

MSDS FOR ALL 8 PERMITS

CHEMS	CoCo A	CoCo B	Drip Clean	Roots Excelerator	Great White	Vita Amino	Multi-zen	Bud XL	Moab	Top Booster	PH (up)	PH (down)	Mighty Wash*	Spray-n-Grow*
<u>OPERATION</u>														
<u>NEEDS FOR</u>														
<u>TWELVE (12)</u>														
<u>WEEKS:</u>														
GALLONS	251.52	251.52	20.32	27.84	9.9375	137.44	80.32	112.48	50.13	24.09	202.88	0.76	1920.00	7.71
<u>OPERATION</u>														
<u>THREE (3)</u>														
<u>WEEK SUPPLY:</u>														
GALLONS	83.84	83.84	6.77	9.28	3.31	45.81	26.77	37.49	16.71	8.03	67.63	0.25	640.00	2.57
<u>TOTAL</u>														
GALLONS														1032.32

Grow Bros will keep 3 weeks of chemicals on site at a time.

(EN)

EC FERTILIZER

(2002 C 51 E /C.1.3.)

MATERIAL SAFETY DATA SHEET



House&Garden®A-Coco Nutrient

1. Identification of the Product and the Company
Product Name : A-Coco Nutrient
Distributor : House&Garden. B.V. Postbus 1032, NL-1300 BA Almere
Emergency Phone : +31 (0)6-10-939412
2. Composition / Information on Ingredients
Chemical Description : Calcium nitrate solution
Hazardous Ingredients : Nitrogen total (N) 5% (as nitrate nitrogen) Potash (K ₂ O) 1% (soluble in water) Magnesium (Mg) 0,5 (soluble in water)
3. Hazards
Causes irritation. Slightly acid
Skin : Irritating,
Eyes : Irritating,
Ingestion : May irritate throat and cause gastrointestinal irritation or nausea
Inhalation : None
Fire : Non-combustible
4. First Aid Measures
Skin : Remove contaminated clothing, thoroughly wash exposed area with water or take shower, get medical attention
Eyes : Flush with water for at least 15 minutes and seek medical advice
Ingestion : Rinse mouth with water and seek medical advice or go to hospital
Inhalation : n.a.
5. Fire Fighting Measures
Extinguishing Media : The product itself is not combustible; in case of fire in immediate environment: all extinguishing media are permitted; preferred media are water spray, foam, CO ₂ , dry ice.
Unsuitable Extinguishing Media : Water jet.
Specific Hazards : In case of fire, cool storage tanks and containers with water spray to prevent decomposition.
6. Accidental Release Measures
Personal precautions: Avoid contact with skin and eyes.
Environmental precautions and disposal: Avoid environmental distribution. Do not discharge to sewer or surface water.

(EN)

EC FERTILIZER

(2002 C 51 E /C.1.3.)

MATERIAL SAFETY DATA SHEET



House&Garden®A-Coco Nutrient

<p>7. Handling & Storage</p> <p><u>Handling:</u> Keep out of reach of children. Not for internal use, avoid contact with skin and eyes. Irritates the skin, mucous membranes, eyes and gullet. Wear suitable protective clothing. In case of contact with skin or eyes, wash immediately with plenty of water. Technical precautions: safety shower and eye shower stations. Store at a temperature between 7 and 30 degrees Centigrade.</p> <p><u>Storage:</u> Storage conditions: Take all necessary precautions to prevent contamination in case of damaged containers. Store the containers onto drip trays or barrier material to prevent product from being discharged to the sewer or the surface water.</p>
<p>8. Exposure Control/Personal Protection</p> <p>Personal Protection: Skin : Gloves, protective clothing. Eyes : Eye goggles Inhalation : n.a.</p>
<p>9. Physical & Chemical Properties</p> <p>Appearance : Clear, red fluid Odour : None pH : <5 Crystallization temperature : <5°C Bulk density : 1.20 kg/l at 30°C Solubility in water : fully soluble</p>
<p>10. Stability & Reactivity</p> <p>Conditions to avoid: do not expose to heat. Temperatures in excess of 200°C may cause decomposition and release poisonous nitrate vapours.</p> <p>Materials to avoid: metals, alkalis</p> <p>Suitable materials : plastics, pvc</p>
<p>11. Toxicological Information</p> <p>n.a.</p>
<p>12. Ecological Information</p> <p>Larger quantities of A-Coco Nutrient are water contaminant.</p>

(EN)

EC FERTILIZER
(2002 C 51 E /C.1.3.)

MATERIAL SAFETY DATA SHEET



House&Garden®A-Coco Nutrient

13. Disposal Information

Soiled containers : Rinse with water, contact distributor/manufacturer on reuse.
Remainders/unused product: Neutralise with water. Mix residues with soil or sand before disposal.
Ensure that disposal is in compliance with local regulations.

14. Transport Information

EC FERTILIZER (2002 C 51 E/C.1.3.)
ADR/RID none/IMDG/CFR NON HAZARDOUS
Shipping information: Coco nutrient.

15. Regulatory Information

Labelling in compliance with EC Directives (2002 C 51E /C.1.3.)
Slightly irritating

16. Other Information

The information provided in this Material Safety Data Sheet is to our best knowledge and belief, accurate and reliable as of the date compiled. However, no warranty or guarantee is made in this respect. It remains the user's responsibility to ensure the suitability and completeness of this information for a particular application. House&Garden B.V. does not accept liability for any damage or loss that may arise from the use of this information.

Reference: House&Garden.B.VI/WH

Date of last issue: August 2006

Revision: 8



House&Garden®B-Coco Nutrient

<p>1. Identification of the Product and the Company</p> <p>Product Name : B-Coco Nutrient Distributor : House&Garden. B.V. Postbus 1032, NL-1300 BA Almere</p> <p>Emergency Phone : +31 (0)610 939 412</p>
<p>2. Composition / Information on Ingredients</p> <p>Chemical Description : Solution of NPK nutrients Hazardous Ingredients : Nitrogen total (N) 2% (as nitrate nitrogen) Phosphoric acid anhydride (P2O5) 3% (soluble in water) Potassium oxide (K2O) 8% (soluble in water)</p>
<p>3. Hazards</p> <p>Causes irritation. Slightly acid</p> <p>Skin : Irritating, Eyes : Irritating, Ingestion : May irritate throat and cause gastrointestinal irritation or nausea Inhalation : None</p> <p>Fire : non-combustible</p>
<p>4. First Aid Measures</p> <p>Skin : Remove contaminated clothing, thoroughly wash exposed area with water or take shower, seek medical advice Eyes : Flush with water for at least 15 minutes and seek medical advice Ingestion : Rinse mouth with water and seek medical advice or go to hospital Inhalation : n.a.</p>
<p>5. Fire Fighting Measures</p> <p>Extinguishing Media : The product itself is not combustible; in case of fire in immediate environment: all extinguishing media are permitted; preferred media are water spray, foam, CO₂, dry ice. Unsuitable Extinguishing Media : Water jet. Specific Hazards : In case of fire, cool storage tanks and containers with water spray to prevent decomposition.</p>
<p>6. Accidental Release Measures</p> <p>Personal precautions: Avoid contact with skin and eyes.</p> <p>Environmental precautions and disposal: Avoid environmental distribution. Do not discharge to sewer or surface water.</p>



House&Garden®B-Coco Nutrient

<p>7. Handling & Storage</p> <p><u>Handling:</u> Keep out of reach of children. Not for internal use, avoid contact with skin and eyes. Irritates the skin, mucous membranes, eyes and gullet. Wear suitable protective clothing. In case of contact with skin or eyes, wash immediately with plenty of water. Technical precautions: safety shower and eye shower stations. Store at a temperature between 7 and 30 degrees Centigrade.</p> <p><u>Storage:</u> Storage conditions: Take all necessary precautions to prevent contamination in case of damaged containers. Store the containers onto drip trays or barrier material to prevent product from being discharged to the sewer or the surface water.</p>
<p>8. Exposure Control/Personal Protection</p> <p>Personal Protection: Skin : Gloves, protective clothing. Eyes : Eye goggles Inhalation : n.a.</p>
<p>9. Physical & Chemical Properties</p> <p>Appearance : Clear, colourless fluid Odour : None pH : <2 Crystallization temperature : <5°C Bulk density : 1.32 kg/l at 30°C Solubility in water : fully soluble</p>
<p>10. Stability & Reactivity</p> <p>Conditions to avoid: do not expose to heat. Temperatures in excess of 200°C may cause decomposition and release poisonous nitrate vapours.</p> <p>Materials to avoid : metals, alkalis</p> <p>Suitable materials : plastics, pvc</p>
<p>11. Toxicological Information</p> <p>n.a.</p>
<p>12. Ecological Information</p> <p>Larger quantities of B-Coco Nutrient are water contaminant.</p>



House&Garden®B-Coco Nutrient

13. Disposal Information

Soiled containers : Rinse with water, contact distributor/manufacturer on reuse.
Remainders/unused product: Neutralise with water. Mix residues with soil or sand before disposal.
Ensure that disposal is in compliance with local regulations.

