



# Safety Data Sheet

Last Update: 18 August, 2014

## Section 1 – Identification of the Substance/Preparation and Company

### Identity: Roots PHC for Trees 27-9-9

**Product Description:** Combination fertilizer/microbial inoculant. This product is a water-dispersible microbial soil inoculant and micronutrient fertilizer in a powder blend. It contains numerous mineral nutrients for plants, along with several species of harmless bacteria that help promote soil fertility. Bacteria in this product are naturally-occurring, and have not been genetically modified. (Biosafety Level 1, **Non-GMO**)

#### Company:

Lebanon Seaboard Corporation  
1600 E. Cumberland Street  
Lebanon, PA 17042 USA  
Tel: 800-233-0628  
(717-273-1685)

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

## Section 2 – Hazards Identification

**OSHA Signal Word:** WARNING. **Symbol (Pictogram):**



**Hazard Category:** Oxidizing Solid, Category 3.

#### Hazard Statements:

Contains an oxidizer. May intensify fire.  
Keep away from heat/sparks/open flame/hot surfaces, from clothing, and from other combustible materials. No smoking.  
Take precautions to avoid mixing with combustibles.  
Wear flame retardant clothing.  
In case of major fire involving large quantities, evacuate area.  
Keep out of reach of children.

## Section 3 – Composition/Information on Ingredients

Product is a blend of water soluble and dispersible fertilizers with beneficial bacteria in spore form. Bacteria in this product are naturally-occurring, and have not been genetically modified. (Biosafety Level 1, **Non-GMO**).

Potentially Hazardous Components	%	OSHA PEL	ACGIH TLV
Live Bacteria beneficial to plants	<0.01%	None determined	
Potassium phosphate		None determined	
Potassium Nitrate	7%	None determined	
Ammonium molybdate	0.0009% as Mo	None determined	
Ferric sodium EDTA complex	0.1% as Fe	None determined	
Iron salts, soluble, as Fe			1 mg/m <sup>3</sup>
Manganese disodium EDTA complex	0.05% as Mn	None determined	
Manganese, inorganic compounds as Mn			0.2 mg/m <sup>3</sup>
Zinc disodium EDTA complex	0.05% as Zn	None determined	
Ureaformaldehyde		None determined	
Copper EDTA complex	0.05% as Cu		1

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mg/m<sup>3</sup> as Cu

Boric Acid (Value for borates:)

2 mg/m<sup>3</sup> inhal

Nuisance Dust:

Respirable

5 mg/m<sup>3</sup>

3 mg/m<sup>3</sup>

Total

15 mg/m<sup>3</sup>

10 mg/m<sup>3</sup>

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### ***Section 4 -- First Aid Measures***

**Emergency and First Aid Procedures:** Eyes: Flush with water for at least 15 minutes. Call a physician.

Skin: Wash affected area with soap and water. If material contacts wounded or broken skin, treat wound with an antiseptic to prevent infection. If irritation develops, consult a physician.

Remove and launder contaminated clothing separately before reuse.

Inhalation: If inhaled, move to fresh air. If difficulty in breathing persists, administer oxygen, and get immediate medical attention. Watch for possible development of respiratory infection.

Ingestion: Seek immediate medical attention. Unless advised otherwise, do not induce vomiting. Do not give anything by mouth if person is unconscious or nearly so, has no gag reflex, or is having convulsions.

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### ***Section 5 -- Fire-fighting Measures***

**Flash Point:** No Data

**Flammable Limits; LEL:** No Data; **UEL:** No Data

**Extinguishing Media:** Water fog, foam, alcohol foam, CO<sub>2</sub>, dry chemical

**Special Fire Fighting Procedures:** In case of major fire involving large quantities, evacuate area. Fire fighters should standard gear: wear butyl rubber boots, gloves, and a NIOSH/MSHA approved self-contained breathing apparatus.

**Unusual Fire and Explosion Hazards:** Contains significant amount of Potassium nitrate, an oxidizer, which can accelerate any fire or explosion situations. Short term exposure to smoke and gases from burning or exposure to high heat may lead to irreversible lung injury without early signs and symptoms.

