

Material Safety Data Sheet

Last Modified: August 11, 2008

Identity: **PHC™ Root Dip Inoculant**

Section I -- Manufacturer

Plant Health Care, Inc.
440 William Pitt Way
Pittsburgh, PA 15238

Emergency Phone #: 800-421-9051
Phone # for Information: 412-826-5488

Section II -- Hazardous Ingredients/Identity Information

Potentially Hazardous Components	%	OSHA PEL	NIOSH	ACGIH	Other
Polyacrylate/Polyalcohol Copolymer:	25%				0.05 mg/m ³ *
Beneficial soil bacteria in spore form.		--	--		
Humate (Coal Dust, Humic Acids)	25%	1.5 mg/m ³	-	0.1 mg/m ³	
Natural fungus spores	3.7%	-	-	-	
Phytoestrogenic compound (formononetin)	0.12%	---		---	
Nuisance Dust					
Respirable (TWA)		5 mg/m ³		10 mg/m ³	
Total (TWA)		15 mg/m ³		10 mg/m ³	

* Respirable Exposure Limit Recommended by Plant Health Care, Inc. See section VI, Chronic.

Section III -- Physical/Chemical Characteristics

Boiling Point:	NA	Specific Gravity:	NA
Vapor Pressure:	NA	Melting Point:	NA
Vapor Density:	NA	Evaporation Rate:	NA

Solubility in Water: Most components Insoluble

Appearance and Odor: Mixed powders and granules, slight odor of seaweed, material swells dramatically when in contact with water.

Section IV -- Fire and Explosion Hazard Data

Flash Point: No Data **Flammable Limits; LEL:** No Data; **UEL:** No Data
Extinguishing Media: Water, fog, foam.

Special Fire Fighting Procedures:

Wear respiratory protection to avoid breathing dust and smoke.

Unusual Fire and Explosion Hazards:

Take precautions against explosion hazard due to buildup of explosive airborne concentrations of this dust. Avoid stirring up dust with hose stream. Watch for slippery conditions when spilled material becomes wet. When burned, CO, CO₂, SO₂, hydrocarbons, are released. Temperatures above 1800° F may cause release of irritating or toxic phosphorus oxides and fluoride gases, SiF₄ and HF.

MSDS -- PHC™ Root Dip Inoculant

Section V -- Reactivity Data

Stability: Chemically stable

Conditions to Avoid: Avoid explosive dust concentrations.

Incompatibility (Materials to avoid): None Known

Hazardous Decomposition or Byproducts: When burned, CO, CO₂, SO₂, hydrocarbons, are released. Temperatures above 1800° F may cause release of irritating or toxic phosphorus oxides and fluoride gases, SiF₄ and HF.

Hazardous Polymerization: Will Not Occur

Section VI -- Health Hazard Data

Route(s) of Entry: Inhalation--yes

Skin--Yes

Ingestion—Yes

Eyes--Yes

Health Hazards (Acute and Chronic):

Acute: Excessive inhalation of dust may result in shortness of breath and reduced pulmonary function. Persons with acute allergies to molds or other fungus could become asthmatic, with wheezing and breathing difficulties (rare), or could experience typical hayfever symptoms. Contact with eyes or open wounds may result in irritation and/or infection.

Chronic: Sensitive individuals may develop an allergic sensitivity to the dust via repeated skin contact or inhalation resulting in contact dermatitis (swelling and rash) or sinus irritation. Contains some silica. May cause delayed respiratory disease if dust is inhaled repeatedly over a prolonged period of time. Contains polyacrylate material. Chronic exposure of rats to micronized (<10 microns) dust particles of sodium polyacrylate produced non-specific inflammation and chronic lung injury at 0.2 and 0.8 mg/m³. At 0.8 mg/m³, tumors were seen in some animals. There were no adverse effects of any kind at 0.05 mg/m³. Sodium polyacrylate had no effect in mutagenicity tests.

This product contains a small amount (0.16% by weight) of an insoluble isoflavanoid compound (formononetin) classed as a phytoestrogen, which can mimic the effects of the hormone estrogen in mammals. Avoid prolonged skin contact to preclude the possibility of skin absorption of the hormonal compound.

Carcinogenicity: None

Signs and Symptoms of Exposure:

Sneezing, stuffed or runny nose, hayfever symptoms in allergic individuals. Persons with acute allergies could become asthmatic, with wheezing and breathing difficulties (rare). Excessive inhalation of dust may result in shortness of breath and reduced pulmonary function. Skin or respiratory allergies could develop over time. Sensitivity to skin contact may result in itching, swelling, or rash.

Medical Conditions Generally Aggravated by Exposure: Hayfever, mold allergies. Individuals with pulmonary and respiratory disease including, but not limited to, asthma and bronchitis, should be precluded from exposure to excessive dust. Contact with eyes or open wounds may result in irritation and/or infection. 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.

Emergency and First Aid Procedures:

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If skin contact occurs, wash with soap and water. Apply antiseptic if material contacts open wounds. Watch for infection. If material gets into eyes, do not rub them, rinse with copious amounts of water, and see a physician to remove granular particles that fail to wash out. Watch for allergic reaction or eye infection. In cases of respiratory distress, remove individual from exposure and get medical assistance. Administer oxygen if needed. If hayfever symptoms develop, remove individual from exposure. If wheezing or breathing difficulties develop, remove the individual to fresh air. Give oxygen or artificial respiration if necessary. Get medical attention. If material is ingested, drink water, induce vomiting, call a physician.

Section VII -- Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled: Wet down, and sweep up carefully to avoid stirring up dust. Avoid breathing dust. Watch out for slippery conditions if spilled material gets wet. If spilled in residential living quarters or dining area, clean area with water containing a common disinfectant.

Waste Disposal Method: Excess material may be used as usual, or mixed with the soil at the base of trees.

Precautions to be Taken in Storage/Handling: Avoid breathing dust. Avoid stirring up dust. Handle under conditions of adequate ventilation. Floors will become very slippery if spilled material gets wet. Wear gloves when handling. Avoid acids and extreme heat, as these will kill fungal spores.

Other Precautions: Wash hands after handling, and before eating, drinking or smoking. Use normal hygiene practices. If spilled excessively on clothes, wash separately from other clothes.

Section VII -- Control Measures

Respiratory Protection: Dust Mask.

Ventilation: Use adequate ventilation to keep dust levels below safe limits. Hood or other mechanical exhaust is recommended.

Protective Gloves: Nonporous gloves.

Eye Protection: Safety Glasses recommended.

Other Protective Clothing or Equipment: Apron recommended.

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. Wash hands after handling, and before eating, drinking, or smoking. Avoid stirring up dust. If spilled on clothes, wash separately from other clothes. If spilled in residential living quarters or dining area, clean area with water containing a disinfectant. Floors will become very slippery if spilled material gets wet.