14. Transport Information

EC FERTILIZER (2002 C 51 /C.2.1.)
ADR/RID none/IMDG/CFR NON HAZARDOUS
Shipping information: Coco nutrient.

15. Regulatory Information

Labelling in compliance with EC Directives (2002 C 51 /C.2.1.)
Slightly irritating

16. Other Information

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Reference: House&Garden.B.VI/WH
Date of last issue: August 2006
Revision: 8



House&Garden®Bud XL

<p>1. Identification of the Product and the Company</p> <p>Product Name : House&Garden® Bud XL Distributor : House&Garden. B.V. Postbus 1032, NL-1300 BA Almere</p> <p>Emergency Phone : +31 (0)610 939412</p>
<p>2. Composition / Information on Ingredients</p> <p>Growth stimulator guaranteed analysis. Total Nitrogen (N) 0,1% (0,07% Ammoniacal Nitrogen; 0,03% Nitrate Nitrogen); available Phosphate (P205) 0,3%; Soluble Potash (K20) 0,2 Non-plant food ingredients. Derived from: Nitric acid, Potassium Hydroxide, Phosphoric</p>
<p>3. Hazards</p> <p><u>Hazardous Ingredients</u> : None <u>Health Hazards</u> : None <u>Safety Hazards</u> : None <u>Environmental Hazards</u>: None</p>
<p>4. First Aid Measures</p> <p>Skin : Rinse thoroughly, seek medical advice if symptoms occur. Eyes : Rinse thoroughly, seek medical advice if symptoms occur. Ingestion : Rinse mouth thoroughly. If swallowed, give plenty of water. Do not induce vomiting. Inhalation : None</p>
<p>5. Fire Fighting Measures</p> <p>Extinguishing Media: The product itself is not combustible; in case of fire in immediate environment: all extinguishing media are permitted; preferred media are water, foam, CO₂.</p> <p>Specific Hazards : No particular measures required.</p>
<p>6. Accidental Release Measures</p> <p><u>Personal precautions</u>: No particular measures required.</p> <p><u>Environmental precautions and disposal</u>: Product may be discharged to sewer; read local regulations.</p>



MATERIAL SAFETY DATA SHEET

House&Garden®Bud XL

<p>7. Handling & Storage <u>Handling:</u> No particular measures required. Store at a temperature between 5 and 30 degrees Centigrade.</p> <p><u>Storage:</u> Storage conditions: No particular safety measures required. Store in well-ventilated, dry and frost-free area.</p>
<p>8. Exposure Control/Personal Protection</p> <p>MAC value : Not determined</p> <p><u>Personal Protection:</u></p> <p>Skin : No special precautions required Eyes : Goggles are recommended. Mildly alkaline, may cause irritation of eyes or skin. Inhalation : No special precautions required</p> <p>No special protective clothing required. Provide eye wash stations. Handle the product in accordance with normal professional industrial operations. Prevent direct contact with food preparation tables. After contact, immediately clean surfaces with a disinfectant.</p>
<p>9. Physical & Chemical Properties</p> <p>Appearance : Bright lilac fluid Odour : Herbaceous, strongly fragrant pH : at 100g/l: 7-8 at 20°C Crystallization temperature : <0°C Bulk density : 1.10-1.15 kg/dm³ Viscosity : Solubility in water : fully soluble</p>
<p>10. Stability & Reactivity The product is stable under normal conditions.</p> <p><u>Conditions & Materials</u> : Frost may cause separation of ingredients. <u>Conditions to avoid</u> : Reducing agents and combustible materials. <u>Materials to avoid</u> : <u>Hazardous Decomposition Products</u> : Unknown.</p>
<p>11. Toxicological Information</p> <p>Acute oral LD50 : Unknown Acute dermal LD50 : Unknown</p> <p>Non-poisonous, may cause irritation in allergic persons. Symptoms: red eyes and swellings around the eyes, coughing, irritated throat and shortness of breath.</p>
<p>12. Ecological Information</p> <p>LC50(fish)>100mg/l, EC50(daphnia)>100mg/l and IC50(algae)>100 mg/l. <u>Ecological Toxicity:</u> Permitted in ecological production <u>Ecological Properties:</u> Growth Stimulator: high concentrations may cause plant burns.</p>



MATERIAL SAFETY DATA SHEET

House&Garden®Bud XL

13. Disposal Information
<u>Remainders</u> : Use as organic fertilizer. Product residues may be added to compost in small quantities.
<u>Container</u> : Fully recyclable.
<u>Recommended cleaning agents</u> : Rinse thoroughly with water. Decompose rinse water as fertilizer.
<u>General measures</u> : Read instructions before use.
14. Transport Information
EC Directive (91/155 EEC) Not hazardous for transport under UN,ADR/RID/IMO/IMDG/CFR Shipping information: House&Garden® <i>Bud XL flowering stimulator</i>
15. Regulatory Information
Labelling in compliance with EC Directives (20092/91.) R phrase: None S phrase: None
16. Other Information
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Reference: House&Garden.B.VI/WH
Date of last issue: January 2008
Revision: 9

(EN)

EC FERTILIZER

(2002 C 51 E /C0.20.7.)

MATERIAL SAFETY DATA SHEET



House&Garden®Dripclean

<p>1. Identification of the Product and the Company</p> <p>Product Name : Dripclean Distributor : House&Garden. B.V. Postbus 1032, NL-1300 BA Almere</p> <p>Emergency Phone : +31 (0)610 939412</p>
<p>2. Composition / Information on Ingredients</p> <p>Cleaning agent guaranteed analysis Available Phosphate (P205) 24,0%; Soluble Potash (K2O) 8%.</p> <p>Derived from: Phosphoric acid anhydride, Potassium oxide.</p>
<p>3. Hazards</p> <p>Causes irritation. pH-neutral.</p> <p>Skin : Irritating, Eyes : Irritating, Ingestion : May irritate throat and cause gastrointestinal irritation or nausea Inhalation : None</p> <p>Fire : non-combustible</p>
<p>4. First Aid Measures</p> <p>Skin : Remove contaminated clothing, thoroughly wash exposed area with water or take shower, seek medical advice Eyes : Flush with water for at least 15 minutes and seek medical advice Ingestion : Rinse mouth with water and seek medical advice or go to hospital Inhalation : n.a.</p>
<p>5. Fire Fighting Measures</p> <p>Extinguishing Media : The product itself is not combustible; in case of fire in immediate environment: all extinguishing media are permitted; preferred media are water spray, foam, CO₂, dry ice.</p> <p>Unsuitable Extinguishing Media : Water jet.</p> <p>Specific Hazards : In case of fire, cool storage tanks and containers with water spray to prevent decomposition.</p>
<p>6. Accidental Release Measures</p> <p>Personal precautions: Avoid contact with skin and eyes.</p> <p>Environmental precautions and disposal: Avoid environmental distribution. Do not discharge to sewer or surface water.</p>

(EN)

EC FERTILIZER

(2002 C 51 E /C0.20.7.)

