Supplemental Information

Re-submittal Package
DRC2019-00131

Section Two
Manufacturer Sheets

Attachment 10 – Manufacturer Safety Data Sheets

1. Bleach
2. Hydrogen Peroxide
3. Isopropyl Alcohol
4. Coco Coir
5. General Hydroponics - Flora Gro
6. General Hydroponics - Flora Micro
7. General Hydroponics - Flora Bloom
8. Neem Oil
9. pH Up
10. pH Down
11. Organocide
12. Diatomaceous Earth
13. SNS 203
14. Liquid Fish
15. Rockwool
16. Perlite

SAFETY DATA SHEET

Issuing Date January 5, 2015 **Revision Date** June 12, 2015 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **Clorox® Regular-Bleach$_1$**

Other means of identification

EPA Registration Number 5813-100

Recommended use of the chemical and restrictions on use

Recommended use Household disinfecting, sanitizing, and laundry bleach

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
The Clorox Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

Emergency telephone number

Emergency Phone Numbers For Medical Emergencies, call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

GHS Label elements, including precautionary statements

Emergency Overview

Signal word **Danger**

Hazard Statements
Causes severe skin burns and eye damage
Causes serious eye damage

Appearance Clear, pale yellow **Physical State** Thin liquid **Odor** Bleach

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling.
Wear protective gloves, protective clothing, face protection, and eye protection such as safety glasses.

Precautionary Statements - Response
Immediately call a poison center or doctor.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Specific treatment (see supplemental first aid instructions on this label).
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary Statements - Storage
Store locked up.

Precautionary Statements - Disposal
Dispose of contents in accordance with all applicable federal, state, and local regulations.

Hazards not otherwise classified (HNOC)
Although not expected, heart conditions or chronic respiratory problems such as asthma, chronic bronchitis, or obstructive lung disease may be aggravated by exposure to high concentrations of vapor or mist.

Product contains a strong oxidizer. Always flush drains before and after use.

Unknown Toxicity
Not applicable.

Other information
Very toxic to aquatic life with long lasting effects.

Interactions with Other Chemicals
Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, or products containing ammonia to produce hazardous irritating gases, such as chlorine and other chlorinated compounds.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Sodium hypochlorite	7681-52-9	5 - 10	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General Advice Call a poison control center or doctor immediately for treatment advice. Show this safety data sheet to the doctor in attendance.

Eye Contact Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin Contact Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation Move to fresh air. If breathing is affected, call a doctor.

Ingestion Have person sip a glassful of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice.

Protection of First-aiders Avoid contact with skin, eyes, and clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Burning of eyes and skin.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical
This product causes burns to eyes, skin, and mucous membranes. Thermal decomposition can release sodium chlorate and irritating gases and vapors.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation. Use personal protective equipment as required. For spills of multiple products, responders should evaluate the MSDSs of the products for incompatibility with sodium hypochlorite. Breathing protection should be worn in enclosed and/or poorly-ventilated areas until hazard assessment is complete.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams. See Section 12 for ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Store away from children. Reclose cap tightly after each use. Store this product upright in a cool, dry area, away from direct sunlight and heat to avoid deterioration. Do not contaminate food or feed by storage of this product.

Incompatible Products Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hypochlorite 7681-52-9	None	None	None

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection If splashes are likely to occur: Wear safety glasses with side shields (or goggles) or face shield.

Skin and Body Protection Wear rubber or neoprene gloves and protective clothing such as long-sleeved shirt.

Respiratory Protection If irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Wash hands after direct contact. Do not wear product-contaminated clothing for prolonged periods. Remove and wash contaminated clothing before re-use. Do not eat, drink, or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Thin liquid		
Appearance	Clear	**Odor**	Bleach
Color	Pale yellow	**Odor Threshold**	No information available

Property	**Values**	**Remarks/ Method**
pH	~12	None known
Melting/freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	Not flammable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	~1.1	None known
Water Solubility	Soluble	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	No data available

10. STABILITY AND REACTIVITY

Reactivity
Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, or products containing ammonia to produce hazardous irritating gases, such as chlorine and other chlorinated compounds.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
None known based on information supplied.

Incompatible materials
Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information .

Inhalation Exposure to vapor or mist may irritate respiratory tract and cause coughing. Inhalation of high concentrations may cause pulmonary edema.

Eye Contact Corrosive. May cause severe damage to eyes.

Skin Contact May cause severe irritation to skin. Prolonged contact may cause burns to skin.

Ingestion Ingestion may cause burns to gastrointestinal tract and respiratory tract, nausea, vomiting, and diarrhea.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hypochlorite 7681-52-9	8200 mg/kg (Rat)	>10000 mg/kg (Rabbit)	-

Information on toxicological effects

Symptoms May cause redness and tearing of the eyes. May cause burns to eyes. May cause redness or burns to skin. Inhalation may cause coughing.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sodium hypochlorite 7681-52-9	-	Group 3	-	-

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.
Chronic Toxicity Carcinogenic potential is unknown.
Target Organ Effects Respiratory system, eyes, skin, gastrointestinal tract (GI).

Aspiration Hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
54 g/kg
ATEmix (inhalation-dust/mist)
58 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams.

Persistence and Degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods
Dispose of in accordance with all applicable federal, state, and local regulations. Do not contaminate food or feed by disposal of this product.

Contaminated Packaging
Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT	Not restricted.
TDG	Not restricted for road or rail.
ICAO	Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.
IATA	Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.
IMDG/IMO	Not restricted, as per IMDG Code 2.10.2.7, Marine Pollutant exception.

15. REGULATORY INFORMATION

Chemical Inventories

TSCA	All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.
DSL/NDSL	All components are on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hypochlorite 7681-52-9	100 lb			X

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium hypochlorite 7681-52-9	100 lb	–	RQ 100 lb final RQ RQ 45.4 kg final RQ

EPA Statement
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

> **DANGER: CORROSIVE.** Causes irreversible eye damage and skin burns. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Wear protective eyewear and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the restroom. Avoid breathing vapors and use only in a well-ventilated area.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium hypochlorite 7681-52-9	X	X	X	X	
Sodium chlorate 7775-09-9	X	X	X		

International Regulations

Canada
WHMIS Hazard Class
E - Corrosive material

16. OTHER INFORMATION

NFPA	**Health Hazard** 3	**Flammability** 0	**Instability** 0	**Physical and Chemical Hazards** -
HMIS	**Health Hazard** 3	**Flammability** 0	**Physical Hazard** 0	**Personal Protection** B

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date June 12, 2015

Revision Note Revision Section 14.

Reference 1096036/164964.159

General Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

MATERIAL SAFETY DATA SHEET
Hydrogen Peroxide 29%

SECTION 1 – PRODUCT IDENTIFICATION AND USE

PRODUCT NAME: HYDROGEN PEROXIDE 29%
PRODUCT USE: Oxidizing agent. Bleach & water chemicals
CHEMICAL NAME: Not applicable

MANUFACTURER / SUPPLIER:

NUTRILIFE PLANT PRODUCTS LTD
#10076, 3600 – 248th Street
Aldergrove, BC, V4W 3Z5
PHONE: 604 - 533 – 9572
FAX: 604 – 533 - 9582

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage (W/W)	LD50s and LC50s Route & Species
Water 7732-18-5	Balance	Oral LD50 (Rat) >90 mL/kg
Hydrogen Peroxide 7722-84-1	29	LD50 (oral, male rat): 1193 mg/kg (35% solution) ; LD50 (oral, female rat): 801 mg/kg (60% solution) ; LD50 (oral, male rat): 75 mg/kg (70% solution) ; LD50 (oral, mouse): 2000 mg/kg (90% solution) ; LD50 (dermal, rabbit): approximately 690 mg/kg (90% solution) ; LD50 (oral, rat): 805 mg/kg (70% solution) ; LC50 (inhalation, rat) ; >0.17mg/l/4h (50% solution) ; LD50 (dermal, rabbit) : > 6500 mg/kg (70% solution)

Note: No additional remark.