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### ***Section 6 - Accidental Release Measures***

**Steps to be Taken in Case Material is Released or Spilled:** Avoid stirring up excessive dust. Moisten to sweep up and collect excess material while avoiding creating airborne dust. Do not breathe dust. Then apply the product to the lawn as directed. If dissolved product is spilled, contain and collect the spill to prevent discharge to surface streams or storm sewers. Then use the product as directed, or dry the product for proper disposal. Subsequently, clean the spill area with soap and water. Beware of slippery floors when material becomes wet, or if spillage occurs in wet areas. Dissolved product will discolor water. This product may be corrosive to aluminum if wet. Contact pollution control officials if spilled into public waters.

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### ***Section 7 - Handling and Storage***

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**Precautions to be Taken in Handling or Storage:** Contains significant amount of Potassium nitrate, an oxidizer, which can accelerate any fire or explosion situations. Keep away from heat/sparks/open flame/hot surfaces, from clothing, and from other combustible materials. No smoking. Take precautions to avoid mixing with combustibles. Avoid stirring up dust. Use local exhaust. Avoid unnecessary skin contact. Take precautions to avoid mixing with combustibles. Do not breath dust, mist, or fumes.

**Other Precautions:** All foods and smoking materials should be kept in a separate area from the storage/use location of this product. Eating, smoking, and drinking and should be prohibited in areas where there is potential for significant exposure to this material. Hands and face should be thoroughly washed before eating, drinking, or smoking.

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### ***Section 8 - Exposure Controls/Personal Protection***

**Respiratory Protection:** Dust mask recommended. If excessive dusts, vapors, or mists are generated, wear NIOSH/MSHA approved respirator with dust, mist, and fume filters.

**Ventilation:** Use local exhaust for liquid dissolved material, and filtered exhaust for dry, dusty material. Do not breathe dusts, mists, or fumes.

**Protective Gloves:** Rubber, latex, vinyl, or any gloves without pores. Avoid prolonged skin contact.

**Eye Protection:** Safety glasses recommended if heavy dust conditions exists.

**Other Protective Clothing or Equipment:** Wear flame retardant clothing. Coveralls, apron, gloves, boots as necessary to prevent skin contact. Clean clothing should be worn daily to avoid possible long-term buildup of the product leading to chronic overexposure.

**Other:** Open wounds or disruptions in the skin should be covered with a chemical-resistant patch to minimize absorption risks and infection risks.

**Work/Hygienic Practices:** The bacteria contained in this product are strains of typically harmless soil and water bacteria, and do not cause infections under normal circumstances. 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. Do not eat, drink, or smoke when handling product. Wash hands after handling. If material contacts wounded or broken skin, was affected area with antibacterial soap and water. Treat wound with an antiseptic to prevent infection. If spilled on clothes, wash separately from other clothes. Clean clothing should be worn daily to avoid possible long-term buildup of the product leading to chronic overexposure. Wash hands and face before handling food or drink.

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### ***Section 9 -- Physical/Chemical Properties***

Physical state	Solid powder mixture
Appearance	Grey blue powder, mild odor.
Color	Grey blue powder
Odor	Slight
Odor Threshold	No information available

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<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
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	
Bulk Density	approx. 0.9 g/cc	
Water solubility	Partly soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Oxidizing properties	Contains an oxidizer (potassium nitrate)	

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### ***Section 10 -- Stability and Reactivity***

**Stability:** Chemically stable      **Conditions to Avoid:** High heat sources, sparks, open flame. Avoid prolonged storage at high temperatures.

**Incompatibility (Materials to avoid):** Avoid strong bases. May form explosive mixes with strong acids (nitric acid or perchloric acid) or bleach (calcium or sodium hypochlorite). Long term storage in direct contact with reactive metals such as aluminum, zinc, copper, copper alloys, nickel, magnesium, etc may react to release hydrogen gas which can form explosive mixtures with air if allowed to accumulate over time. Aqueous reaction with strong alkalis can create heat. Other materials to avoid include nitrates, strong oxidizing agents, bleach, strong acids, strong reducing agents, calcium nitrate, phosphorus, maleic anhydride, and ethoxyethynyl alcohols with ether.