MATERIAL SAFETY DATA SHEET



House&Garden®Dripclean

7. Handling & Storage

Handling:

Keep out of reach of children. Not for internal use, avoid contact with skin and eyes. Irritates the skin, mucous membranes, eyes and gullet. Wear suitable protective clothing.

In case of contact with skin or eyes, wash immediately with plenty of water.

Technical precautions: safety shower and eye shower stations.

Store at a temperature between 7 and 30 degrees Centigrade.

Storage:

Storage conditions: Take all necessary precautions to prevent contamination in case of damaged containers. Store the containers onto drip trays or barrier material to prevent product from being discharged to the sewer or the surface water.

8. Exposure Control/Personal Protection

Personal Protection:

Skin : Gloves, protective clothing.

Eyes : Eye goggles

Inhalation : n.a.

9. Physical & Chemical Properties

Appearance : Bright, colourless fluid

Odour : None

pH : <6-7

Crystallization temperature : <7°C

Bulk density : 1.30 kg/l at 30°C

Solubility in water : fully soluble

10. Stability & Reactivity

Conditions to avoid: do not expose to heat. Temperatures in excess of 200°C may cause decomposition and release poisonous nitrate vapours.

Materials to avoid: metals, alkalis

Suitable materials: plastics, pvc

11. Toxicological Information

n.a.

12. Ecological Information

Larger quantities of Dripclean are water contaminant.

(EN)

EC FERTILIZER

(2002 C 51 E /C0.20.7.)

MATERIAL SAFETY DATA SHEET



House&Garden®Dripclean

13. Disposal Information

Soiled containers : Rinse with water, contact distributor/manufacturer on reuse.
Remainders/unused product: Neutralise with water. Mix residues with soil or sand before disposal.
Ensure that disposal is in compliance with local regulations.

14. Transport Information

EC FERTILIZER (2002 C 51E /C.2.7.)
ADR/RID none/IMDG/CFR NON HAZARDOUS
Shipping information: Dripclean.

15. Regulatory Information

Labelling in compliance with EC Directives (2002 C 51E /C0.20.7.)
Slightly irritating

16. Other Information

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Reference: House&Garden.B.VI/WH
Date of last issue: January 2008
Revision: 9



412 Goetz Ave.
Santa Ana, CA 92707
Tel: (714) 545-5335
Fax: (714) 545-5429

MATERIAL SAFETY DATA SHEET

Last Revision: January 1, 2012 Emergency Phone: (714) 545-5335

Name: **Great White**

Chemical Description: Beneficial endomycorrhizal and ectomycorrhizal propagules, beneficial bacteria and trichoderma

Hazardous Component(s):

Physical/Chemical Characteristics

Boiling point: Not Applicable
Vapor pressure: Not Applicable
Vapor density: Not Applicable
Evaporation rate: Not Applicable
Melting Point: Decomposes >400 F
Specific gravity: 0.8
PH: 7.0 @ 10% dispersion in water
Solubility in water: Insoluble, but suspension with agitation
Appearance: White fine powder
Odor: Slight ammonia

Fire and Explosion Information

Flash point: Not applicable
Flammable limits: May char or smolder if exposed to fire, will not burn.
Extinguishing media: Water, CO2
Special Fire Fighting Procedures: No special methods required.
Special Fire Explosion hazards: May emit corrosive fumes when charred by intense heating.

Carcinogen Status:
Ingredients not listed as carcinogenic. Not OSMA regulated

Reactivity Data

Stability: Stable at normal temperatures.
Conditions to avoid: Contact with strong oxidizers.
Incompatibility: Strong alkalis will release ammonia fumes.
Hazardous decomposition: Ammonia may form if product is strongly heated or oxidized.
Hazardous polymerization: Will not occur.
Spill or Leak Procedures: If spilled, simply sweep or vacuum up spilled product, dispose as soil. Decontamination unnecessary. No environmental hazards.

Health Effect/First Aid Information

Inhalation: Help victim to fresh air, if breathing difficult administer oxygen. Consult physician.
Eyes: Will irritate on contact, wash out quickly to remove all particulate matter.

Ingestion: For small amounts drink plenty of water. More than a mouthful should be purged by vomiting but only if victim is conscious.

Skin: Wash with soap and water.

Signs/symptoms of exposure: Product components are soil like in nature and are non-toxic, non-allergenic, and non pathogenic to mammals. No known chronic effects.

Precautions for safe handling and use:

Respiratory Protection: Not normally needed. If dusting occurs use approved respirator to eliminate exposure.

Ventilation: Exhaust fan recommended to control dusting.

Protective gloves/clothing: Rubber or plastic recommended if repeated or prolonged contact expected.

Eye Protection: Chemical splash goggles recommended where dusting is expected, otherwise safety glasses suffice.

Work Practice: Use good housekeeping practices. Keep containers tightly closed.

Spills: Avoid creating dust when cleaning up. Scoop, shovel or sweep to labeled containers for recycling/salvage if not contaminated by other material.

Waste Disposal Method: Package material for removal to approved landfill.

Precautions for storing and handling: Avoid Storage in wet or moist areas.

Material Safety Data Sheet

Section 1: IDENTIFICATION

Product Name: Mighty Wash – RTU
Product Type: Foliage Cleaner
Chemical Name: N/A
Formula: Proprietary

Section 2: PHYSICAL DATA

Flash Point (closed cup method):	N/A
Specific Gravity:	0.9927
Vapor Pressure:	N/A
Vapor Density:	Greater than 1
Boiling Point/Melting Point:	>200
Solubility in Water:	Soluble
Appearance:	Pink opaque liquid

Section 3: FIRE AND EXPLOSION HAZARD DATA

Extinguishing Media:	N/A
Flash Point:	Non-flammable
Special Fire Fighting Procedure:	N/A
Unusual Fire and Explosion Hazards:	None required
Stability:	Stable
Hazardous Polymerization:	Will not occur
Materials to Avoid:	N/A
Conditions to Avoid:	Below 35°F
Hazardous Decomposition Products:	None

Section 4: SPILL, LEAK AND DISPOSAL PROCEDURES

Precautions if Material is Spilled or Released:	Soak spills with direct sand, sawdust, vermiculite, or other suitable absorbent materials to prevent slipping.
Waste Disposal Methods:	Dispose according to federal, state and local regulations

Section 5: PROTECTION INFORMATION

Ventilation:	Not normally required
Respiratory Protection:	Not normally required, but if vapor concentration is high due to heat, use respirator

Eye Protection: Safety glasses and goggles recommended.
Skin Protection: Standard rubber gloves and similarly approved type work clothes recommended.

Section 6: HEALTH HAZARD DATA

Occupational Exposure Limit: N/A
Threshold Limit Value: Not established
OSHA Permissible Exposure Limit: Not established
Health Hazard Determination: The components of this mixture have not been found to be carcinogenic. Components of this mixture can be irritating to the eyes. Their identity is proprietary and therefore considered a trade secret.
Effects of Overexposure: Contact of product with eyes may result in mild irritation reaction.

Emergency and First Aid Procedure:

Inhalation: Remove person from contaminated area to fresh air. If breathing is difficult, see physician
Skin: In case of eye or skin contact, flush with water. If irritation persists, contact physician.
Eyes: In case of eye or skin contact, flush with water. If irritation persists, contact physician.
Ingestion: In case of eye or skin contact, flush with water. If irritation persists, contact physician.

Section 7: STORAGE, HANDLING, SPECIAL PRECAUTIONS

Storage and Handling: Store in tightly sealed containers (preferably full) in cool dry area, away from heat, flame and sunlight
Special Precautions: None Required

US Poison Control Centers: 1-800-222-1222

Manufactured for: NPK Industries

1600 Skypark Dr. Suit 215
Medford, OR 97504
+1.800.944.4508

Revised- 10/15/10

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. By making the MSDS available, NPK LLC, DBA NPK Industries does not make any express or implied warranty (including any warranty of merchantability or fitness for a particular purpose) regarding the MSDS, its accuracy or the product to which it relates. Anyone using this information agrees that NPK Industries shall not be held liable (based on its negligence or otherwise) for any personal injury or other damage relating to, or arising from such use, including direct, incidental, or consequential damage and such user agrees to indemnify NPK Industries for any claims arising out of its use.