SECTION 3 – HAZARDS IDENTIFICATION

Potential Acute Health Effects:
Eye Contact: Corrosive. May cause conjunctivitis, corneal burns and permanent damage. Symptoms may occur with delay.

LA10558
HYDROGEN PEROXIDE 29%

Skin Contact: Corrosive. May cause burns resulting in permanent damage. Prolonged exposure may cause severe irritation and white discoloration. Burning may result in localized erythema (redness) or even blistering of the skin.
Inhalation: Causes severe respiratory irritation. Vapours may cause pulmonary edema. Toxic effects may be delayed.
Ingestion: Ingestion of high concentrations causes rapid release of oxygen which may expand the esophagus or stomach resulting in severe damage (bleeding, ulceration or perforation). Expected to cause burns to the gastrointestinal tract. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.

SECTION 4 – FIRST AID MEASURES

Eye Contact: In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing. Have an opthamologist make an evaluation of eye injury.
Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.
Inhalation: Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.
Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

SECTION 4 – FIRST AID MEASURES

Notes to Physician: Hydrogen peroxide at this concentration is a strong oxidant. Direct contact with the eye is likely to cause corneal damage especially if not washed immediately. Careful ophthalmologic evaluation is recommended and the possibility of local corticosteroid therapy should be considered. Because of the likelihood of corrosive effects on the gastrointestinal tract after ingestion, and the unlikelihood of systemic effects, attempts at evacuating the stomach via emesis induction or gastric lavage should be avoided. There is a remote possibility, however, that a nasogastric or orogastric tube may be required for the reduction of severe distension due to gas formation.

SECTION 5 – FIRE FIGHTING MEASURES

Flash Point: None.
Flash Point Method: Not applicable.
Autoignition Temperature: Not available.
Flammable Limits in Air (%): Not Available.
Extinguishing Media: Do not use CO_2 extinguisher on this material; use only water spray or appropriate foam. Do not use organic compounds on this material.
Special Exposure Hazards: Strong oxidizer. Contact with combustible materials may cause a fire. Release of oxygen may support combustion. Contact with incompatible materials (e.g. metals, alkalis and reducing agents) will cause hazardous decomposition resulting in the release of large quantities of heat, steam and oxygen gas. Exposure to heat may cause hazardous decomposition. A severe detonation hazard may exist when mixed with organic liquids, e.g. kerosene or gasoline. Isolate and restrict area access. Fight fire from a safe distance and from a protected location. Stay upwind. Stop leak only if safe to do so. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure build-up which could result in container rupture.
Hazardous Decomposition/Combustion Materials (under fire conditions): Oxygen. Steam.
Special Protective Equipment: Fire fighters should wear full protective clothing, including self-contained breathing equipment.
NFPA RATINGS FOR THIS PRODUCT ARE: HEALTH 3, FLAMMABILITY 0, INSTABILITY 3
HMIS RATINGS FOR THIS PRODUCT ARE: HEALTH 3, FLAMMABILITY 0, REACTIVITY 3

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures: Wear appropriate protective equipment.
Environmental Precautionary Measures: Prevent entry into sewers or streams, dike if needed.
Procedure for Clean Up: Restrict access to unprotected personnel. Stop leak only if safe to do so. Small spills: Flush area with water. Large spills : Dike with earth, sand or inert sorbent material to contain spill. Remove liquid with compatible pumps or vaccuum equipment. Place in suitable container for disposal. Flush area with water. Keep materials which can burn away from spilled materials.

Spontaneous combustion hazard : - combustible materials exposed to hydrogen peroxide should be immediately submerged in or rinsed with large amounts of water to ensure that all hydrogen peroxide is removed. Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can concentrate) on organic materials such as paper, fabrics, cotton, leather, wood or other combustibles, can cause the material to ignite and result in a fire.

SECTION 7 – HANDLING AND STORAGE

Handling: Wash thoroughly after handling. Empty containers may contain hazardous product residues. Avoid contact with eyes, skin and clothing. Avoid breathing vapor. Never use air pressure to empty a container.
Storage: Do not store near combustible materials. Store in a cool, dry, well ventilated area. Keep containers tightly closed. Do not store this material in containers made of light metals. Recommended container materials: glass, polyvinyl chloride, polyethylene, ceramics, polypropylene. Use adequate venting devices on all packages, containers and tanks and check correct operation periodically. Do not confine product in unvented vessels or between closed valves. Risk of overpressure and bursting due to decomposition in confined spaces and pipes.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:
Use process enclosure, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.
Respiratory Protection: If exposure exceeds occupational exposure limits, use an appropriate NIOSH approved respirator. In case of spill or leak resulting in unknown concentration, use a NIOSH approved supplied air respirator.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Gloves:
Natural rubber gloves. Butyl rubber gloves. Nitrile gloves.
Skin Protection: Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance.
Eyes: Chemical goggles; also wear a face shield if splashing hazard exists.
Other Personal Protection Data: Ensure that eyewash stations and safety showers are proximal to the work-station location.

Ingredients	Exposure Limit - ACGIH	Exposure Limit - OSHA	Immediately Dangerous to Life or Health - IDLH
Water	Not available	Not available.	Not Available.
Hydrogen Peroxide	1 ppm TLV-TWA	1 ppm TWA 1.4 mg/m3 TWA	75 ppm

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.
Colour: Clear Colourless
Odour: Slight Acrid
pH Not Available.
Specific Gravity: 1.108
Boiling Point: Not Available.
Freezing/Melting Point: Not Available.
Vapour Pressure: Not Available.
Vapour Density: Not Available.
% Volatile by Volume: 100%
Evaporation Rate: <1
Solubility: Completely miscible.
VOCs: Not Available.
Viscosity: Not Available.
Molecular Weight: Not Available.
Other: Not Available.

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability: Stable.
Hazardous Polymerization: Will not occur.
Conditions to Avoid: High temperatures. Spontaneous combustion hazard : - Combustible materials exposed to hydrogen peroxide should be immediately submerged in or rinsed with large amounts of water to ensure that all hydrogen peroxide is removed. Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can concentrate) on organic materials such as paper, fabrics, cotton, leather, wood, or other combustibles, can cause the material to ignite and result in a fire.

Materials to Avoid: Metals. Reducing agents. Alkalis. Combustible material. Organic materials. Heavy metals and their salts.
Hazardous Decomposition Products: Oxygen. Steam.
Additional Information:
No additional remark.

SECTION 11 – TOXICOLOGICAL INFORMATION

Principle Routes of Exposure
Ingestion: Ingestion of high concentrations causes rapid release of oxygen which may expand the esophagus or stomach resulting in severe damage (bleeding, ulceration or perforation). Expected to cause burns to the gastrointestinal tract. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.
Skin Contact: Corrosive. May cause burns resulting in permanent damage. Prolonged exposure may cause severe irritation and white discoloration. Burning may result in localized erythema (redness) or even blistering of the skin.
Inhalation: Causes severe respiratory irritation. Vapours may cause pulmonary edema. Toxic effects may be delayed.

