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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Mad Farmer™ Get Down™ (pH Down)

Product Description: A clear, colorless liquid having no characteristic odor. Used to reduce or neutralize alkalinity of aqueous solutions in industrial operations and processes.

Information provided by: South Coast Horticultural Supply, Inc.
26895 Aliso Creek Road B685
Aliso Viejo, CA 92656

Telephone: (310) 947-6158

In case of emergency call: 911

For transportation Emergency call CHEMTREC: 800-424-9300

2. COMPOSITION & INFORMATION ON INGREDIENTS

Component	CAS#	OSHA Hazard	WT%	ACGIH		OSHA	
				TLV _(TWA)	STEL	PEL _(TWA)	STEL
Phosphoric Acid	7664-38-2	Corrosive; Lung Toxin	20 +/- 5	1 mg/m ³	3 mg/m ³	1 mg/m ³	None
Citric Acid	77-92-9	Severe Eye Irritant; Moderate to Severe Skin and Respiratory Irritant	2 +/- 1	None	None	None	None

3. HAZARDS IDENTIFICATION

NPFA 704 DESIGNATION HAZARD RATING	
4= Extreme	
3= High	
2= Moderate	
1= Slight	
0= Insignificant	

Emergency Overview: This product is a clear, colorless, strongly acidic liquid having no characteristic odor. The liquid can be severely irritating or corrosive to all tissues contacted. Exposure to this product's mists can cause severe irritation or burns to the eyes, skin and entire respiratory tract. **The NIOSH I.D.L.H. for Phosphoric Acid is: 1,000 mg/m³.**

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POTENTIAL HEALTH EFFECTS

Inhalation: Inhalation of mists or aerosols can cause severe irritation or burns to the nose, mouth, throat, mucous membranes and lungs. Exposure may cause the production of lung edema, which can result in sneezing, coughing, choking, chest pain, shortness of breath and impairment of lung function. Inhalation of high mist or aerosol concentrations may result in permanent lung damage.

Eye Contact: Exposure to the liquid or mists can cause severe eye irritation or burns. Symptoms of exposure may include tearing, redness, swelling, pain and mucous discharge. Corneal damage with impairment of vision may result from direct contact with liquid, if not treated promptly.

Skin Contact: Exposure to the liquid or mists may cause severe skin irritation and/or burns. Symptoms of exposure may include redness, swelling, pain and possible scab formation. Prolonged exposure to the liquid may cause destruction of the dermis with impairment of the skin, at site of contact, to regenerate. There is no published data indicating this product is absorbed through the skin.

Ingestion: Ingestion can cause severe irritation or burns to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, abdominal pain, diarrhea, bleeding and/or tissue ulceration.

Chronic Hazards: Repeated exposure above the ACGIH-TLV or OSHA-PEL, may cause chronic bronchitis, impairment of lung function and permanent lung damage. Otherwise, the chronic effects of exposure to this product are expected to be the same as for acute exposure.

4. FIRST AID MEASURES

Inhalation: If inhaled, immediately move to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance, use the Holger Nielsen method (back pressure-arm lift) or proper respiratory device. If breathing is difficult, give oxygen. Call a physician.

Eye Contact: In case of contact, immediately flush eyes with plenty of clean running water for at least 15 minutes, lifting the upper and lower lids occasionally. Remove contact lenses, if worn. Get medical attention immediately.

Skin Contact: In case of contact, immediately flush skin with plenty of clean running water for at least 15 minutes, while removing contaminated clothing and shoes. If burn or irritation occurs, call a physician.

Ingestion: If swallowed DO NOT induce vomiting. Get medical attention immediately. If victim is fully conscious, give plenty of water to drink. Never give anything by mouth to an unconscious person.

Note to Physicians: The Phosphoric Acid, in this product, has a relatively low oral toxicity, but it can be severely irritating and/or corrosive to the eyes, skin and mucous membranes. If ingested,

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consideration should be given to careful endoscopy as stomach or esophageal burns, perforations or strictures may occur. Careful gastric lavage with an endotracheal tube in place should be considered. Treat exposure symptomatically.

5. FIRE FIGHTING MEASURES

Flashpoint and Method: This product does not flash.