Product Identifier: MAD FARMER™ M.O.A.B.™
Material Safety Data Sheet (MSDS)
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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Mad Farmer™ M.O.A.B.™ (Mother Of All Blooms)
Product Description: A white, granular powder, having a slight characteristic odor.

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
Monopotassium Phosphate	7778-77-0	Eye irritant; Slight to Moderate Skin Irritant, Respiratory Irritant	90 +/- 5	None	None	None	None
Monoammonium Phosphate	7722-76-1	Eye irritant; Slight to Moderate Skin Irritant, Respiratory Irritant	8 +/- 2	None	None	None	None

Particulates Not Otherwise Regulated: (Total Dust: 15mg/m³) (Respirable fraction: 5 mg/m³)

3. HAZARDS IDENTIFICATION

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

Product Identifier: MAD FARMER™ M.O.A.B.™
Material Safety Data Sheet (MSDS)
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Emergency Overview: A white, granular, moderately acidic powder having a slight characteristic odor. The powder and dusts can cause eye irritation and possible slight to moderate skin irritation. Inhalation of dusts from this product may cause irritation to the respiratory tract. Ingestion of this product may cause moderate irritation to the entire gastrointestinal tract.

POTENTIAL HEALTH EFFECTS

Inhalation: Inhalation of this product's dusts may cause moderate irritation to the nose, mouth, throat, mucous membranes and lungs. Symptoms of exposure may include sneezing, coughing, shortness of breath and chest discomfort or pain.

Eye Contact: Exposure to the powder or dust can cause eye irritation through the mechanical action of the suspended particles and from the chemical interactions. Symptoms of exposure may include tearing, redness, swelling and discomfort or pain. This product is not expected to cause corneal damage or impairment of vision, when treated promptly.

Skin Contact: Exposure to the powder or dust may cause slight to moderate skin irritation. Symptoms of exposure may include redness, possible swelling and, on prolonged exposure, a drying or chafing of the skin. No published reports indicate this product or its components are absorbed through the skin.

Ingestion: Ingestion of this product may cause moderate irritation to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, abdominal discomfort and diarrhea.

Chronic Hazards: The chronic health effects of exposure by inhalation of this product are dependent upon the number, duration and concentrations of the exposures. Otherwise, the chronic exposure effects 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, preferably mouth-to-mouth. 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 if irritation persists.

Skin Contact: In case of contact, cleanse affected area thoroughly by washing with mild soap and water. Remove contaminated clothing and shoes and wash before reuse. If irritation occurs and persists, get medical attention.

Ingestion: If swallowed, give plenty of water to drink. Call a physician. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Note to Physicians: 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 applicable

GENERAL HAZARD: This product is a dry powder mixture of mainly inorganic materials. The Uniform Fire Code health hazard classification for this product is **IRRITANT**. This product may produce hazardous decomposition products.

Fire Fighting Instructions: **Extinguishing Media:** Water, foam, CO₂, or dry chemicals. Use the extinguishing media that is best suited for the surrounding fire.

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

Hazardous Combustion Products: When heated to decomposition, it may emit toxic chloride fumes and Ammonia gas with toxic carbon monoxide, carbon dioxide, phosphorous oxides, nitrogen oxides and potassium oxide.

6. ACCIDENTAL RELEASE MEASURES

Land Spill: Wearing recommended protective equipment and clothing, pick up the spilled material and place in approved containers for recovery, disposal, or satellite accumulation. Neutralize the acidity, of the remaining solid, using a dilute alkaline solution that is appropriate for neutralizing acidic solids. Liberally cover spill area with sodium bicarbonate. 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

Product Identifier: MAD FARMER™ M.O.A.B.™

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General: Store this product in a cool, dry area. Protect eyes, skin and clothing from contact with this product. Wear recommended personnel protective equipment. Do not breathe this product's dusts. Use with adequate ventilation. Do not ingest this product. Keep the containers tightly closed when not in use. Wash thoroughly with soap and water 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, OSHA-PEL or levels that may cause irritation.

Recommended Personal Protective Equipment:

Respirator: Respiratory protection may be required when using this product. If use of this product creates dusts that exceed an ACGIH-TLV, OSHA-PEL or may cause irritation, wear a NIOSH approved full facepiece or half mask air-purifying cartridge respirator equipped with a good particulate cartridge or supplied air.

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

Gloves: Wear rubber or plastic gloves.

Clothing and Equipment: If contact is likely, wear a rubber or plastic apron. An eye wash station and safety shower should be in the work area.

Footwear: If contact is likely, wear rubber boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White, granular powder	Bulk Density (pounds/ft ³):	No data available
Physical State:	Solid	Vapor Pressure:	Not applicable
Odor:	Slight characteristic	Vapor density (air=1):	Not applicable
Odor Threshold:	No data available	Evaporation rate (n-Butyl Acetate=1):	Not applicable
Molecular Formula:	Mixture	VOC Content:	Not applicable
Molecular Weight:	Not applicable	% Volatile:	Nil
Boiling Point:	No data available	Solubility in H2O:	Moderate (10 – 50%)
Freezing/Melting Point:	No data available	Octanol/Water Partition Coefficient:	No data available
Specific gravity:	Not applicable	pH (as is):	Not applicable
Density (pounds/gallon):	Not applicable	pH (1% solution):	4.0 to 5.0

10. STABILITY AND REACTIVITY

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

Conditions to avoid: None known.

Incompatible Material: Caustic and strong alkali solutions and strong oxidizers

Hazardous Decomposition Products: When heated to decomposition, it may emit toxic chloride fumes and Ammonia gas with toxic oxides of carbon, phosphorous, nitrogen and potassium.

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:	Monopotassium Phosphate	Monoammonium Phosphate
Eye Contact:	No data available	No data available
Skin Contact:	No data available	No data available
Oral Rat LD₅₀:	7,100 mg/kg	5,750 mg/kg
Dermal Rabbit LD₅₀:	Greater than 7,940 mg/kg	Greater than 7,940 mg/kg
Inhalation Rat LC₅₀:	No data available	No data available
Human Data:	No data available	No data available
Other Toxicological Data:	Oral Rat LD _{Lo} 4,640 mg/kg	No data available
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 and Lungs	Eyes, Skin, Mucous membranes and Lungs
Medical Conditions Aggravated By Exposure	Skin or Respiratory disorders	Skin or Respiratory disorders

12. ECOLOGICAL INFORMATION

Environmental Fate: This product is moderately soluble in water and it can 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 of this product has not been determined. However, the aquatic toxicity of this product is related to the pH of the water. For Rainbow Trout, the

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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: Non-RCRA Waste

U.S. EPA Waste Number/Description: Not applicable

If this product is disposed of as shipped, it does not meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of a hazardous waste of Subpart C, nor is it listed as hazardous waste under Subpart D due to toxicity. As a non-RCRA solid waste, it should be disposed of in accordance with all local, state, and federal regulations. Consult state or local officials for proper disposal method.