SECTION 11 – TOXICOLOGICAL INFORMATION

Eye Contact: Corrosive. May cause conjunctivitis, corneal burns and permanent damage. Symptoms may occur with delay.
Additional Information:
Acute Test of Product:
Acute Oral LD50: 805 mg/kg (rat)
Acute Dermal LD50: >6500 mg/kg (rabbit)
Acute Inhalation LC50: Not Available.
Carcinogenicity:

Ingredients	IARC - Carcinogens	ACGIH - Carcinogens
Water	Not listed.	Not listed.
Hydrogen Peroxide	Group 3	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Carcinogenicity Comment: No additional information available.

Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity: It is not possible to conclude that hydrogen peroxide is mutagenic. Positive results have been obtained in cultured humans cells. Negative results have been obtained in relevant studies using live animals. Positive results have been obtained in short-term mutagenicity tests.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicological Information

Ingredients	Ecotoxicity - Fish Species Data	Acute Crustaceans Toxicity	Ecotoxicity - Freshwater Algae Data
Water	Not Available	Not Available	Not Available.
Hydrogen Peroxide	LC50 (48 hr) carp: 42 mg/L. ; LC50 (96 hr) fish : 37.4 mg/l	EC50 (24 hr) Daphnia : 7.7 mg/l	NOEC (72 hr) Algae : 0.1 mg/l

Other Information:
Under ambient conditions quick hydrolysis, reduction or decomposition occurs. Hydrogen peroxide quickly decomposes to
oxygen and water.

SECTION 13 – DISPOSAL CONSIDERATIONS

Disposal of Waste Method: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.
Contaminated Packaging: Empty containers should be recycled or disposed of through an approved waste management facility.

SECTION 14 – TRANSPORT INFORMATION

DOT (U.S.):
DOT Shipping Name: HYDROGEN PEROXIDE AQUEOUS SOLUTION
DOT Hazardous Class 5.1 (8)
DOT UN Number: UN2014
DOT Packing Group: II
DOT Reportable Quantity (lbs): Not Available.
Note: No additional remark.
Marine Pollutant: No.
TDG (Canada):
TDG Shipping Name: HYDROGEN PEROXIDE AQUEOUS SOLUTION
Hazard Class: 5.1 (8)
UN Number: UN2014
Packing Group: II
Note: No additional remark.
Marine Pollutant: No.

SECTION 15 – REGULATORY INFORMATION

U.S. TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

Note: Not available.

U.S. Regulatory Rules

Ingredients	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Water	Not Listed.	Not Listed.	Not Listed.
Hydrogen Peroxide	Listed	Not Listed.	Not Listed.

California Proposition 65: Not Listed.
MA Right to Know List: Listed.
New Jersey Right-to-Know List: Listed.
Pennsylvania Right to Know List: Listed.

WHMIS Hazardous Class:
C OXIDIZING MATERIALS
D1B TOXIC MATERIALS
E CORROSIVE MATERIAL
F DANGEROUSLY REACTIVE MATERIAL

SECTION 16 – OTHER INFORMATION

Additional Information: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Disclaimer: NOTICE TO READER:
Nutrilife Plant Products, expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained upon request.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Nutrilife Plant Products makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Nutrilife Plant Product's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

*****END OF MSDS*****

SAFETY DATA SHEET

Isopropyl Alcohol

Airgas
an Air Liquide company

Section 1. Identification

GHS product identifier : Isopropyl Alcohol

Chemical name : Isopropyl alcohol

Other means of identification : isopropanol; 2-Propanol

Product type : Liquid.

Product use : Synthetic/Analytical chemistry.

Synonym : isopropanol; 2-Propanol

SDS # : 001105

Supplier's details : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

24-hour telephone : 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2
EYE IRRITATION - Category 2A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : May form explosive mixtures with air.
Highly flammable liquid and vapor.
Causes serious eye irritation.
May cause drowsiness or dizziness.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 2. Hazards identification

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : Isopropyl alcohol

Other means of identification : isopropanol; 2-Propanol

Product code : 001105

CAS number/other identifiers

CAS number : 67-63-0

Ingredient name	%	CAS number
Isopropyl alcohol	100	67-63-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : No known significant effects or critical hazards.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Section 4. First aid measures

Ingestion : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:, pain or irritation, watering, redness

Inhalation : Adverse symptoms may include the following:, nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

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

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

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 and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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. Use spark-proof tools and explosion-proof equipment. 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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

Advice on general occupational hygiene : 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. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Store locked up. Separate from oxidizing materials. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Isopropyl alcohol	**ACGIH TLV (United States, 3/2017).** TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 400 ppm 8 hours. TWA: 980 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 1225 mg/m³ 15 minutes.

Section 8. Exposure controls/personal protection

	NIOSH REL (United States, 10/2016). TWA: 400 ppm 10 hours. TWA: 980 mg/m³ 10 hours. STEL: 500 ppm 15 minutes. STEL: 1225 mg/m³ 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 400 ppm 8 hours. TWA: 980 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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.

Individual protection measures

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.

Eye/face protection : 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, gases 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 protection

Hand protection : 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.

Body protection : 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [COLORLESS LIQUID WITH THE ODOR OF RUBBING ALCOHOL]

Color : Colorless.

Odor : Alcohol-like.

Odor threshold : Not available.

pH : Not available.

Section 9. Physical and chemical properties

Melting point	:	-90°C (-130°F)
Boiling point	:	83°C (181.4°F)
Critical temperature	:	Not available.
Flash point	:	Closed cup: 11.7°C (53.1°F)
Evaporation rate	:	1.7 (butyl acetate = 1)
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Lower: 2% Upper: 12%
Vapor pressure	:	4.4 kPa (33 mm Hg) [room temperature]
Vapor density	:	2.1 (Air = 1)
Specific Volume (ft ^{3}/lb)	:	1.2739
Gas Density (lb/ft ^{3})	:	Not available
Relative density	:	0.79
Solubility	:	Not available.
Solubility in water	:	Not available.
Partition coefficient: n-octanol/water	:	0.05
Auto-ignition temperature	:	456°C (852.8°F)
Decomposition temperature	:	Not available.
Viscosity	:	Not available.
Flow time (ISO 2431)	:	Not available.
Molecular weight	:	60.11 g/mole

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Isopropyl alcohol	LC50 Inhalation Gas. LD50 Dermal LD50 Oral	Rat Rabbit Rat	45248 ppm 12800 mg/kg 5000 mg/kg	1 hours - -

Section 11. Toxicological information

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Isopropyl alcohol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Isopropyl alcohol	-	3	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Isopropyl alcohol	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : No known significant effects or critical hazards.

Ingestion : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:, pain or irritation, watering, redness

Inhalation : Adverse symptoms may include the following:, nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness

Skin contact : No specific data.

Ingestion : No specific data.

Section 11. Toxicological information

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : 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.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Isopropyl alcohol	Acute EC50 10100 mg/l Fresh water Acute LC50 1400000 µg/l Marine water Acute LC50 4200 mg/l Fresh water	Daphnia - Daphnia magna Crustaceans - Crangon crangon Fish - Rasbora heteromorpha	48 hours 48 hours 96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Isopropyl alcohol	0.05	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times 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 emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1219	UN1219	UN1219	UN1219	UN1219
UN proper shipping name	ISOPROPANOL OR ISOPROPYL ALCOHOL	ISOPROPANOL; OR ISOPROPYL ALCOHOL	ISOPROPANOL OR ISOPROPYL ALCOHOL	ISOPROPANOL (ISOPROPYL ALCOHOL)	ISOPROPANOL
Transport hazard class(es)	3 	3 	3 	3 	3 
Packing group	II	II	II	II	II
Environmental hazards	No.	No.	No.	No.	No.

