Lebanon Seaboard Corporation

SAFETY DATA SHEET

Revision Date: 05/26/2015

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product Name: **Roots PHC Plant Saver; Roots Plant Saver**

Product Identity: Mixed granular fertilizer and soil inoculant.

Recommended use
This product is a mixed granular fertilizer for landscape use.

Supplier/Manufacturer
Lebanon Seaboard Corporation
1600 East Cumberland Street
Lebanon PA 17042
800-233-0628
(717-273-1685)

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

2. HAZARDS IDENTIFICATION

Signal Word: WARNING

Hazard Statements and Hazard Category:
H302: Harmful if swallowed (Category 4)
H320: Causes eye irritation (Category 2B)
H333: May be harmful if inhaled repeatedly over prolonged periods. (Category 5)
H351: Suspected of causing cancer by prolonged/repeated inhalation. (Category 2)

Precautionary Statements for handling: See also Section 7.

P261: Avoid breathing dust.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P281: Use appropriate personal protective equipment as required to avoid breathing dust.
P301, P330: IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTER or doctor/physician.
P305, P351, P337: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing. If eye irritation persists, seek medical attention.
P308: If exposed or concerned, seek medical advice.
Keep out of reach of children.

Precautionary Statements for disposal - Dispose in accordance with all federal, state and local regulations. See also Section 13.

Hazards not otherwise classified (HNOC): The bacteria contained in this product are strains of typically harmless soil and water bacteria, and are not associated with disease or infections under normal circumstances (Biosafety Level 1). However, reasonable precautions are in order. Handle as you would rich, dark soil or compost: keep it out of your mouth, eyes, lungs, and broken skin. Wash hands thoroughly after use. Remove and launder heavily soiled clothing separately before reuse. Persons with severely suppressed immune systems, such as those with advanced AIDS, or those taking anti-rejection drugs, or those undergoing chemotherapy should contact their physician before handling ordinary microbial products.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Item name	CAS No	Wt %
Humate*	1415-93-6	16.082
Monocalcium phosphate	7758-23-8	15.2
Methylene ureas	9011-05-6	10
Sulfate of Potash	7778-80-5	9.8
Magnesium sulfate	10034-99-8	7.6
Iron sucrate	8047-67-4	6.2
Wheat bran	NA	5.6
Greensand (glauconite)	1317-57-3	5.23
Magnesium sucrate	7487-88-9	5.2
Feathermeal	NA	4.26
Meat and bone meal	68920-45-6	3.24
Mineral oil	8042-47-5	2.8
Manganese sucrate	7439-96-5	2.1
Rock phosphate*	65996-94-3	1.8
Zinc oxysulfate	1314-13-2	1.17
Soy protein	9010-10-0	0.9
Urea	57-13-6	0.8
Lignin- calcium lignosulfonate	8061-52-7	0.588
Dolomitic Lime*	16389-88-1	0.54
Peanut skin meal	NA	0.45
Borax decahydrate	1303-96-4	0.2
Dextrose sugar	50-99-7	0.192
Seaweed meal	84775-78-0	0.016
Maltodextrin	9050-36-6	0.012
Talc	14807-96-6	0.008
Seaweed extract	84775-78-0	0.003
Potassium lignosulfonate	68514-28-3	0.003
Mycorrhizal fungi spores	NA	0.002
Formononetin	485-72-3	0.002
Soluble yuccah extract	90147-57-2	0.001
Bacteria	68038-70-0	0.001

*Mined minerals like limestone, rock phosphate, humate and dolomite typically contain a small amount (1 to 10%) of free respirable crystalline silica sand (quartz) which has been listed as a human carcinogen via repeated and prolonged inhalation by NTP (Group 1) and IARC (Reasonably Anticipated to be a Human Carcinogen), and as a Suspected Human Carcinogen by ACGIH (category A2). This product is estimated to contain 0.5 to 1% silica.

4. FIRST AID MEASURES

Eye Contact — Rinse eyes cautiously with water for several minutes. Remove any contact lenses if easy to do, and continue rinsing. If discomfort or irritation persists contact a physician.

Skin Contact — Wash with soap and water. If injury occurs, or if discomfort or irritation persists or rash occurs, 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. Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting of an unconscious person.

Self-protection of the first aider: Use any appropriate personal protective equipment as required for nuisance dusts.

Most important symptoms and effects, both acute and delayed: Nuisance dust irritation may occur with nasal discomfort under highly dusty conditions.

Indication of any immediate medical attention and special treatment needed: Treat Symptoms. Consult physician if discomfort or irritation persists. Get medical advice or attention if you feel unwell.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media
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. Avoid stirring up dust extinguisher stream.

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
Note: Excessive amounts of any burnable dusts can produce explosive mixtures if allowed to disperse in the air in confined areas where ignition sources occur. Prevent excessive dust dispersal in areas of use, storage, or production.