14. TRANSPORTATION INFORMATION

DOT Proper Shipping Name:	Not Restricted					
	Hazard Class:	Not applicable	UN Number:	Not applicable	Packing Group:	Not applicable
	Primary Label:	None required	Subsidiary Label(s):	None required		
	Primary/Subsidiary Placards:	None required				
DOT Reportable Quantity (RQ):	None listed	RQ for Product:	Not applicable			
Marine Pollutant:	No					
2008 North American Emergency Response Guidebook No.:				Not applicable		
TDG Proper Shipping Name:	NOT RESTRICTED					
	Hazard Class:	Not applicable	UN Number:	Not applicable	Packing Group:	Not applicable
	Primary Label:	None required	Subsidiary Label(s):	None required		
	Primary/Subsidiary Placards:	None required				

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TDG Reportable Quantity (RQ):#	Not applicable			
TDG Schedule XII:	Not applicable			
Regulated Limit (RL):##	None listed	RL for Product:	Not applicable	
Other Shipping Information:	None			
<p># 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).</p> <p>## 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.</p>				

15. REGULATORY INFORMATION

COMPONENTS:	Monopotassium Phosphate	Monoammonium Phosphate
OSHA Target Organs:	Eyes, Skin, Mucous membranes and Lungs	Eyes, Skin, Mucous membranes and Lungs
Carcinogenic Potential:		
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
A2 Suspected Human:	Not applicable	Not applicable
U.S. EPA Requirements:		
Release Reporting		
CERCLA (40 CFR 302)		
Listed Substance:	Not listed	Not listed
Reportable Quantity:	Not applicable	Not applicable
Category:	Not applicable	Not applicable
RCRA Waste No:	Not applicable	Not applicable
Unlisted Substance:	Not applicable	Not applicable

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Reportable Quantity:	Not applicable	Not applicable
Characteristic:	Not applicable	Not applicable
RCRA Waste No:	Not applicable	Not applicable
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:	Not listed	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:	None known	
Canadian Regulations		
Product Information:		
Controlled Product:	Yes	
WHMIS HAZARD Symbols:	Material Causing Other Toxic Effects	
WHMIS Class & Division:	D.2B	
Ingredient Information:		
IDL Substance:	No	No
DSL or NDSL lists:	DSL	DSL

16. OTHER INFORMATION

EPA Registration number: Not applicable

Approved Product Uses: Not applicable

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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.

Additional SARA Title III, Section 313 Information:

When this product is dissolved in water, it is subject to the above regulation under the "aqueous ammonia from water dissociable ammonium salts and other sources"; 10 percent of total aqueous ammonia is reportable under this listing.

Special Instructions:

When making solutions of this product, always add this product to cool or warm water, or other aqueous solutions, with adequate mixing to ensure a uniform solution.

Do not add this product to hypochlorite bleaches, chlorine sanitizers or chlorinated cleaners as this may liberate toxic corrosive Chlorine gas.

MSDS Revision Information: MSDS-M1

Updated April 24, 2012.

This material Safety Data Sheet is provided as an information resource only. It should not be taken as a warranty or representation for which South Coast Horticultural Supply, Inc. assumes legal liability. While South Coast Horticultural Supply, Inc. believes the information contained herein is accurate and compiled from sources believed to be reliable, it is the responsibility of the user to investigate and verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with applicable federal, state, and local regulations.

All information appearing in this document was based on data provided by third party sources and was compiled to comply with the Federal Hazard Communication Standard and the California Hazardous Substances Information and Training Act. The information is believed to be accurate as of the Update, but is not warranted as being the final authority in the use of this product. This information does not purport to be legal or medical advice.



MATERIAL SAFETY DATA SHEET

House&Garden®Multi Zyme

<p>1. Identification of the Product and the Company</p> <p>Product Name : House&Garden® Multi zyme Distributor : House&Garden. B.V. Postbus 1032, NL-1300 BA Almere</p> <p>Emergency Phone : +31 (0)610 939412</p>
<p>2. Composition / Information on Ingredients</p> <p>Growth stimulator guaranteed analysis. Total Nitrogen (N) 0.5% (0.06% Ammoniacal Nitrogen; 0,44% Nitrate Nitrogen); available Phosphate (P205) 0.1%; Soluble Potash (K20 Non-plant food ingredients. Derived from: Nitric acid, Potassium Hydroxide, Phosphoric</p>
<p>3. Hazards</p> <p><u>Hazardous Ingredients:</u> None <u>Health Hazards:</u> None <u>Safety Hazards:</u> None <u>Environmental Hazards:</u> None</p>
<p>4. First Aid Measures</p> <p>Skin : Rinse thoroughly, seek medical advice if symptoms occur. Eyes : Rinse thoroughly, seek medical advice if symptoms occur. Ingestion : Rinse mouth thoroughly. If swallowed, give plenty of water. Do not induce vomiting. Inhalation : None</p>
<p>5. Fire Fighting Measures</p> <p>Extinguishing Media : The product itself is not combustible; in case of fire in immediate environment: all extinguishing media are permitted; preferred media are water, foam, CO₂.</p> <p>Specific Hazards : No particular measures required.</p>
<p>6. Accidental Release Measures</p> <p><u>Personal precautions:</u> No particular measures required.</p> <p><u>Environmental precautions and disposal:</u> Product may be discharged to sewer; read local regulations.</p>



MATERIAL SAFETY DATA SHEET

House&Garden®Multi Zyme

<p>7. Handling & Storage <u>Handling:</u> No particular measures required. Store at a temperature between 5 and 30 degrees Centigrade.</p> <p><u>Storage:</u> Storage conditions: No particular safety measures required. Store in well-ventilated, dry and frost-free area.</p>
<p>8. Exposure Control/Personal Protection</p> <p>MAC value: Not determined</p> <p><u>Personal Protection:</u> Skin : No special precautions required Eyes : Goggles are recommended. Mildly alkaline, may cause irritation of eyes or skin. Inhalation : No special precautions required</p> <p>No special protective clothing required. Provide eye wash stations. Handle the product in accordance with normal professional industrial operations. Prevent direct contact with food preparation tables. After contact, immediately clean surfaces with a disinfectant.</p>
<p>9. Physical & Chemical Properties</p> <p>Appearance : Braun fluid. Odour : Herbaceous, strongly fragrant pH : at 100g/l: 7-8 at 20°C Crystallization temperature : <0°C Bulk density : 1.10-1.15 kg/dm³ Viscosity: Solubility in water: fully soluble</p>
<p>10. Stability & Reactivity The product is stable under normal conditions. <u>Conditions & Materials:</u> Frost may cause separation of ingredients. <u>Conditions to avoid</u> : Reducing agents and combustible materials. <u>Materials to avoid</u> : <u>Hazardous Decomposition Products:</u> Unknown.</p>
<p>11. Toxicological Information Acute oral LD50 : Unknown Acute dermal LD50 : Unknown Non-poisonous, may cause irritation in allergic persons. Symptoms: red eyes and swellings around the eyes, coughing, irritated throat and shortness of breath.</p>
<p>12. Ecological information LC50(fish)>100mg/l, EC50(daphnia)>100mg/l and IC50(algae)>100 mg/l. <u>Ecological Toxicity:</u> Permitted in ecological production <u>Ecological Properties:</u> Growth Stimulator: high concentrations may cause plant burns.</p>



MATERIAL SAFETY DATA SHEET

House&Garden®Multi Zyme

<p>13. Disposal Information</p> <p><u>Remainders:</u> Use as organic fertilizer. Product residues may be added to compost in small quantities. <u>Container:</u> Fully recyclable.</p> <p><u>Recommended cleaning agents:</u> Rinse thoroughly with water. Decompose rinse water as fertilizer.</p> <p><u>General measures:</u> Read instructions before use.</p>
<p>14. Transport Information</p> <p>EC Directive (91/155 EEC) Not hazardous for transport under UN,ADR/RID/IMO/IMDG?CFR Shipping information: House&Garden®<i>Multi zyme Growth Stimulator</i></p>
<p>15. Regulatory Information</p> <p>Labelling in compliance with EC Directives (20092/91.) R phrase: None S phrase: None</p>
<p>16. Other Information</p> <p>The information provided in this Material Safety Data Sheet is to our best knowledge and belief, accurate and reliable as of the date compiled. However, no warranty or guarantee is made in this respect. It remains the user's responsibility to ensure the suitability and completeness of this information for a particular application. House&Garden B.V. does not accept liability for any damage or loss that may arise from the use of this information.</p>

Reference: House&Garden.B.VI/WH
Date of last issue: January 2008
Revision: 9



Date : 06/15/2013
Version : 2

Material Safety Data Sheet

PH DOWN LIQUID

1. Product and company identification

Product name : PH DOWN LIQUID
 Material uses : Not available.
 Supplier/Manufacturer : General Hydroponics
 PO BOX 1576
 Sebastopol CA 95472
 Tel: (707) 824-9376
 Fax: (707) 824-9377
 MSDS authored by : KMK Regulatory Services Inc.
 In case of emergency : CHEMTREC, U.S. : 1-800-424-9300
 International: +1-703-527-3887 (collect calls accepted)

2. Hazards identification

Emergency overview

Physical state : Liquid.
 Color : Yellow.
 Odor : Odorless.
 Signal word : DANGER!
 Hazard statements : CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
 Precautionary measures : Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Do not get in eyes. Do not get on skin. Do not eat, drink or smoke when using this product. Keep container tightly closed. Wash thoroughly after handling.
 OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
 Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : Corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
 Ingestion : Harmful if swallowed. May cause burns to mouth, throat and stomach.
 Skin : Corrosive to the skin. Causes burns.
 Eyes : Corrosive to eyes. Causes burns.