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Additional information

DOT Classification : **Limited quantity** Yes.
Quantity limitation Passenger aircraft/rail: 5 L. Cargo aircraft: 60 L.
Special provisions IB2, T4, TP1

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).
Explosive Limit and Limited Quantity Index 1
Passenger Carrying Road or Rail Index 5

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 5 L. Cargo Aircraft Only: 60 L. Limited Quantities - Passenger Aircraft: 1 L.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

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

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

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

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 : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Isopropyl alcohol	67-63-0	100
Supplier notification	Isopropyl alcohol	67-63-0	100

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

State regulations

Massachusetts : This material is listed.

New York : This material is not listed.

New Jersey : This material is listed.

Pennsylvania : This material is listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

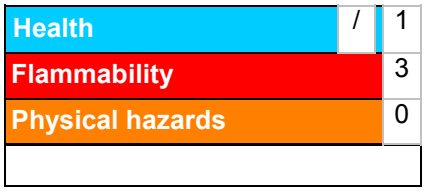
China : This material is listed or exempted.

Section 15. Regulatory information

Europe	:	This material is listed or exempted.
Japan	:	**Japan inventory (ENCS)**: This material is listed or exempted. **Japan inventory (ISHL)**: This material is listed or exempted.
Malaysia	:	This material is listed or exempted.
New Zealand	:	This material is listed or exempted.
Philippines	:	This material is listed or exempted.
Republic of Korea	:	This material is listed or exempted.
Taiwan	:	This material is listed or exempted.
Thailand	:	Not determined.
Turkey	:	This material is listed or exempted.
United States	:	This material is listed or exempted.
Viet Nam	:	Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



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 and the associated label are not required on SDSs or products leaving a facility 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 trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

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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.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Expert judgment Expert judgment Expert judgment

History

Date of printing	:	8/6/2018
Date of issue/Date of revision	:	8/6/2018

Section 16. Other information

Date of previous issue : 10/19/2017

Version : 1.02

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

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.

MSDS NUMBER #15, September 10th, 2017

IDENTIFICATION

PRODUCT NAMES:	GROWIT Coco Coir Chip Brick (JSCCB), GROWIT Coco Coir Mix Brick (JSCPB)
OTHER NAMES:	Coir Growing Medium Products
UN NUMBER:	none allocated
DANGEROUS GOODS CLASS:	none allocated
SUBSIDIARY RISK:	none allocated
HAZCHEM CODE:	none allocated
POISONS SCHEDULE NUM:	none allocated
USE:	Used for general horticultural and greenhouse purposes.

PHYSICAL DESCRIPTION/PROPERTIES:

APPEARANCE:	Brown natural organic substance
ODOUR:	Odorless
BOILING POINT:	Not applicable
MELTING POINT:	Not applicable
VAPOUR PRESSURE:	Not applicable
FLASHPOINT:	Not applicable
SPECIFIC GRAVITY (WATER=1):	varies according to composition and moisture content
MOLECULAR WEIGHT:	Not applicable
SOLUBILITY IN WATER:	Not soluble
PH:	5.5 to 6.2
INGREDIENTS:	Coir Fiber Pith and Coir Fiber Fractions

HEALTH HAZARD INFORMATION

CHRONIC AND ACUTE HEALTH EFFECTS:

SWALLOWED:	Unlikely under normal conditions. No known hazard.
EYE:	Dust particles may cause minor eye irritation.
SKIN:	No known hazard. (Applies to unused Coir)
INHALED:	May cause slight irritation with very high concentrations.

FIRST AID:

SWALLOWED:	Give water to drink. Seek medical attention if any abdominal symptoms.
EYE:	Flush eyes thoroughly for ten minutes with plenty of water. If irritation persists seek medical attention.
SKIN:	Wash thoroughly with mild soap and water.
INHALED:	Remove to fresh air.
FIRST-AID FACILITIES:	Eye wash station, running water, soap and sink.
ADVICE TO DOCTOR:	Treat symptomatically.

PRECAUTIONS FOR USE

EXPOSURE STANDARDS:

WORKSAFE EXPOSURE STANDARD:	There is no specific standard for Coir, and other organic gardening materials.
CEYHINZ LINK'S RECOMMENDATION:	Keep exposures to dust and/or mist (bioaerosols) from these products as low as practicable.

SKIN PROTECTION:	Protective clothing is not necessary for Coir
EYE PROTECTION:	Non-fogging dust resistant goggles or safety glasses should be worn if there is a risk of dust and/or mist (bioaerosols) getting into the eyes.
FLAMMABILITY:	Not flammable.

SAFE HANDLING INFORMATION

STORAGE AND TRANSPORT:	No special transport requirements are necessary. Store Coir materials in a cool dry area.
SPILLS AND DISPOSAL:	Keep out of sewer and storm water drains. Waste material can be disposed of as trade waste in accordance with local authority guidelines.
FIRE/EXPLOSION HAZARD:	Not applicable.
SMOKING:	All work areas should be non-smoking areas.

IMPORTANT NOTICE

genhydro.com

SAFETY DATA SHEET

FloraGro™ Advanced Nutrient System

Section 1. Identification

GHS product identifier : FloraGro™ Advanced Nutrient System

Other means of identification : Nitrates, and inorganic minerals in aqueous solution.

Product type : Liquid.

Identified uses : Hydroponic plant nutrient.

Supplier's details : General Hydroponics
2877 Giffen Ave
Santa Rosa, CA 95407
Tel: (707) 824-9376
Fax: (707) 824-9377

Emergency telephone number (with hours of operation) : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887 (24/7)

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified (HNOC) : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Nitrates, and inorganic minerals in aqueous solution.

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Ammonium nitrate	3 - 5	6484-52-2
Ammonium sulfate	0.3 - 1	7783-20-2
Urea	0 - 0.1	57-13-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Maintain an open airway. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

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.

Specific treatments : No specific treatment.

Protection of first-aiders : 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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

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

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : This material is very toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
nitrogen oxides
sulfur oxides
phosphorus oxides
metal oxide/oxides

Special protective actions for fire-fighters : No special measures are required.

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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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 and materials for containment and cleaning up

Spill : Stop leak if without risk. Move containers from spill area. 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. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : 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. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : 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. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Urea	**AIHA WEEL (United States, 10/2011).** TWA: 10 mg/m³ 8 hours.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

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.

Eye/face protection : 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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : 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.

Body protection : 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.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Aqueous solution.]

Color : Green.

Odor : Odorless.

Odor threshold : Not available.

pH : 3.5

Melting point : -1°C (30.2°F)

Boiling point : 101°C (213.8°F)

Flash point : Not available.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.108

Solubility : Soluble in water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Volatility : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ammonium nitrate	LD50 Oral	Rat	2217 mg/kg	-
Ammonium sulfate	LD50 Oral	Rat	2840 mg/kg	-
Urea	LD50 Oral	Rat	8471 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Urea	Skin - Mild irritant	Human	-	72 hours 22 milligrams Intermittent	-
	Skin - Moderate irritant	Human	-	24 hours 20 Percent	-

Sensitization

There is no data available.

Carcinogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Potential chronic health effects

General : 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.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	20074.8 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Ammonium nitrate	Chronic NOEC 6 to 12 mg/L Fresh water	Crustaceans - Cladocera	21 days
Ammonium sulfate	Acute LC50 2.6 mg/L Fresh water	Crustaceans - Ceriodaphnia dubia - Young	48 hours
	Acute LC50 14000 to 15000 µg/L Fresh water	Daphnia - Daphnia magna - Young	48 hours
	Acute LC50 68 µg/L Fresh water	Fish - Oncorhynchus gorbuscha - Alevin	96 hours
	Chronic NOEC 7.5 mg/L Marine water	Algae - Phaeodactylum tricornutum - Exponential growth phase	96 hours
	Chronic NOEC 143 µg/L Marine water	Fish - Salmo salar - Post-smolt	5 weeks
Urea	Acute EC50 6573.1 mg/L Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 3910000 µg/L Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 22.5 ppt Fresh water	Fish - Oreochromis mossambicus - Young	96 hours
	Chronic NOEC 2 g/L Fresh water	Fish - Heteropneustes fossilis	30 days

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Urea	<-1.73	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : There is no data available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : 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. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	**Remarks** Special Provision 58: Concentrations of FloraGroTM, at the minimum temperature encountered during normal transportation, will not exceed 80% of the saturation limit.	**Remarks** Special Provision A270: Concentrations of FloraGroTM, at the minimum temperature encountered during normal transportation, will not exceed 80% of the saturation limit.	**Remarks** Special Provision A65 (270): Concentrations of FloraGroTM, at the minimum temperature encountered during normal transportation, will not exceed 80% of the saturation limit.

AERG : Not available.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

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 (b) Hazardous Air Pollutants (HAPs) : Not listed

Section 15. Regulatory information

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

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 : Not applicable.

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Ammonium nitrate Urea	3 - 5 0 - 0.1	Yes. No.	No. No.	No. No.	Yes. Yes.	No. No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Potassium nitrate Ammonium nitrate	7757-79-1 6484-52-2	10 - 30 3 - 5
Supplier notification	Potassium nitrate Ammonium nitrate	7757-79-1 6484-52-2	10 - 30 3 - 5

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

State regulations

Massachusetts : The following components are listed: Potassium nitrate; Ammonium nitrate

New York : None of the components are listed.

New Jersey : The following components are listed: Potassium nitrate; Ammonium nitrate

Pennsylvania : The following components are listed: Potassium nitrate; Ammonium nitrate

California Prop. 65

No products were found.

Section 16. Other information

History

Date of issue mm/dd/yyyy : 02/15/2016

Date of previous issue : 06/30/2015

Version : 3

Prepared by : KMK Regulatory Services Inc.

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

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.

genhydro.com

Date : 10/30/2016
Version : 4

SAFETY DATA SHEET

HARDWATER FLORA MICRO

Section 1. Identification

GHS product identifier : HARDWATER FLORA MICRO

Other means of identification : A mixture of plant nutrition minerals in aqueous solution.

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Hydroponic plant nutrient for use in hard water.

Supplier's details : General Hydroponics
2877 Giffen Ave
Santa Rosa, CA 95407
Tel: (707) 824-9376
Fax: (707) 824-9377

Emergency telephone number (with hours of operation) : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887
24/7

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : A mixture of plant nutrition minerals in aqueous solution.

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	%	CAS number
Ammonium nitrate	≥10 - ≤25	6484-52-2
Calcium ammonium nitrate	≥5 - ≤10	15245-12-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. 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.

Skin contact : Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

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.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

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

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

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

Special protective actions for fire-fighters : No special measures are required.

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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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 and materials for containment and cleaning up

: Stop leak if without risk. Move containers from spill area. 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. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : 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. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : 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. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Ammonium nitrate Calcium ammonium nitrate	None. None.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

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.

Eye/face protection : 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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : 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.

Body protection : 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.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Aqueous solution.]

Color : Brown. [Dark]

Odor : Odorless.

Odor threshold : Not available.

pH : 5.6

Melting point : -1.11°C (30°F)

Boiling point : 102.778°C (217°F)

Flash point : Not available.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.108

Solubility : Soluble in water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: organic materials.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ammonium nitrate	LD50 Oral	Rat	2217 mg/kg	-
Calcium ammonium nitrate	LD50 Oral	Rat	4715 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

There is no data available.

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : 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.

Section 11. Toxicological information

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	12191.4 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Ammonium nitrate	Chronic NOEC 6 to 12 mg/L Fresh water	Crustaceans - Cladocera	21 days

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : There is no data available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : 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. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	**Remarks** Special Provision 58: Concentrations of FloraMicroTM, at the minimum temperature encountered during normal transportation, will not exceed 80% of the saturation limit.	**Remarks** Special Provision A65 (270): Concentrations of FloraMicroTM, at the minimum temperature encountered during normal transportation, will not exceed 80% of the saturation limit.	**Remarks** Special Provision A65 (270): Concentrations of FloraMicroTM, at the minimum temperature encountered during normal transportation, will not exceed 80% of the saturation limit.

AERG : Not applicable

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

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) 307: Disodium [[N,N'-ethylenediylbis[N-(carboxylatomethyl) glycinato]](4-)-N,N',O,O',ON,ON']zincate(2-); Disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-)

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

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.

Section 15. Regulatory information

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Ammonium nitrate Calcium ammonium nitrate	≥10 - ≤25 ≥5 - ≤10	Yes. No.	No. No.	No. No.	Yes. Yes.	No. No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Ammonium nitrate Potassium nitrate	6484-52-2 7757-79-1	≥10 - ≤25 ≥3 - ≤5
Supplier notification	Ammonium nitrate Potassium nitrate	6484-52-2 7757-79-1	≥10 - ≤25 ≥3 - ≤5

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

State regulations

Massachusetts : The following components are listed: Ammonium nitrate; Potassium nitrate

New York : None of the components are listed.

New Jersey : The following components are listed: Ammonium nitrate; Potassium nitrate

Pennsylvania : The following components are listed: Ammonium nitrate; Potassium nitrate

California Prop. 65

No products were found.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
Not classified.	

History

Date of issue mm/dd/yyyy : 10/30/2016

Date of previous issue : 06/30/2016

Version : 4

Prepared by : KMK Regulatory Services Inc.

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.

genhydro.com

Date : 09/15/2012
Version : 1.1

Material Safety Data Sheet

FloraBloom™ Advanced Nutrient System

1. Product and company identification

Product name : FloraBloom™ Advanced Nutrient System

Chemical family : A mixture of plant nutrition minerals in aqueous solution.

Material uses : Hydroponic plant nutrient.

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 : Pink.

Odor : Odorless.

Hazard statements : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

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

Inhalation : No specific data.

Ingestion : No specific data.

Skin : No specific data.

Eyes : No specific data.

2. Hazards identification

Medical conditions aggravated by overexposure : None known.

See toxicological information (Section 11)

3. Composition/information on ingredients

There are no 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 if symptoms occur.

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 if symptoms occur.

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 if symptoms occur.

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 if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

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 : Not flammable.

Extinguishing media

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

Not suitable : None known.

Special exposure hazards : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
sulfur oxides
phosphorus oxides
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. 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

6. Accidental release measures

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 via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. 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 via a licensed waste disposal contractor. 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.

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. 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.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure 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.

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.

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 : Pink.

Odor : Odorless.

pH : 3.5

Melting/freezing point : -1°C (30.2°F)

Relative density : 1.162

Solubility : Easily soluble in the following materials: cold water and hot water.

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

There is no data available.

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

11. Toxicological information

There is no data available.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

There is no data available.

