

Material Safety Data Sheet

Identity: PHC™ Flexx™

Last Update: August 11, 2008

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

Hazardous Components	%	OSHA PEL	ACGIH TLV
Live Bacteria beneficial to plants.			
Ferrous sulfate monohydrate	23%	None determined	
Iron salts, soluble, as Fe			1 mg/m ³
Manganese disodium EDTA complex	1.5%	None determined	
Manganese, inorganic compounds as Mn			0.2 mg/m ³
Magnesium hydroxide	3.7%	None determined	
Urea	6%		
Phytoestrogenic compound (formononetin)	0.16%	---	---
Nuisance Dust:			
Respirable		5 mg/m ³	3 mg/m ³
Total		15 mg/m ³	10 mg/m ³

Section III -- Physical/Chemical Characteristics

Boiling Point:	NA	Bulk Density:	Approx 0.9 g/cc
Vapor Pressure:	NA	Melting Point:	>200 F
Vapor Density:	No vapor	Evaporation Rate:	NA
Solubility in Water:	soluble		
Appearance and Odor:	Black, gray and white speckled powder, mild odor.		

Section IV -- Fire and Explosion Hazard Data

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

Extinguishing Media: Water fog, foam, alcohol foam, CO₂, dry chemical

Special Fire Fighting Procedures:

Fire fighters should wear butyl rubber boots, gloves, and a NIOSH/MSHA approved self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: Not a fire or explosion hazard when stored under normal conditions.

Section V -- Reactivity Data

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

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Incompatibility (Materials to avoid): 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. Aqueous reaction with strong alkalis can create heat. Other materials to avoid include strong oxidizing agents, strong acids, strong reducing agents, calcium nitrate, phosphorus, maleic anhydride, and ethoxyethynyl alcohols with ether.

Hazardous Decomposition or Byproducts: Heating or burning may release biuret, or noxious fumes and gases such as carbon monoxide, nitrous oxides, acetic acid, sulfuric acid, sulfur dioxide, or other toxic compounds depending on the other combustion sources.

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: Skin contact may result in irritation. Very irritating to eyes. Direct contact with eyes or open wounds could result in irritation or infection. Avoid skin and eye contact. Inhalation: dust may be slightly irritating with symptoms of sore throat and coughing. Levels above 10 ug/m³ of suspended sulfates in the air may cause an excess risk of asthmatic attacks in susceptible persons. Inhalation of the product's bacteria-laden dust into the respiratory tract could theoretically cause irritation or sensitization to occur in highly sensitive persons or persons with a severely weakened immune system. Ingestion of large amounts may cause diarrhea and abdominal pain, shock, and liver damage, rapid heart rate and possible death in cases of very significant doses.

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.

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: No carcinogens are known to be present at reportable amounts.

Reproductive Effects: Possible birth defects hazard: contains material (EDTA) which may cause birth defects based on animal data. EDTA and its sodium salts have been reported, in some studies, to cause birth defects in laboratory animals only at exaggerated doses that were toxic to the mother. These effects are possibly associated with zinc deficiency caused by chelation and removal of zinc from the body. Exposures having no effect on the mother are expected to have no effect on the fetus. Also contains a phytoestrogenic compound that can mimic the hormone estrogen. See **Other Health Related Data** below.

Signs and Symptoms of Exposure: Skin or eye irritation potential. 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. Irritation could result if product contacts open wounds or eyes. Can cause allergic response or significant eye irritation. See above under "Health Hazards", Acute and Chronic. If ingested in sufficient quantity, may cause gastrointestinal disturbance, including

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nausea, abdominal pain, diarrhea, shock, and liver damage, rapid heart rate and death.

Medical Conditions Generally Aggravated by Exposure: May result in irritation and/or infection if product comes in direct contact with open wounds or eyes. May provoke asthmatic response in persons with asthma who are sensitive to airway irritants. Risk of both respiratory, eye, or wound infection is increased for persons with weakened immune systems. Individuals with kidney impairment may be at increased risk if ingested in quantity. Interactions with medications may occur if ingested in quantity. Persons with compromised immune systems, such as those with advanced AIDS, or taking antirejection drugs, or undergoing chemotherapy, should contact their physician before handling bacterial products.

Other Health Related Data: This product contains a small amount (0.15% by weight) of an insoluble isoflavanoid compound classed as a weak **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. Specific affects either on an adult or fetus are not known. This same phytoestrogen commonly occurs naturally in many foods, such as soy beans and various grains.

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.

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, induce vomiting by administering syrup of ipecac or by sticking finger down throat. Do not give anything by mouth if person is unconscious or nearly so, has no gag reflex, or is having convulsions.

Section VII -- Precautions for Safe Handling and Use

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 and breathing airborne dust. Wear eye protection if eye contact is probable. 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. Dissolved product will discolor water. This product may be slowly corrosive to aluminum in concentrated form.

Waste Disposal Method: Dispose of excess by applying it to a lawn as intended. If disposing, the dissolved product should be dried before disposal. Disposal must be in accord with federal, state, and local regulations

Precautions to be Taken in Handling or Storage: Avoid stirring up dust. Use local exhaust. . Avoid unnecessary skin contact. Avoid breathing dust or mist.

Other Precautions: Eye wash fountains should be readily available, and easily accessible. All foods and smoking materials should be kept in a separate area from the storage/use location of this product. Eating, smoking, and drinking should be prohibited in areas where there is potential for significant exposure to this material. Hands and face should be thoroughly washed

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before eating, drinking, or smoking. Production workers should have availability to safety showers and end-of-shift cleanup facilities.

Section VIII -- Control Measures

Respiratory Protection: If dusts, vapors, or mists are generated under conditions of likely inhalation, wear NIOSH/MSHA approved respirator with dust, mist filters.

Ventilation: Use local exhaust for liquid dissolved material, and filtered exhaust for dry, dusty material. Do not breathe dusts, mists, or fumes. Avoid unnecessary or prolonged skin contact.

Protective Gloves: Rubber, latex, vinyl, or any gloves without pores.

Eye Protection: Chemical goggles recommended if dusting conditions exists.

Other Protective Clothing or Equipment: Coveralls, apron, gloves, boots as necessary to prevent prolonged 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: 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.

Transport Information:

Required Labels: None required for domestic land shipment.

Environmental Hazardous Substance: This product does not contain an environmentally hazardous substance.

Regulatory Information:

The manganese compounds in this product are subject to SARA Title III, Section 313 supplier notification/release reporting requirements under the manganese compounds category. This product contains about 0.2% manganese, and about 7.5% iron.

The EDTA-containing ingredients are subject to the following:

Environmental Lists:

TSCA: Toxic Substance Control Act -- listed

DSL: Domestic Substance List (Canada)