Potential chronic health effects

Chronic effects : Contains material that may cause target organ damage, based on animal data.
 Carcinogenicity : No known significant effects or critical hazards.
 Mutagenicity : No known significant effects or critical hazards.
 Teratogenicity : No known significant effects or critical hazards.
 Developmental effects : No known significant effects or critical hazards.
 Fertility effects : No known significant effects or critical hazards.

2. Hazards identification

Target organs : Contains material which may cause damage to the following organs: upper respiratory tract, skin, eye, lens or cornea.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion : Adverse symptoms may include the following:
stomach pains

Skin : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Eyes : Adverse symptoms may include the following:
pain
watering
redness

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3. Composition/information on ingredients

Name	CAS number	%
Phosphoric acid	7664-38-2	10 - 30
Ammonium dihydrogenorthophosphate	7722-76-1	5 - 10
Citric acid	77-92-9	5 - 10

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. Fire-fighting measures

Flammability of the product : No specific fire or explosion hazard.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : No special precaution is required.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
phosphorus oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.

7. Handling and storage

- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
Phosphoric acid	ACGIH TLV (United States, 3/2012). STEL: 3 mg/m ³ 15 minutes. TWA: 1 mg/m ³ 8 hours. NIOSH REL (United States, 6/2009). STEL: 3 mg/m ³ 15 minutes. TWA: 1 mg/m ³ 10 hours. OSHA PEL (United States, 6/2010). TWA: 1 mg/m ³ 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 1 mg/m ³ 8 hours. STEL: 3 mg/m ³ 15 minutes.
Ammonium dihydrogenorthophosphate	ACGIH TLV (United States). TWA: 5 mg/m ³ 8 hours. Form: Dust

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

- Respiratory** : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

8. Exposure controls/personal protection

- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

- Physical state** : Liquid.
- Color** : Yellow.
- Odor** : Odorless.
- pH** : 1.2
- Boiling/condensation point** : 104°C (219.2°F)
- Melting/freezing point** : -8°C (17.6°F)
- Relative density** : 1.13
- Vapor pressure** : 2.3 kPa (17.5 mm Hg) [room temperature]
- Viscosity** : Kinematic (room temperature): 0.01 cm²/s (1 cSt)
- Solubility** : Easily soluble in the following materials: cold water and hot water.
- Partition coefficient (LogKow)** : There is no data available.

10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : No specific data.
- Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials, metals, acids and alkalis.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Phosphoric acid Ammonium dihydrogenorthophosphate	LD50 Oral	Rat	1.25 g/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
Citric acid	LD50 Oral	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	3 g/kg	-

Chronic toxicity

There is no data available.

Irritation/Corrosion

11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Citric acid	Eyes - Severe irritant	Rabbit	-	24 hours 750 Micrograms	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	0.5 Milliliters	-

Sensitizer

Skin : There is no data available.

Respiratory : There is no data available.

Carcinogenicity

There is no data available.

Mutagenicity

There is no data available.

Teratogenicity

There is no data available.

Reproductive toxicity

There is no data available.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Citric acid	Acute LC50 160000 µg/l Marine water	Crustaceans - Carcinus maenas - Adult	48 hours

Persistence/degradability

There is no data available.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1805	PHOSPHORIC ACID, SOLUTION RQ(Phosphoric Acid)	8	III		Reportable quantity 24449.9 lbs / 11100.2 kg [2595 gal / 9823.2 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
IMDG Class	UN1805	PHOSPHORIC ACID, SOLUTION	8	III		-
IATA-DGR Class	UN1805	PHOSPHORIC ACID, SOLUTION	8	III		-

PG* : Packing group

Exemption to the above classification may apply.

AERG : 153

15. Regulatory information

 HCS Classification : Corrosive material
 Target organ effects

 U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Water Act (CWA) 311: Phosphoric acid

 Clean Air Act Section 112 : Not listed
 (b) Hazardous Air Pollutants (HAPs)

 Clean Air Act Section 602 : Not listed
 Class I Substances

 Clean Air Act Section 602 : Not listed
 Class II Substances

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

 Classification : Reactive
 Immediate (acute) health hazard

Composition/information on ingredients

15. Regulatory information

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Phosphoric acid	10 - 30	No.	No.	No.	Yes.	No.
Citric acid	5 - 10	No.	No.	No.	Yes.	No.

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Ammonium dihydrogenorthophosphate	7722-76-1	5 - 10
Supplier notification	Ammonium dihydrogenorthophosphate	7722-76-1	5 - 10

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

- Massachusetts : The following components are listed: Phosphoric acid
 New York : The following components are listed: Phosphoric acid
 New Jersey : The following components are listed: Phosphoric acid
 Pennsylvania : The following components are listed: Phosphoric acid

California Prop. 65

No products were found.

16. Other information

Label requirements : CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

Hazardous Material Information System (U.S.A.) : Health : 3 * Flammability : 0 Physical hazards : 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) : Health : 3 Flammability : 0 Instability : 0

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

- Date of issue mm/dd/yyyy : 06/15/2013
 Date of previous issue : 03/15/2013
 Version : 2
 Revised Section(s) : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

16. Other information

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Material Safety Data Sheet

PH UP LIQUID

1. Product and company identification

Product name : PH UP LIQUID
Material uses : Not available.
Supplier/Manufacturer : General Hydroponics
PO BOX 1576
Sebastopol CA 95472
Tel: (707) 824-9376
Fax: (707) 824-9377
MSDS authored by : KMK Regulatory Services Inc.
In case of emergency : CHEMTREC, U.S. : 1-800-424-9300
International: +1-703-527-3887 (collect calls accepted)

2. Hazards identification

Emergency overview

Physical state : Liquid.
Color : Blue.
Odor : Odorless.
Signal word : WARNING!
Hazard statements : CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED.
Precautionary measures : Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Keep container tightly closed. Wash thoroughly after handling.
OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Routes of entry : Not available.

Potential acute health effects

Inhalation : Irritating to respiratory system.
Ingestion : Harmful if swallowed.
Skin : Irritating to skin.
Eyes : Irritating to eyes.

Potential chronic health effects

Chronic effects : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Over-exposure signs/symptoms



2. Hazards identification

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Ingestion** : No known significant effects or critical hazards.
- Skin** : Adverse symptoms may include the following:
irritation
redness
- Eyes** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Medical conditions aggravated by over-exposure** : None known.

See toxicological information (Section 11)

3. Composition/information on ingredients

Name	CAS number	%
Potassium Carbonate	584-08-7	10 - 30

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Flammability of the product : No specific fire or explosion hazard.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : No special precaution is required.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

- Respiratory** : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

- Physical state** : Liquid.
- Color** : Blue.
- Odor** : Odorless.
- pH** : 12 to 12.3
- Boiling/condensation point** : 100°C (212°F)
- Melting/freezing point** : 0°C (32°F)
- Relative density** : 1.09
- Solubility** : Easily soluble in the following materials: cold water and hot water.
- Partition coefficient (LogKow)** : There is no data available.

10. Stability and reactivity

- Chemical stability : The product is stable.
- Conditions to avoid : No specific data.
- Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials and acids.
- Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Potassium Carbonate	LD50 Oral	Rat	1870 mg/kg	-

Chronic toxicity

There is no data available.

Irritation/Corrosion

- Skin : There is no data available.
- Eyes : There is no data available.
- Respiratory : There is no data available.

Sensitizer

- Skin : There is no data available.
- Respiratory : There is no data available.

Carcinogenicity

There is no data available.

Mutagenicity

There is no data available.

Teratogenicity

There is no data available.