Persistence/degradability

There is no data available.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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. 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 available.

15. Regulatory information

HCS Classification : Not regulated.

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

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

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

Clean Water Act (CWA) 311: Phosphoric acid

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

15. Regulatory information

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

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 : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Hazardous Material Information System (U.S.A.) : **Health :** 0 **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 :** 0 **Flammability :** 0 **Instability :** 0

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History

Date of issue mm/dd/yyyy : 09/15/2012

Date of previous issue : 07/15/2012

Version : 1.1

Revised Section(s) : 1, 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

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Chemical Product
MONTEREY NEEM OIL RTU (Ready-To-Use)
EPA Reg. No. 70051-13-54705
Common Name: Liquid fungicide/miticide/insecticide.
Chemical Description: Clarified hydrophobic extract of Neem Oil
TSCA/CAS No.: The primary CAS No. is 8002-65-1.

Manufactured For
Lawn & Garden Products, Inc.
P. O. Box 35000
Fresno, CA 93745-5000

Emergency Phone Numbers
Emergency Telephone: DAYS: (559) 499-2100 EVES.: (559) 994-9144
CHEMTREC (24-Hour Emergency Number): (800) 424-9300
EPA National Response Center: (800) 424-8802

SECTION 2. HAZARDOUS INGREDIENTS

CHEMICAL	CAS NO.	%	TLV OR PEL	RQ (lbs)
Clarified Hydrophobic Extract Of Neem Oil	8002-65-1	0.9	N.A*	N.P.*

* N.A. – Not Available.
* N.P. – Not Pertinent.

SECTION 3. EMERGENCY/HAZARDS OVERVIEW

White liquid with garlic odor. This product should pose no health concerns through normal use in accordance with label directions. Not D.O.T. regulated.

HEALTH: 0 REACTIVITY: 1 FLAMMABILITY: 0 ENVIRONMENT: 0
(0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme)

SECTION 4. FIRST AID

Eyes: Flush immediately with plenty of water. Seed medical attention if irritation persists.

Skin: Wash thoroughly with soap and water. Remove contaminated clothing. Seek medical attention if irritation persists.

Ingestion: Do not induce vomiting. Drink 2-3 glasses of water. Contact physician or poison control center for additional information or treatment.

Inhalation: Remove person to fresh air. Seek medical attention if irritation persists.

SECTION 5. FIRE AND EXPLOSION HAZARDS

Flash Point:	392°F (>200°C)
Test Method:	Not available.
LEL Flammable Limits:	Not determined.
UEL Flammable Limits:	Not determined.
Autoignition Temperature:	Not determined.
Flammability Classification:	Nonflammable.
Known Hazardous Products of Combustion:	Not known.
Properties that Initiate/Contribute to Intensity of Fire:	Not known.
Potential For Dust Explosion:	None.
Reactions that Release Flammable Gases or Vapors:	Not known.
Potential For Release of Flammable Vapors:	Not known.
Unusual Fire & Explosion Hazards:	None.
Extinguishing Media:	Dry chemical, carbon dioxide, alcohol or polymer foam.
Special Firefighting Procedures:	Wear positive pressure, self-contained breathing apparatus and goggles. Avoid inhalation of vapors and fumes. Contain any liquid runoff.

SECTION 6. SPILLS AND LEAKS

Containment: Prevent product spillage from entering drinking water supplies or streams.

Clean Up: Collect liquid or absorb onto absorbent material and package for proper disposal.

Evacuation: Not necessary.

SECTION 7. STORAGE AND HANDLING

Storage: Store in original container in a cool, well-ventilated, dry place away from direct sunlight. Store between 50 to 95°F (10 to 35°C). Keep from freezing. Keep container tightly sealed when not in use. Keep away from heat, sparks, or open flame. Do not store near food or feeds. Do not stack pallets more than two (2) high.

Transfer Equipment: Transfer product using chemical-resistant plastic or stainless steel tanks, pumps, valves, etc.

Work/Hygienic Practices: Keep out of reach of children. Harmful if inhaled. Avoid breathing spray mist. Causes moderate eye irritation. Harmful if absorbed through the skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

SECTION 8. PERSONAL PROTECTIVE EQUIPMENT

Eyes:	Chemical dust/splash goggles or full-face shield to prevent eye contact. As a general rule, do not wear contact lenses when handling.
Skin:	Long-sleeved shirt, long pants, chemical resistant gloves, shoes plus socks.
Respiratory:	Not normally needed. If use generates an aerosol mist or respiratory irritation, use NIOSH-approved dust/mist respirator (such as 3M #8710).
Ventilation:	Recommended but no TLV established.

SECTION 9. PHYSICAL AND CHEMICAL DATA

Appearance:	White liquid.
Odor:	Garlic odor.
pH:	6.5 – 7.5
Vapor Pressure @ 20°C:	Not determined.
Vapor Density (Air=1):	Not determined.
Boiling Point:	392°F (>200°C)
Melt Point/Freezing Point:	55°F (12°C)
Water Solubility:	Dispersible.
Specific Gravity:	0.981 g/ml.
Density:	8.18 lbs./gal.
Evaporation Rate:	Not available.
Viscosity:	Not available.
% Volatile by Vol.:	Not available.
Octanol/Water Partition Coefficient:	Not available.
Saturated Vapor Concentration:	Not available.

SECTION 10. STABILITY AND REACTIVITY

Stability:	Stable.
Conditions To Avoid:	None known.
Incompatibility:	None noted.
Hazardous Decomposition Products:	None noted.
Hazardous Polymerization:	Will not occur.

SECTION 11. POTENTIAL HEALTH EFFECTS

Acute Effects:

Eyes:	May cause mild, reversible eye irritation.
Skin:	Repeated exposure may cause mild sensitization. May cause mild, reversible skin irritation. LD_{50}: >2 g/kg.
Ingestion:	May cause irritation of the gastrointestinal tract. Oral LD_{50}): >5 g/kg.
Inhalation:	May be irritating, but not likely from normal use. LC_{50}: > 6.2 mg/l.
Subchronic Effects:	None known.
Chronic Effects:	Repeated skin exposure may cause slight sensitization.

SECTION 12. ECOLOGICAL INFORMATION

Algal/Lemna Growth Inhibition:	Not available.
Toxicity to Fish and Invertebrates:	Not available.
Toxicity to Plants:	Not available.
Toxicity to Birds:	Not available.
Toxicity to Bees:	Toxic to bees exposed to direct treatment.

SECTION 13. DISPOSAL

Do not contaminate lakes, streams, ponds, estuaries, oceans or other waters by discharge of waste effluents or equipment washwaters. Dispose of waste effluents according to state and local regulations. Also, chemical additions or other alterations of this product may invalidate any disposal information in this MSDS. Therefore, consult local waste regulators for proper disposal. Do not discharge.

SECTION 14. TRANSPORTATION

D.O.T.:	Not D.O.T. Regulated.
Other Shipping Description:	Insecticides or Fungicides, N.O.I. Other than Poison NMFC Item 102120, LTL Class 60

SECTION 15. REGULATORY INFORMATION

CERCLA: None.

SARA TITLE III, Section 313 Toxic Chemicals: None.

Proposition 65: None.

SECTION 16. OTHER

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 preparation date, 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.

genhydro.com

Date : 06/15/2013
Version : 2

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 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

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.