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 (bunker) gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

Personal Precautions	Use dust mask and gloves as needed or other reasonable personal protective equipment as required to prevent contact with eyes or skin. Remove ignition sources prior to clean-up.
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 dust mask and/or reasonable personal protective equipment as required to avoid breathing dusts. Moisten or cover powder spill with plastic sheet or tarp to minimize spreading. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Soak up excess with inert absorbent material. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Safe Handling

Read and understand all safety precautions before handling. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required to avoid breathing product dusts, and to prevent eye contact. Wash hands thoroughly after handling.
Handle as you would rich, dark soil or compost: keep it out of your mouth, eyes, lungs, and broken skin. Wash hands thoroughly after use. Remove and launder heavily soiled clothing separately before reuse. Persons with severely suppressed immune systems, such as those with advanced AIDS, or those taking anti-rejection drugs, or those undergoing chemotherapy should contact their physician before handling ordinary microbial products.

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 IDLH*
Quartz silica	0.025 mg/m^3 (respirable)	(30 mg/m^3) ÷ (%SiO2 + 2)	3000 mg/m^3
Manganese sucrate	0.2 mg/m3 TWA (Mn)	1 mg/m^3 TWA (Mn fume) 5 mg/m^3 Ceiling (Mn)	500 mg/m^3 (Mn)
Nuisance Dusts	10 mg/m^3 (TWA- Total dust)	15 mg/m^3 (TWA total) 50 mppcf (TWA total) 5 mppcf (TWA respirable)	Not Established

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

Other Information:

Engineering controls: Use with adequate ventilation and follow safe work practices to prevent dust buildup in air.

Individual protection measures: Use personal protective equipment as required to avoid breathing product dusts.

Eye protection Safety glasses, or goggles if eye contact is likely

Skin and Body Protection Gloves and standard work coveralls recommended.

Respiratory Protection Dust mask recommended for dusty or 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	Solid
Appearance	Granules
Color	Mixed, various
Odor	Slight
Odor Threshold	No information available
pH	Not applicable
Melting point/freezing point	Not applicable
Boiling point / boiling range	Not applicable
Flash point	No information available
Evaporation rate	Not applicable
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	Not applicable
Vapor density	Not applicable
Specific Gravity	Not applicable
Water solubility	Mostly Insoluble in water, although some ingredients may dissolve.
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available

Decomposition temperature	No information available
Oxidizing properties	Not an oxidizer

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
High heat, sparks and open flames, as some ingredients may be burnable.

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), dust inhalation

Symptoms	May irritate the digestive tract if ingested in quantity, causing nausea, vomiting and diarrhea.
Sensitization	None
Germ cell mutagenicity	None
Carcinogenicity	Potential occupational carcinogen. Naturally mined minerals, like limestone typically contain sand (silica) at amounts ranging from 1 to 6%. Fine silica particulates are considered to be carcinogenic via repeated and prolonged inhalation. (IARC, ACGIH)
Reproductive toxicity	Reproductive toxicity - mouse - male - Oral: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count). (Manganese compounds). Men over-exposed to manganese dusts showed a decrease in fertility.
STOT - single exposure	No information available
STOT - repeated exposure	No information available
Chronic toxicity	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.
Target Organ Effects	Lungs-Silicosis, cancer. CNS, kidney, liver, testes.
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	Not applicable
Bioaccumulation	Not expected to bioaccumulate based on composition.
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:	Not Regulated
Proper Shipping Name:	Non Regulated
Hazard Class:	Not Applicable
IATA:	Not Regulated
Proper Shipping Name:	Non Regulated
Hazard Class:	Not Applicable
IMDG/IMO	Not Regulated
Hazard Class	Not Applicable
Marine Pollutant	No

ADR:	Not Regulated
ADN:	Not Regulated
RID:	Not Regulated
IATA:	Not Regulated
TDG:	Not Regulated
ICAO:	Not Regulated
MEX:	Not Regulated

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

15. REGULATORY INFORMATION

TSCA (USA): Complies

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

SASA/CERCLA:
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):
There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.
Manganese sucrate (7487-88-9) SARA 313 Category N450.

- 1% *de minimis* concentration (related to Manganese). This product contains less than1% elemental Manganese.

State Regulations – General: This product is not regulated by any State as a hazardous material.

State Right-to-Know Crystalline silica (Quartz): CA, IL, MA, NH, NY, NJ, PA, RI
Manganese Sucrate (related to Mn): CA, MA, MN, NJ, PA, RI

California Proposition 65: This product may contain detectable quantities of a substance (sand mineral: silica) known to the State of California to cause cancer by prolonged, repeated inhalation over a long period of time (months to years).

International Inventories

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

Component	CAS#	Minimum Concentration
Manganese Sucrate	7439-96-5	1% (related to elemental manganese, Mn)

Note: This product contains less than1% elemental Manganese.

16. OTHER INFORMATION

The bacteria contained in this product are strains of typically harmless soil and water bacteria, and are not associated with disease or infections under normal circumstances (Biosafety Level 1). However, reasonable precautions are in order. Handle as you would rich, dark soil or compost: keep it out of your mouth, eyes, lungs, and broken skin. Wash hands thoroughly after use. Remove and launder heavily soiled clothing separately before reuse. Persons with severely suppressed immune systems, such as those with advanced AIDS, or those taking anti-rejection drugs, or those undergoing chemotherapy should contact their physician before handling ordinary microbial products.

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.