Reproductive toxicity

There is no data available.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Potassium Carbonate	Acute LC50 630000 to 670000 µg/l Fresh water Acute LC50 650000 to 820000 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia Daphnia - Daphnia magna	48 hours 48 hours

Persistence/degradability

There is no data available.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group

Exemption to the above classification may apply.

AERG : Not applicable

15. Regulatory information

HCS Classification : Irritating material

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 311: Edetic acid

Clean Air Act Section 112 : Not listed
(b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 : Not listed
Class I Substances

Clean Air Act Section 602 : Not listed
Class II Substances

DEA List I Chemicals : Not listed
(Precursor Chemicals)

DEA List II Chemicals : Not listed
(Essential Chemicals)

SARA 302/304

Composition/information on ingredients

No products were found.



15. Regulatory information

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Potassium Carbonate	10 - 30	No.	No.	No.	Yes.	No.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

California Prop. 65

No products were found.

16. Other information

Label requirements : CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED.

Hazardous Material Information System (U.S.A.) : Health : 2 Flammability : 0 Physical hazards : 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) : Health : 2 Flammability : 0 Instability : 0

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History

Date of issue mm/dd/yyyy : 06/15/2013

Date of previous issue : 03/15/2013

Version : 2

Revised Section(s) : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



MATERIAL SAFETY DATA SHEET

House&Garden®Roots Excelerator

<p>1. Identification of the Product and the Company</p> <p>Product Name : House&Garden® Roots Excelerator Distributor : House&Garden. B.V. Postbus 1032, NL-1300 BA Almere</p> <p>Emergency Phone : +31 (0)610 939412</p>
<p>2. Composition / Information on Ingredients</p> <p>Growth stimulator guaranteed analysis. Total Nitrogen (N) 0.6% (0.6% Ammoniacal Nitrogen; available Phosphate (P205) 0.2 %; Soluble Potash (K20 Non-plant food ingredients. Derived from: Ammonium Nitrate, Potassium Hydroxide,</p>
<p>3. Hazards</p> <p><u>Hazardous Ingredients:</u> None <u>Health Hazards:</u> None <u>Safety Hazards:</u> None <u>Environmental Hazards:</u> None</p>
<p>4. First Aid Measures</p> <p>Skin : Rinse thoroughly, seek medical advice if symptoms occur. Eyes : Rinse thoroughly, seek medical advice if symptoms occur. Ingestion : Rinse mouth thoroughly. If swallowed, give plenty of water. Do not induce vomiting. Inhalation : None</p>
<p>5. Fire Fighting Measures</p> <p>Extinguishing Media : The product itself is not combustible; in case of fire in immediate environment: all extinguishing media are permitted; preferred media are water, foam, CO₂.</p> <p>Specific Hazards : No particular measures required.</p>
<p>6. Accidental Release Measures</p> <p><u>Personal precautions:</u> No particular measures required.</p> <p><u>Environmental precautions and disposal:</u> Product may be discharged to sewer; read local regulations.</p>



MATERIAL SAFETY DATA SHEET

House&Garden®Roots Excelerator

<p>7. Handling & Storage <u>Handling:</u> No particular measures required. Store at a temperature between 5 and 30 degrees Centigrade.</p> <p><u>Storage:</u> Storage conditions: No particular safety measures required. Store in well-ventilated, dry and frost-free area.</p>
<p>8. Exposure Control/Personal Protection</p> <p>MAC value: Not determined <u>Personal Protection:</u> Skin : No special precautions required Eyes : Goggles are recommended. Mildly alkaline, may cause irritation of eyes or skin. Inhalation : No special precautions required</p> <p>No special protective clothing required. Provide eye wash stations. Handle the product in accordance with normal professional industrial operations. Prevent direct contact with food preparation tables. After contact, immediately clean surfaces with a disinfectant.</p>
<p>9. Physical & Chemical Properties</p> <p>Appearance : Black fluid. Odour : Herbaceous, strongly fragrant pH : at 100g/l: 7-8 at 20°C Crystallization temperature : <0°C Bulk density : 1.10-1.15 kg/dm3 Viscosity: Solubility in water: fully soluble</p>
<p>10. Stability & Reactivity The product is stable under normal conditions. <u>Conditions & Materials:</u> Frost may cause separation of ingredients. <u>Conditions to avoid:</u> Reducing agents and combustible materials. <u>Materials to avoid:</u> <u>Hazardous Decomposition Products:</u> Unknown.</p>
<p>11. Toxicological Information Acute oral LD50 : Unknown Acute dermal LD50 : Unknown Non-poisonous, may cause irritation in allergic persons. Symptoms: red eyes and swellings around the eyes, coughing, irritated throat and shortness of breath.</p>
<p>12. Ecological information <u>Ecological Toxicity:</u> Permitted in ecological production <u>Ecological Properties:</u> Growth Stimulator: high concentrations may cause plant burns.</p>



MATERIAL SAFETY DATA SHEET

House&Garden®Roots Excelerator

<p>13. Disposal Information</p> <p><u>Remainders:</u> Use as organic fertilizer. Product residues may be added to compost in small quantities. <u>Container:</u> Fully recyclable.</p> <p><u>Recommended cleaning agents:</u> Rinse thoroughly with water. Decompose rinse water as fertilizer.</p> <p><u>General measures:</u> Read instructions before use.</p>
<p>14. Transport Information</p> <p>EC Directive (91/155 EEC) Not hazardous for transport under UN,ADR/RID/IMO/IMDG/CFR Shipping information: <i>House&Garden®Roots Excelerator</i></p>
<p>15. Regulatory Information</p> <p>Labelling in compliance with EC Directives (20092/91.) R phrase: None S phrase: None</p>
<p>16. Other Information</p> <p>The information provided in this Material Safety Data Sheet is to our best knowledge and belief, accurate and reliable as of the date compiled. However, no warranty or guarantee is made in this respect. It remains the user's responsibility to ensure the suitability and completeness of this information for a particular application. House&Garden B.V. does not accept liability for any damage or loss that may arise from the use of this information.</p>

Reference: House&Garden.B.VI/WH
Date of last issue: January 2008
Revision: 9

MATERIAL SAFETY DATA SHEET

SPRAY-N-GROW

SECTION 1 – Product & Company

Company Name Spray-N-Grow, Inc.
Company Address..... 20 Hwy 35 S Rockport, TX 78382
Phone Number 361-790-9033
Emergency Phone Number 800-323-2363
Effective Date 10-25-01
Trade Name..... Spray-N-Grow
Chemical Family..... Inorganic (Micronutrient)
Ingredients..... See attached analysis

SECTION 2 – Composition/Information on Ingredients

Ingredients are exempt from the requirements of a tolerance level by the Federal Code of Regulations, title 40, Part 181.001. Properties blend: .10% Iron, .05% Zinc derived from Iron Sulfate and Zinc Chloride.

SECTION 3 – Hazards Identification

Potential Health Effects

Eyes May cause irritation. Flush with water
Skin Contact..... None
Skin Absorption..... None
Ingestion..... May cause discomfort in the form of diarrhea, gastric distress. Consult physician if symptoms persist.
Inhalation..... None
Systematic & Other Effects..... See “Ingestion” above

SECTION 4 – First Aid Measures

Eye Contact..... Flush with water if irritated
Skin Contact..... Wash with water
Inhalation..... None
Ingestion..... Force down water & induce vomiting. Non-toxic, but drinking the concentrate may cause diarrhea.

SECTION 5 – Fire Fighting Measures

Flash Point..... None
Flammable Limits..... Non-flammable
Extinguishing Media N/A
Special Fire Fighting Procedure None
Unusual Fire & Explosion Hazard None, Non-combustible

SECTION 6 – Accidental Release Measures

Wash any spillage down with water if outside. Inside, wipe up with paper towels or rags.
No special handling requirements.

SECTION 7 – Handling & Storage

No special requirements.