Flammable Limits (in air, % by volume): Lower: Not applicable Upper: Not applicable

Autoignition Temperature: not determined

GENERAL HAZARD: This product is not combustible, but it will generate flammable/explosive Hydrogen gas on contact with many metals. The Uniform Fire Code health hazard classification for this product is **Corrosive (Acidic)**. Dilute solutions of this product may also be corrosive. It may produce hazardous decomposition products.

Fire Fighting Instructions: **Extinguishing Media:** Water, foam, CO₂ or dry chemicals. Use a water spray or fog to cool the containers exposed to the heat of a fire.

Fire Fighting Equipment: Fire fighters should wear full protective equipment, including self-contained breathing apparatus.

Hazardous Combustion Products: When heated to dryness and decomposition, it emits toxic Phosphoric Acid fumes plus toxic carbon monoxide, carbon dioxide, phosphorous oxides, sulfur oxides, nitrogen oxides and irritating smoke.

6. ACCIDENTAL RELEASE MEASURES

Land Spill: Wearing recommended protective equipment and clothing, dike the spill and pick up the bulk of liquid using pumps or a vacuum truck, or absorb the liquid in sand or a commercial absorbent. Place in approved containers for recovery, disposal, or satellite accumulation. Neutralize the acidity of the remaining liquid, using soda ash, lime, or other agent appropriate for neutralizing acidic liquids. Flush the spill area with water, collect the rinsates for disposal or sewer, as appropriate.

Water Spill: Wear recommended protective equipment and clothing if contact with hazardous material can occur. Stop or divert water flow. Dike contaminated water and remove for disposal and/or treatment. As appropriate, notify all downstream users of possible contamination.

7. HANDLING AND STORAGE

Storage Temperature: Ambient

Storage Pressure: Ambient

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General: Store this product in a cool, dry, well-ventilated area away from incompatible materials and products. Do not get this product in eyes, on skin or on clothing. Wear recommended personal protective equipment when handling this product. Do not breathe mists. Use with adequate ventilation. Do not take internally. Keep the container tightly closed when not in use. Wash thoroughly after handling this product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Measures: Use a local or general, mechanical exhaust ventilation system capable of maintaining emissions, in the work area, below the ACGIH-TLV or OSHA-PEL or levels that may cause irritation.

Recommended Personal Protective Equipment:

Respirator: For exposure above the ACGIH-TLV or OSHA-PEL, wear a NIOSH-approved full facepiece or half mask air-purifying cartridge respirator equipped with a good mist/particulate filter cartridge or supplied air.

For exposures to Phosphoric Acid greater than 25 mg/m³, a supplied air respirator operated in the continuous flow mode is recommended.

For exposures to Phosphoric Acid greater than 50 mg/m³, a full facepiece respirator with a high-efficiency particulate filter, a full facepiece supplied air respirator or a full facepiece self-contained breathing apparatus (SCBA) is recommended.

For exposures to Phosphoric Acid above 1,000 mg/m³, a full facepiece (SCBA), operated in the positive pressure and pressure demand mode, is recommended by NIOSH.

Eyes: Wear chemical goggles (recommended by ANSI Z87.1-1979), unless a full facepiece respirator is worn.

Gloves: Wear Neoprene, Nitrile, Butyl Rubber or Natural Rubber gloves.

Clothing and Equipment: Wear a Neoprene, Nitrile, Butyl Rubber or Natural Rubber apron or full protective clothing when handling this product. An eye wash station and safety shower should be available in the work area.

Footwear: Wear Neoprene, Nitrile, Butyl Rubber or Natural Rubber boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colorless	Bulk Density (pounds/ft ³):	Not applicable
Physical State:	Liquid	Vapor Pressure:	No data available
Odor:	No characteristic	Vapor density (air=1):	No data available
Odor Threshold:	No data available	Evaporation rate (n-Butyl Acetate=1):	Less than 1
Molecular Formula:	Mixture	VOC Content:	Nil
Molecular Weight:	Not applicable	% Volatile:	Approximately 74%

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Boiling Point:	Greater than 100°C (212°F)	Solubility in H2O:	Complete
Freezing/Melting Point:	Less than 0°C (32°F)	Octanol/Water Partition Coefficient:	No data available
Specific gravity:	Approximately 1.137 @ 25°C	pH (as is):	Less than 1.0
Density (pounds/gallon):	Approximately 9.49	pH (1% solution):	1.5 to 2.5

10. STABILITY AND REACTIVITY

General: This product is stable and hazardous polymerization will not occur.

