MATERIAL SAFETY DATA SHEET

GENERAL HYDROPONICS FLORAMATO™

3/11/05

SECTION 1. MATERIAL IDENTIFICATION

Product Name: FloraMato ™ One Part Dry Nutrient

Chemical Family: A mixture of plant nutrition minerals in solution containing strong oxidizers

Product Use: Hydroponic plant nutrient

Manufactured by: General Hydroponics, 3789 Vine Hill Road. Sebastopol CA 95472
(707) 824 9376 Fax: (707) 824-9377
For Chemical Emergency
Spill Leak Fire Exposure or Accident:
Call CHEMTREC Day or Night
DOMESTIC NORTH AMERICA 800-424-9300
INTERNATIONAL, CALL 703-527-3887 (collect calls accepted)

SECTION 2. INGREDIENTS AND OCCUPATIONAL EXPOSURE LIMITS

Ingredients: FloraMato ™ One Part Dry Nutrient is an especially formulated mixture of chemicals that are mixed in proportions to assure excellent plant nutrition. The chemical identity of the compounds and exact proportions used in the mixture are a trade secret; however, they are derived from: ammonium molybdate, ammonium nitrate, calcium nitrate, calciumsulfate, iron dtpa, magnesium sulfate, potassium borate, potassium nitrate, potassium phosphate, zinc sulfate.

Exposure Limits: Some of the chemicals used in FloraMato ™ One Part Dry Nutrient, when inhaled in a powder form, are known to be irritants to the upper respiratory tract. OSHA has established a PEL for an eight-hour time weighted average of 5 mg/m^3 (respirable fraction) or 15 mg/m^3 eight-hour time weighted average (total dust). ACGIH has established a 10 mg/m3 eight-hour time weighted average threshold limit value for exposure to chemicals in this category. When these chemicals remain in aqueous solution and are not aerosolized, they are not an inhalation hazard.

SECTION 3. HAZARDS IDENTIFICATION

*** Emergency Overview ***

DANGER STRONG OXIDIZER, GENERAL HYDROPONICS FLORAMATO ™ ONE PART DRY NUTRIENT MAY CAUSE FIRE. HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT

NFPA Ratings:

Health: 1 Flammability: 0 Reactivity: 3 Oxidizer

Potential Health Effects

Primary Entry Routes: Ingestion, inhalation, and skin contact

Target Organs: Blood and kidneys

Ingestion: Ingestion can cause severe gastrointestinal distress, with abdominal pain, nausea, vomiting, and diarrhea.

Eye: Can cause irritation, redness, and pain.

Skin: Can cause irritation to the skin. Symptoms can include redness, itching, and pain.

Inhalation: Causes irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.

Carcinogenicity: IARC, NTP, and OSHA do not list as a carcinogen.

Medical Conditions Aggravated by Long- Term Exposure: Unknown

Chronic Effects: Repeated or prolonged exposure to some ingredients can cause methemoglobinemia, cyanosis, and convulsions.

Other: None

Section 4. FIRST AID MEASURES

Ingestion: If the victim is not breathing, perform mouth-to-mouth resuscitation. If breathing is difficult, administer oxygen. Never give anything by mouth to an unconscious person. Seek medical attention as soon as possible.

Eye Contact: Do not allow victim to rub or keep eyes tightly shut. Remove contact lenses, then gently lift eyelids and flush immediately and continuously with flooding amounts of water for at least 15 minutes. Consult a physician or ophthalmologist if pain or irritation develops.

Skin Contact: Flush exposed area with soap and water for at least 15 minutes. If irritation persists, consult a physician. Remove contaminated clothing, and wash clothing before reuse.

Inhalation: Remove exposed person to fresh air and support breathing, if necessary. If breathing becomes difficult, administer oxygen. Consult a physician as soon as possible.

After First Aid: Get appropriate community medical support.

SECTION 5. FIRE AND EXPLOSION DATA

Flash Point: Unknown

Auto-ignition Temperature: Unknown

LEL: Unknown

Burning Rate: Unknown

Flammability Classification: FloraMato ^{TM} Advanced Nutrient System is not combustible. However, some components are powerful oxidizers and can initiate and intensify combustion of flammable materials.

Explosion: May explode when shocked, exposed to heat or flame, or by spontaneous chemical reaction. Sealed containers may rupture when heated. Sensitive to mechanical impact.