**Hazardous Decomposition or Byproducts:** Burning or high heat may release noxious fumes and gases such as ammonia, carbon monoxide, nitrous oxides, acetic acid, sulfuric acid, sulfur dioxide, oxides of phosphorus, phosphoric acid, biuret, or other toxic compounds depending on the other combustion sources.

**Hazardous Polymerization:** Will Not Occur

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### ***Section 11 Toxicological Information***

**Route(s) of Entry:** Inhalation--yes    Skin--yes    Ingestion--yes    Eyes: yes

#### **Health Hazards (Acute and Chronic):**

Acute: Prolonged skin contact may result in irritation. Direct contact with eyes could result in irritation. Avoid skin and eye contact. Inhalation : dust may be slightly irritating with symptoms of sore throat and coughing. Ingestion of large amounts may cause nitrate toxicity, diarrhea and abdominal pain, and, less likely, hypocalcemia, ammonia toxicity and hyperkalemia with cardiac

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arrhythmia.

**Chronic:** Prolonged inhalation may lead to respiratory tract irritation. Repeated or prolonged inhalation of magnesium dust has been reported to cause increased incidence of digestive disorders. Target organs appear to include the kidney and bladder. **No such exposures are expected from normal use of this product.**

**Carcinogenicity:** None known.

**Reproductive Effects:** None Known.

**Signs and Symptoms of Exposure:** May cause mild skin or eye irritation. May cause nausea and intestinal distress if ingested in significant quantities. Excess inhalation of dust may result in irritation of the throat, and respiratory system, or cause shortness of breath, and reduced pulmonary function. See above under "Health Hazards", Acute and Chronic. If ingested in sufficient quantity, may cause gastrointestinal disturbance, including nausea, abdominal pain, diarrhea.

**Medical Conditions Generally Aggravated by Exposure:** May provoke asthmatic response in persons with asthma who are sensitive to airway irritants. Individuals with kidney impairment may be at increased risk. Interactions with medications may occur. Persons having medical conditions making them sensitive to exposure to common bacteria (such as individuals with AIDS, or those taking some anti-rejection drugs, or individuals receiving chemotherapy) should consult with their physician before handling bacterial products.

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### ***Section 12 – Ecological Information***

The bacteria in this product are not harmful to animals, plants or man, including aquatic life, and they are naturally occurring in forest soil ecosystems. No adverse ecological effects are reported or expected from normal use or from accidental spill of this product on land.

Fish toxicity: None known

Daphnia toxicity: None known

Aquatic Effects: Fertilizers can increase BOD and COD in aquatic environments, and can trigger algae blooms if sufficient quantity is released.

**Environmental Hazardous Substance:** This product does not contain an environmentally hazardous substance. However, as a fertilizer, it will stimulate algae blooms in surface waters, if sufficient quantity is released.

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### ***Section 13 - Disposal Considerations***

**Waste Disposal Method:** If possible, the spilled product should be collected, diluted, and applied as a fertilizer to plants or trees, as intended. If disposed, the dissolved product should be dried before disposal. Disposal must be in accord with federal, state, and local regulations.

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### ***Section 14 - Transport Information***

## Roots PHC for Trees 27-9-9

**Required Labels:** Contains potassium nitrate: oxidizer labels are required for air, water, and international shipment. None required for domestic land shipment.

**DOT (US), IDMG, and IDTA:** UN number: 1486 Class: 5.1 Packing group: III

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### ***Section 15 - Regulatory Information:***

SARA Title III, Section 311/312 Hazard Classes

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	Yes (Oxidizer)
Release of Pressure	No
Reactive hazard	No

SARA 313 Toxic Chemicals

N511 Nitrate compounds (water dissociable: only reportable when in aqueous solution)

SARA 302 Extremely Hazardous Substances (EHS)/CERCLA Hazardous substances.  
Not Listed)

US State Regulations

California Prop 65: Not listed

Potassium nitrate on the state Right-to-Know list for MA, NJ and PA.

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### ***Section 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.