Conditions to avoid: None known.

Incompatible Material: Caustics and alkali, sulfides, sulfites, cyanides, chlorine releasers, Aluminum, Magnesium, Zinc and alloys of these metals.

Hazardous Decomposition Products: When heated to dryness and decomposition, it emits toxic Phosphoric Acid fumes plus toxic oxides of carbon, phosphorous, sulfur and nitrogen plus irritating smoke.

Sensitivity to Mechanical Impact: This product is NOT sensitive to mechanical impact.

Sensitivity to Static Discharge: This product is NOT sensitive to static discharge.

11. TOXICOLOGICAL INFORMATION

COMPONENTS:	Phosphoric Acid	Citric Acid
Eye Contact:	Rabbit: 119mg; Severe	Rabbit: 750 µg/24 hours: Severe
Skin Contact:	Rabbit: 595mg/24 hours; Severe	Rabbit: 500 mg/24 hours; Moderate
Oral Rat LD₅₀:	1,530 mg/kg	3 gm/kg
Dermal Rabbit LD₅₀:	2,740 mg/kg	No data available
Inhalation Rat LC₅₀:	Greater than 850 mg/m ³ /1 hour	No data available
Human Data:	Unreported Route Man LD _{Lo} : 220 mg/kg	No data available
Other Toxicological Data:	Oral Man LD _{Lo} : 1,286 µL/kg	Intravenous Mouse LD ₅₀ : 42 mg/kg
Carcinogenicity:	No data available	No data available
Teratogenicity:	No data available	No data available
Mutagenicity:	No data available	No data available
Synergistic Products:	None reported	None reported
Target Organs:	Eyes, Skin, Mucous membranes, Lungs and Gastrointestinal tract	Eyes, Skin, Mucous membranes, Lungs and Teeth
Medical Conditions Aggravated By Exposure	Skin, Respiratory or Gastrointestinal disorders	Skin or Respiratory disorders

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12. ECOLOGICAL INFORMATION

Environmental Fate: This product is heavier than water, completely soluble in water and will affect the pH of water. Inorganic phosphates, in contact with soil, sub-surface or surface waters, may be taken up by plants and utilized as essential nutrients. Phosphates may also form precipitates, usually with Calcium or Magnesium. The resultant compounds are insoluble, becoming part of the soil.

Environmental Considerations: The aquatic toxicity for this product is related to the pH of the water. For Rainbow Trout, the reported LC₅₀ is about a pH of 4.0 for a 7 day bioassay. Other species may vary a bit from this pH level, but all are susceptible to acidic pH conditions.

13. DISPOSAL CONSIDERATIONS

RCRA 40 CFR 261 Classification: Corrosive Waste

U.S. EPA Waste Number/Description: D002

If this product is disposed of as shipped, it meets the criteria of a hazardous waste as defined under 40 CFR 261 due to its corrosivity. If this product becomes a waste, it will be a hazardous waste, which is subject to the Land Disposal Restrictions under 40 CFR 268 and must be managed accordingly. As a hazardous liquid waste, it must be disposed of in accordance with all local, state, and federal regulations in a permitted hazardous waste treatment, storage, and disposal facility. Consult state or local officials for proper disposal method.

14. TRANSPORTATION INFORMATION

DOT Proper Shipping Name:	Phosphoric Acid solution					
	Hazard Class:	8	UN Number:	UN1805	Packing Group:	III
	Primary Label:	Corrosive	Subsidiary Label(s):	None required		
	Primary/Subsidiary Placards:	Corrosive				
DOT Reportable Quantity (RQ):	5,000 pounds (H ₃ PO ₄)	RQ for Product:	23,810 pounds (2,509 gallons)			
Marine Pollutant:	No					