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.

genhydro.com

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/m³ 15 minutes. TWA: 1 mg/m³ 8 hours. **NIOSH REL (United States, 6/2009).** STEL: 3 mg/m³ 15 minutes. TWA: 1 mg/m³ 10 hours. **OSHA PEL (United States, 6/2010).** TWA: 1 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1 mg/m³ 8 hours. STEL: 3 mg/m³ 15 minutes.
Ammonium dihydrogenorthophosphate	**ACGIH TLV (United States).** TWA: 5 mg/m³ 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 cm^2/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	LD50 Oral	Rat	1.25 g/kg	-
Ammonium dihydrogenorthophosphate	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
Citric acid	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 Mililiters	-

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 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

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

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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.

ORGANIC LABORATORIES, INC.
2963 SE Dominica Terrace
Stuart, FL 34997

(772) 286-5581 FAX (772) 286-8113

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Organocide™ 3-in-1 Garden Spray

Date of Preparation: 3/01/2011

NFPA HAZARD RATINGS: Health(0), Fire(0), Reactivity(0).

(0)least (1)slight (2)moderate (3)high (4)extreme.

Section 1-CHEMICAL PRODUCT and COMPANY IDENTIFICATION

Manufacturer:. Organic Laboratories, Inc. 2963 SE Dominica Terrace Stuart FL 34997 **Phone**: 772-286-5581
Emergency Telephone: 772-223-9260 **Chemtrec Phone:** 800-424-9300

Section 2-COMPOSITION/INFORMATION

HAZARDOUS INGREDIENT NAME: None

FORMULA	**3.0% Sesame oil**	**CAS No. 8008-74-0**
	92.0% Fish oil	**CAS No. 8002-50-4**
	5.0% Lecithin	**CAS No. 8002-43-5**

Section 3-HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Potential Health Effects: Primary Entry Routes: Skin, ingestion. Target Organs: Skin, gastrointestinal tract. Acute Effects: Inhalation may cause allergic reaction. Ingestion may cause vomiting and diarrhea. Skin contact may cause irritation on sensitive skin. Chronic Effects: None known
Medical Conditions Aggravated by Long-Term Exposure: None known. Medical Conditions Aggravated by Exposure: None known.
Carcinogenicity: NTP? No OSHA Regulated? No

Section 4-FIRST AID MEASURES

Skin Contact: Wash with soap and water Ingestion: Induce vomiting. Consult a physician. Inhalation: Move victim to fresh air. Consult a physician
Note to Physicians: No specific antidote. Treat symptomatically

Section 5-FIRE FIGHTING MEASURES

Flash Point: NA. Flammability Classification: Non-flammable. Extinguishing Media: N/A
Unusual Fire or Explosion Hazards: None
Hazardous Combustion Products: None Fire-Fighting Instructions: N/A

Section 6-ACCIDENTAL RELEASE MEASURES

Spill/Leak Procedures: Spills should be contained with dikes and clay absorbent spread over spilled product. Place absorbed product in containers for suitable disposal.

Section 7- HANDLING and STORAGE

Storage Requirements: Store in a cool, dry place.

Section 8-EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: NIOSH approved respiratory protective equipment: not normally required.
Protective Clothing/Equipment: Eyes/Face: not normally required. Gloves: not normally required.
People will seafood allergies should consult a physician before using the product.

Section 9-PHYSICAL/CHEMICAL PROPERTIES

Physical State: Yellowish-Brown liquid with a slight fish odor. Solubility in Water: Miscible
Specific Gravity : 0.95 Boiling Point: N/A pH: °6.0-7.0
Weight per gallon: 7.7 lb/gal VOC: None detected

Section 10-STABILITY AND REACTIVITY

Stability: Stable. Polymerization: NO. Chemical Incompatibilities: None. Conditions to Avoid: Extreme heat. Do not freeze.
Hazardous Decomposition Products: CO, CO_2, hydrocarbons.

Section 11-TOXICOLOGICAL INFORMATION

Positive Teratogen/Mutagen/Carcinogen (NTP): N/A Potential Carcinogen OSHA/IARC: N/A

Section 12-ECOLOGICAL INFORMATION

Safe to use around bodies of water with fish. Low environmental risk to people, pets and around the home.

Section 13-DISPOSAL CONSIDERATIONS

Disposal: Dispose at a government approved landfill, incineration, or recovery facility. Observe all local, state, and federal regulations.

Section 14-TRANSPORT INFORMATION

DOT Transportation Data : The "Transportation of Dangerous Goods Act" classification for this product is: Not Regulated.
DOT Classification: Non-Toxic, Non-Corrosive, Non-Hazardous. Class 60.

Section 15-REGULATORY INFORMATION

EPA Regulations: This product is exempt from EPA regulation as a pesticide. EPA: This material is not considered to meet any hazard category of SARA Title III. OSHA Regulations: State Regulations: Check with specific state authorities since regulations vary within the states.

Section 16-OTHER INFORMATION

SAFETY DATA SHEET

Issuing Date 5/01/2015

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier 51703

Product Name Safer Brand Diatomaceous Earth

Other means of identification

Synonyms None

Size 4 lbs

Recommended use of the chemical and restrictions on use

Recommended Use Insecticide - Crawling Bug - Non-Aerosol

Uses advised against It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Details of the supplier of the safety data sheet

Supplier Name Woodstream Corporation
Supplier Address 69 North Locust St.
Lititz
PA
17543
US
Supplier Phone Number Phone:(717) 626-2125
Fax:(717) 626-1912
Contact Phone(800) 800-1819

Regulatory Licenses EPA Reg. No. 73729-1-42697

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS Label elements, including precautionary statements

Emergency Overview

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance Powder(s) **Physical State** Dust Solid **Odor** None

Precautionary Statements - Prevention
Obtain special instructions before use

Precautionary Statements - Response
None

Precautionary Statements - Storage
None

Precautionary Statements - Disposal
None

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity
100% of the mixture consists of ingredient(s) of unknown toxicity

Other information

May cause slight eye irritation

Interactions with Other Chemicals
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

.

Chemical Name	CAS No.	Weight-%	Trade Secret
Diatomaceous earth	61790-53-2	60 - 100	*

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures

Eye Contact Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact Wash with soap and water.

Inhalation Remove to fresh air.

Ingestion Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical
No information available.

Hazardous Combustion Products
Carbon oxides.

Explosion Data
Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge No.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with eyes.

Environmental Precautions

Environmental Precautions Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes.

Conditions for safe storage, including any incompatibilities

Storage Keep container tightly closed.

Incompatible Products None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Diatomaceous earth 61790-53-2	-	(vacated) TWA: 6 mg/m³ <1% Crystalline silica : (80)/(% SiO2) mg/m³ TWA TWA: 20 mppcf	TWA: 5 mg/m³ respirable dust TWA: 10 mg/m³ total dust

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection No special protective equipment required.

Skin and Body Protection No special protective equipment required.

Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Dust Solid		
Appearance	Powder(s)	**Odor**	None
Color	No information available	**Odor Threshold**	No information available

Property	Values	Remarks/ Method
pH	7.5-9.0	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	0.24	None known
Water Solubility	Insoluble	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to avoid
None known based on information supplied.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Specific test data for the substance or mixture is not available.

Inhalation Specific test data for the substance or mixture is not available.

Eye Contact Specific test data for the substance or mixture is not available.

Skin Contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Component Information No information available

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Diatomaceous earth 61790-53-2		Group 3		X

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Chronic Toxicity No known effect based on information supplied. Contains a known or suspected carcinogen.

Target Organ Effects None known.

Aspiration Hazard No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document
Not applicable

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Diatomaceous earth 61790-53-2		72h LC50: > 10000 mg/L (Cyprinus carpio)		

Persistence and Degradability
No information available.

