appropriate for human consumption. Although present in low concentrations, they are potent as microbial growth inhibitors, and should not be ingested. When evaluating hazards, it is advisable to consider the combined total of all preservatives, as well as their individual levels and effects.

Unknown acute toxicity

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS#	%
Water	7732-18-5	60.975
Iron Citrate	2338-05-8	24.4
Dipotassium phosphate	7758-11-4	12.5
Potassium Hydroxide*	1310-58-3	1.6
Propylene Glycol	57-55-6	0.36
Magnesium nitrate	10377-60-3	0.03
2-Bromo-2-nitro-1,3-propanediol (Bromopol)	52-51-7	0.07
Diiodomethyl-p-tolylsulfone	20018-9-1	0.05
4-chloro-3,5-xyleneol (Nipacide)	88-04-0	0.012
5-Chloro-2-methyl-4-Isothiazolin-3-one	26172-55-4	0.002
2-Methyl-4-isothiazolin-3-one	2682-20-4	0.001

*Final mixture is pH neutralized.

Sum of Preservatives content: 0.135%

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: Mist inhalation can result in irritation with nasal discomfort; skin irritation possible, but not likely with normal use.

Indication of any immediate medical attention and special treatment needed: Treat Symptoms.

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

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.
Methods for clean-up	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. Do not eat, drink or smoke when using this product.

Storage Conditions Keep containers tightly closed in a cool, well- ventilated place. 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 REL
Iron Salts, Soluble (as Fe)	1 mg/m ³ TWA	None established	1 mg/m ³ TWA
Aerosol mist, nontoxic	5 mg/m ³ TWA	5 mg/m ³ TWA	5 mg/m ³ TWA 10 mg/m ³ STEL

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

Individual protection measures

Eye protection Safety glasses, or goggles if eye contact with concentrated product or diluted mist 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 CHEMICAL PROPERTIES

Physical state Aqueous Liquid

Appearance Solution

Color Mixed, various

Odor Slight

Odor Threshold No information available

pH 6.5

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	1.318 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	No information available

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	May irritate the digestive tract if ingested in quantity, causing nausea, vomiting and diarrhea.
Sensitization	Three of the five preservatives in this product can cause allergic skin reactions in sensitive individuals. Their combined concentration is slightly below 0.1%.
Germ cell mutagenicity	No information available
Carcinogenicity	Not carcinogenic.
Reproductive toxicity	No information available
STOT - single exposure	No information available
STOT - repeated exposure	No information available
Chronic toxicity	No information available
Target Organ Effects	No information available
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 (biological oxygen demand), 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: Liquid fertilizer, N.O.S.

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. Not regulated.

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

15. REGULATORY INFORMATION

General Product Information:	This product is not federally regulated as a hazardous material.
Clean Air Act:	No information is available.
Clean Water Act:	This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

SARA 313 Superfund Amendments: This product contains no chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal regulations, Part 372.

SARA 311/312 Hazard Categories

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

CERCLA: This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material .

State Regulations – General:	This product is not regulated by any State as a hazardous material.
Component Analysis – State	Iron citrate: NJ, PA.

California Proposition 65: No Proposition 65 ingredients.

16. 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.