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2008 North American Emergency Response Guidebook No.:		154				
TDG Proper Shipping Name:	Phosphoric Acid, Liquid					
	Hazard Class:	8	UN Number:	UN1805	Packing Group:	III
	Primary Label:	Corrosive	Subsidiary Label(s):	None required		
	Primary/Subsidiary Placards:	Corrosive				
TDG Reportable Quantity (RQ):#	At least 5 kg or 5 liters					
TDG Schedule XII:	Not listed					
Regulated Limit (RL):##	230 kg (H ₃ PO ₄)	RL for Product:	1,095.2 kg (963.3 liters)			
Other Shipping Information:	None					
<small># Canadian Transportation of Dangerous Goods Regulations (TDGR), Part IX, Table 1, Quantities or levels for Immediate Reporting: releases of reportable quantities, RQ, that meet the definition of a "dangerous occurrence" (a threat to life, health, property, or the environment) must be reported to the appropriate authorities as outlined in TDGR 9.13(1) and 9.14(1). ## Reporting to Environment Canada is required for any releases exceeding the regulated limits, RL, of 9.2 materials (primary or secondary). The regulated limits are found in Schedule XIII of the TDGR.</small>						

15. REGULATORY INFORMATION

COMPONENTS:	Phosphoric Acid	Citric Acid
<u>OSHA Target Organs:</u>	Eyes, Skin, Mucous membranes, Lungs and Gastrointestinal tract	Eyes, Skin, Mucous membranes, Lungs and Teeth
<u>Carcinogenic Potential:</u>		
Regulated by OSHA:	No	No
Listed on NTP Report:	No	No
Listed by IARC:	No	No
IARC group:	Not applicable	Not applicable
ACGIH Appendix A:	Not listed	Not listed
A1 Confirmed Human:	Not applicable	Not applicable

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A2 Suspected Human:	Not applicable	Not applicable
U.S. EPA Requirements:		
Release Reporting		
CERCLA (40 CFR 302)		
Listed Substance:	Yes	Not listed
Reportable Quantity:	5,000 pounds	Not applicable
Category:	D	Not applicable
RCRA Waste No:	Not listed	Not applicable
Unlisted Substance:	Not applicable	Yes
Reportable Quantity:	Not applicable	100 pounds
Characteristic:	Not applicable	Corrosivity
RCRA Waste No:	Not applicable	D002
SARA TITLE III		
Section 302 & 303 (40 CFR 355):		
Listed Substance:	Not listed	Not listed
Reportable Quantity:	Not applicable	Not applicable
Planning Threshold:	Not applicable	Not applicable
Section 311 & 312 (40 CFR 370)		
Hazard Categories (product):		
Fire:	N	
Sudden Release of Pressure:	N	
Reactive:	N	
Acute Health:	Y	
Chronic Health:	N	
Planning Threshold:	10,000 pounds	10,000 pounds
Section 313 (40 CFR 372):		
Listed Toxic chemical:	No (delisted in June 2000)	Not listed
Reporting Threshold:	Not applicable	Not applicable
U.S. TSCA Status		
Listed (40 CFR 710):	Yes	Yes
State Regulations		
State of California: Safe Drinking Water and Toxins Enforcement Act, 1986 (Proposition 65):		
Carcinogen:	No	No
Reproductive Toxin:	No	No
Other Regulations		
State Right to Know Laws:	MA, NJ, PA	
Canadian Regulations		
Product Information:		
Controlled Product:	Yes	
WHMIS HAZARD Symbols:	Corrosive Material	
WHMIS Class & Division:	E	

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Ingredient Information:		
IDL Substance:	Yes	Yes
DSL or NDSL lists:	DSL	DSL

16. OTHER INFORMATION

EPA Registration number: Not applicable

Approved Product Uses: Not applicable

Special Notes:

This product is not formulated to contain any material, which the state of California has found to cause cancer and/or birth defects or other reproductive harm.

Special Instructions:

When making solutions, always add Mad Farmer™ Get Down™ to water or other solutions with adequate mixing to ensure a uniform solution.

DO NOT add this product to hypochlorite bleaches, chlorine sanitizers or chlorinated cleaners as this liberates toxic, corrosive Chlorine gas.

MSDS Revision Information: MSDS-GD1

Updated April 26, 2012.

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