Extinguishing Media: Use dry chemical, carbon dioxide, water spray, fog, or foam.

Unusual Fire or Explosion Hazards: Can cause explosions in contact with combustible dusts or vapors. Container may explode in heat of fire.

Hazardous Combustion Products: Can decompose explosively in a fire.

Fire Fighting Instructions: Contains oxidizing material. Do not use water jet. Keep fire-exposed containers cool with water spray. Remove containers from the fire area, if it can be done safely. Avoid contact with organic materials. Do not release run-off from fire control methods to sewers or waterways.

Fire Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full-face piece.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Spill /Leak Procedures: Avoid contact with organic materials and dispersal in air. Small amounts can be diluted, and flushed into a sewer. Larger amounts should be carefully swept up or vacuumed with a HEPA vacuum and held for reclamation or disposal.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

SECTION 7. HANDLING AND STORAGE

Handling Precautions: Avoid ingestion, skin contact, eye contact, and inhalation.

Storage Requirements: Separate from flammable and combustible materials, as well as from reducing agents such as zinc, alkaline metals, and formic acid.

Regulatory Requirements: Follow applicable OSHA regulations.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Provide general or local exhaust ventilation systems to maintain airborne concentrations as low as possible.

Administrative Controls: Avoid breathing dust.

Respiratory Protection: If this product is used as directed, repiratory protection is not required. Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/ NIOSH-approved respirator. If respirators are used, OSHA requires a written respiratory protection program that includes, at least: medical certification, training, fit testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Eye Protection: When handling FloraMato ^{TM} One Part Dry Nutrient, protective eyewear or goggles should be worn per OSHA regulations (29 CFR 1910.134). Contact lenses pose a special hazard. Soft lenses may absorb irritants, and all contact lenses concentrate irritants. Particles may adhere to contact lenses and cause corneal damage.

Protective Clothing: Wear, when the possibility of skin or clothing contamination may exist. Wear neoprene or nitrile gloves when directly handling the product.

Safety Stations: Eye wash stations, quick drench showers, and washing facilities should be readily accessible to workers handling large quantities of FloraMato ^{TM} One Part Dry Nutrient.

Contaminated Equipment: Remove this material from shoes and equipment. Launder contaminated clothing before wearing.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this product, especially before eating drinking, smoking, using the toilet, or applying cosmetics.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Powder/granular

Density: Unknown

pH: 4.0 @ 1 gram per liter water

Appearance and Odor: White/ no odor

Odor Threshold Range: Unknown

Vapor Pressure: Unknown

Water Solubility: Soluble

Other Solubility: Unknown

SECTION 10. STABILITY AND REACTIVITY

Stability:
Unstable - exposure to heat may result in build-up of dangerous pressures. A strong oxidizer, reacts violently upon contact with many organic substances, particularly textile and paper. Stable at room temperature in closed containers, under normal storage and handling conditions.

Hazardous Decomposition Products:
Oxides of nitrogen.

Hazardous Polymerization:
Will not occur.

Incompatibilities:
Combustible materials, organic materials, powdered metals, ammonia, hydrazine, reducing agents

Conditions to Avoid:
Heat, flame, ignition sources, shock and incompatibles

SECTION 11. TOXICOLOGICAL INFORMATION

Some chemicals in FloraMato ^{TM} One Part Dry Nutrient are toxic by ingestion, inhalation, or dermal contact.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity: Unknown
Environmental Fate: Not expected to be significant
Environmental Degradation: Unknown

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal: Follow Federal, State, and local regulations.

SECTION 14. TRANSPORTATION INFORMATION

DOT Transportation Data (49 CFR 172.101):
General Hydroponics FloraMato ™ One Part Dry Nutrient, is not regulated. It is a calcium nitrate fertilizer, consisting mainly of a double salt (calcium nitrate and ammonium nitrate) containing not more than 10 percent ammonium nitrate and more than 12 percent water of crystallization (CFR 49.172.102 code 34).

SECTION 15. REGULATORY INFORMATION

EPA Regulations: Not listed

SECTION 16. OTHER INFORMATION

General Hydroponics FloraMato ™ One Part Dry Nutrient is a plant nutrition product. Information assembled for this Material Safety Data Sheet is for the use of this product as intended by the manufacturer. Users should take all precautions recommended herein while working with this product.
General Hydroponics provides the information contained herein in good faith, but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in using this product.