SECTION 8 – Exposure Controls/Personal Protection

Ventilation
Respiratory Protection
Skin Protection
Eye Protection

SECTION 9 – Physical & Chemical Properties

Appearance..... Clear liquid – slightly bluish
Odor..... None
Specific Gravity 1.0
Solubility in Water..... Complete
Boiling Point 212° F

SECTION 10 – Stability & Reactivity

Stable/Unstable Stable
Incompatibility..... None
Chemical Properties..... Inorganic (Natural)
Combustion Products None

SECTION 11 – Toxicological Information

Inhalation..... None
Ingestion..... May cause discomfort if swallowed. May cause diarrhea.
Skin..... None
Eyes May be irritating to eyes.

SECTION 12 – Ecological Information

Ecological Information..... N/A

SECTION 13 – Disposal Consideration

Product Disposal..... Liquid material may be diluted with water and applied to soil in accordance to label instructions. Material absorbed into dirt, sand, or other absorbent materials may be safely placed in solid waste containers in accordance to Federal, State, and local law.

Container Disposal Triple rinse. Then offer for recycling or dispose of in a sanitary landfill, or by other procedures approved by sate or local authorities.

SECTION 14 – Transport Precautions

U.S. Department of Transportation
Proper Shipping Name NMFC #4610 Spray adjuvant
Hazard Class None, non-hazardous liquid.

SECTION 15 – Regulatory Information

U.S. Federal Regulations..... EPA Cat 4 – No hazard or using label required

SECTION 16 – Other Information

N/A

(EN)

EC FERTILIZER

(2002 C 51 E /C0.20.7.)

MATERIAL SAFETY DATA SHEET



House&Garden®Top Booster

<p>1. Identification of the Product and the Company</p> <p>Product Name : Top Booster Distributor : House&Garden. B.V. Postbus 1032, NL-1300 BA Almere</p> <p>Emergency Phone : +31 (0)610 939412</p>
<p>2. Composition / Information on Ingredients</p> <p>Chemical Description : Solution of PK nutrients</p> <p>Hazardous Ingredients : Phosphoric acid anhydride (P205) 8% (soluble in water) Potassium oxide (K2O) 7% (soluble in water) EDDHA iron</p>
<p>3. Hazards</p> <p>Causes irritation. pH-neutral.</p> <p>Skin : Irritating, Eyes : Irritating, Ingestion : May irritate throat and cause gastrointestinal irritation or nausea Inhalation : None</p> <p>Fire: non-combustible</p>
<p>4. First Aid Measures</p> <p>Skin : Remove contaminated clothing, thoroughly wash exposed area with water or take shower, seek medical advice Eyes : Flush with water for at least 15 minutes and seek medical advice Ingestion : Rinse mouth with water and seek medical advice or go to hospital Inhalation : n.a.</p>
<p>5. Fire Fighting Measures</p> <p>Extinguishing Media : The product itself is not combustible; in case of fire in immediate environment: all extinguishing media are permitted; preferred media are water spray, foam, CO₂, dry ice.</p> <p>Unsuitable Extinguishing Media : Water jet.</p> <p>Specific Hazards : In case of fire, cool storage tanks and containers with water spray to prevent decomposition.</p>
<p>6. Accidental Release Measures</p> <p>Personal precautions: Avoid contact with skin and eyes.</p> <p>Environmental precautions and disposal: Avoid environmental distribution. Do not discharge to sewer or surface water.</p>

(EN)

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<p>7. Handling & Storage</p> <p><u>Handling:</u> Keep out of reach of children. Not for internal use, avoid contact with skin and eyes. Irritates the skin, mucous membranes, eyes and gullet. Wear suitable protective clothing. In case of contact with skin or eyes, wash immediately with plenty of water. Technical precautions: safety shower and eye shower stations. Store at a temperature between 7 and 30 degrees Centigrade.</p> <p><u>Storage:</u> Storage conditions: Take all necessary precautions to prevent contamination in case of damaged containers. Store the containers onto drip trays or barrier material to prevent product from being discharged to the sewer or the surface water.</p>
<p>8. Exposure Control/Personal Protection</p> <p>Personal Protection: Skin : Gloves, protective clothing. Eyes : Eye goggles Inhalation : n.a.</p>
<p>9. Physical & Chemical Properties</p> <p>Appearance : Clear, red fluid Odour : None PH : <6-7 Crystallization temperature : <7°C Bulk density : 1.33 kg/l at 30°C Solubility in water: fully soluble</p>
<p>10. Stability & Reactivity</p> <p>Conditions to avoid: do not expose to heat. Temperatures in excess of 200°C may cause decomposition and release poisonous nitrate vapours.</p> <p>Materials to avoid: metals, alkalis</p> <p>Suitable materials: plastics, pvc</p>
<p>11. Toxicological Information</p> <p>n.a.</p>
<p>12. Ecological information</p> <p>Larger quantities of Top Booster are water contaminant.</p>

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13. Disposal Information

Soiled containers : Rinse with water, contact distributor/manufacturer on reuse.
Remainders/unused product: Neutralise with water. Mix residues with soil or sand before disposal. Ensure that disposal is in compliance with local regulations.

14. Transport Information

EC FERTILIZER (2002 C 51E /C.2.7.)
ADR/RID none/IMDG/CFR NON HAZARDOUS
Shipping information: Top Booster.

15. Regulatory Information

Labelling in compliance with EC Directives (2002 C 51E /C0.20.7.)
Slightly irritating

16. Other Information

The information provided in this Material Safety Data Sheet is to our best knowledge and belief, accurate and reliable as of the date compiled. However, no warranty or guarantee is made in this respect. It remains the user's responsibility to ensure the suitability and completeness of this information for a particular application. House&Garden B.V. does not accept liability for any damage or loss that may arise from the use of this information.

Reference: House&Garden.B.VI/WH

Date of last issue: January 2008

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Botanicare: 6858 W. Chicago St. #3, Chandler, Az 85226 480-777-2000

VITAMINO MSDS SHEET

PRODUCT NAME: Vitamino

1. Ingredients: Water-soluble vitamins in an acidic medium

2. Physical Data:
Physical Form: Liquid
Boiling Point: 100° C
Vap Press: N/A
Vap Density: N/A
Sol in Water: Completely Soluble
Evaporation Rate: N/A
Appearance: Yellow-colored liquid
Odor: Organic odor

3. Fire and Explosion Hazard Data:
Flash Point: N/A
Method Used: N/A
Flammable Limits:
LFL: N/A
UFL: N/A
Extinguishing Media: This product is not combustible. Use any appropriate medium for extinguishing surrounding fires.

4. Reactivity Data:
Stability: Stable
Polymerization: Will not occur
Conditions to Avoid: Water of crystallization from applicable components driven off at approximately 235° F / 113° C
Materials to Avoid: Solutions can be corrosive to metals. Avoid strong oxidizing and reducing agents.

5. Environmental and Disposal Information:
ACTION TO TAKE FOR SPILLS OR LEAKS: Wear protective equipment including rubber boots, rubber gloves, rubber apron, and chemical goggles. For small spills, sweep up and dispose of in DOT-approved waste containers. Comply with all applicable governmental regulations on spill reporting, and handling and disposal of waste.

6. First Aid:
If Inhaled: Remove to fresh air
In case of eye contact: Flush eyes with lots of running water.

In case of skin contact: Wash skin with lots of soap and water. Remove contaminated clothing and shoes. Get medical attention if irritation persists.
If Swallowed: Do not induce vomiting. Consult a physician.

7. Health Hazard Information:

Primary Routes of Exposure: Skin or eye contact, swallowed

Signs and Symptoms of Exposure:

Eye Contact: May moderately irritate eyes.

Skin Contact: May irritate damp skin

Swallowed: Swallowing may result in abdominal discomfort

Chronic Effects of Exposure: No Specific information available.

Medical Conditions aggravated by exposure: None known

8. Handling Precautions:

Exposure Guideline:

Ventilation: Local mechanical exhaust ventilation at the point of use.

Respiratory Protection: Niosh- Approved dust and vapor respirator or mask in the absence of adequate environmental controls at the point of use.

Protective Clothing: Long sleeved shirt, trousers, safety shoes and gloves.

Eye Protection: Chemical goggles.

Other Protective measures: An eyewash and safety shower should be nearby and ready for use.