Bioaccumulation
No information available

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging Dispose of contents/containers in accordance with local regulations.

California Hazardous Waste Codes 232

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
Diatomaceous earth 61790-53-2	Toxic

14. TRANSPORT INFORMATION

DOT NOT REGULATED NOT REGULATED

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

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Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Diatomaceous earth 61790-53-2	X				

International Regulations

Mexico
National occupational exposure limits

Component	Carcinogen Status	Exposure Limits
Diatomaceous earth 61790-53-2 (60 - 100)		Mexico: TWA 10 mg/m³

Mexico - Occupational Exposure Limits - Carcinogens

16. OTHER INFORMATION

NFPA	**Health Hazards** 0	**Flammability** 0	**Instability** 0	**Physical and Chemical Hazards** -
HMIS	**Health Hazards** 0	**Flammability** 0	**Physical Hazard** 0	**Personal Protection** X

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date 13-Nov-2014

Revision Note No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

Safety Data Sheet

SNS-203 Concentrated Natural Pesticide

SECTION 1: PRODUCT AND COMPANY INFORMATION

Manufacturer Sierra Natural Science, Inc., 1031 Industrial St. Unit C, Salinas, CA 93901 - (831) 757-1702 - www.sierranaturalscience.com
Product Family Natural Pesticide
Trade Name(s) SNS-203 Concentrated Natural Pesticide
Recommended Uses Soil drench and spray to control and repel fungus gnats, root aphids, thrips, shore flies and white flies

24-Hour Emergency Phone Number, CHEMTREC - Tel: (800) 424-9300

SECTION 2: HAZARD IDENTIFICATION

EMERGENCY OVERVIEW						
		HMIS				
GHS Classification		HEALTH	1			
Physical Hazards	Not Classified	FLAMMABILTY	0			
		PHYSICAL HAZARD	0			
Health Hazards	See Below	PERSONAL PROTECTION	See Section 8			
Signal Word	WARNING					

Eye Damage/Irritation Category 2B – Mild irritant. Causes eye irritation.
Skin Corrosion/Irritation Not classified.

Precautionary Statements
Wash hands or other contact areas thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice or attention.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Percentage
Clove Oil	8000-34-8	1 – 2%

SECTION 4: FIRST AID MEASURES

Skin Contact Remove contaminated clothing including shoes. Wash area of contact with soap and water. Wash contaminated clothing and shoes before reuse. Get medical attention if irritation occurs and persists.
Eye Contact Remove contact lenses if present. Immediately flush eyes with water until all traces of material are gone. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.
Inhalation Remove affected person from source of exposure. Get medical attention if ill effects or discomfort persists.
Ingestion Do not induce vomiting because of danger of aspiration into lungs. If spontaneous vomiting occurs, monitor for breathing difficulty. Get medical attention if discomfort or ill effects occur.

SECTION 5: FIREFIGHTING MEASURES

Basic Firefighting Procedures
Product will not burn. Use fire-fighting procedures appropriate for surrounding fire. Use a water spray to cool fire-exposed containers, structures and to protect personnel. Exposed firefighters should wear MSHA/NIOSH approved self-contained breathing apparatus with full-face mask and full protective equipment. Flush spills away from sources of ignition

Unusual Fire and Explosion Hazards
Irritating or toxic substances may be emitted.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Refer to Section 8: Exposure Control and Personal Protection

Emergency Action

Isolate release area and keep unnecessary people away. Exercise caution regarding personnel safety and exposure.

Spill/Leak Procedure

Floor and surfaces may be slippery. Dike with sand or other noncombustible material. Flush area with water; use absorbent material and dispose of properly.

SECTION 7: HANDLING AND STORAGE

Refer to Section 8: Exposure Control and Personal Protection

Handling Wear proper protective equipment to avoid prolonged contact with skin, eyes and clothing. Avoid breathing vapors or mists. Do not ingest. Use good hygiene practices when handling product, including changing and laundering work clothes after use. Get medical attention if you feel unwell. The shipping and storage container is not designed to be pressurized. Do not use pressure to empty the container as it may rupture. Containers should be completely drained, properly closed, and disposed of properly. Empty containers may contain residue or vapors. Do not cut, grind, drill, weld or reuse containers.

Storage Store product in closed containers in a well-ventilated area away from heat, sources of ignition and incompatibles. Do not store in unlabeled containers.

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Component	ACGIH	OSHA
Not Applicable		

Engineering Controls

Use exhaust ventilation to control vapor and mist.

Eye and Face Protection

Always wear safety glasses; use face shield if splashing is possible.

Skin Protection

Oil and chemical resistant gloves should be used to avoid prolonged or repeated contact.

Respiratory Protection

A NIOSH or MSHA approved respirator should be used in areas with high vapor concentrations or misting.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State	Clear, colorless liquid	**Flash Point**	Not Applicable
Specific Gravity (Water=1)	0.99	**Upper/Lower Flammability Limits (Vol. %)**	Not Applicable
pH	Not Determined	**Auto-ignition Temperature**	Not Applicable
Solubility in Water	Soluble	**Decomposition Temperature**	Not Determined
Odor	Characteristic	**Vapor Pressure (kPa at 20°C / 68°F)**	Not Determined
Odor Threshold	Not Determined	**Vapor Density (Air-=1)**	Not Determined
Melting/Freezing Point (°F/°C)	Not Determined	**Partition Coefficient (n-octanol/water)**	Not Determined
Boiling Range (°F/°C)	Not Determined	**Viscosity (40°C mm^2/s) or (cSt at 40°C)**	Not Determined
Initial Boiling Point (°F/°C)	Not Determined	**Critical Temperature**	Not Determined

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Those should be requested separately.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Does not react under normal conditions of use.
Chemical Stability	Stable under normal conditions of use.
Stability/Incompatibility	Avoid contact with strong oxidizers.
Conditions to Avoid	Open flame or sources of ignition.
Hazardous Reactions/Decomposition Products	Does not decompose under normal conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure	Inhalation, skin, eyes
Acute Effects	LD_{50} and LC_{50} of the product are not determined but are expected to be high based on toxicity of components. Excessive contact, inhalation or ingestion may cause irritation or discomfort. Refer to Sections 2 and 4 for recommended actions.
Medical conditions aggravated by long term exposure	Eye, skin and respiratory disorders
Chronic Effects	Any acute symptoms may be aggravated. Refer to Sections 2 and 4 for recommended actions.
Symptoms	May include redness, cracking of the skin, gastrointestinal and respiratory discomfort. Refer to Sections 2 and 4 for recommended actions.
Carcinogenicity	No components of this product are found to be carcinogens by NTP, IARC or OSHA.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	Not Determined.
Persistence and Biodegradability	Not Determined
Bioaccumulative Potential	Not Determined
Mobility in Soil	Not Determined

SECTION 13: DISPOSAL CONSIDERATION

Dispose of this product in compliance with all applicable federal, state and local regulations.

SECTION 14: TRANSPORT INFORMATION

DOT	Not Regulated
UN Proper Shipping Name/Number	Not Regulated

SECTION 15: REGULATORY INFORMATION

Chemical Inventory Lists	All ingredients are listed on TSCA and DSL
SARA (311/312) Reportable Hazard Categories	None

SECTION 16: OTHER INFORMATION

Notice The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet. However, no warranty or representation, expressed or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by the vendor for any damage or injury resulting from abnormal use, from failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

Prepared By Sierra Natural Science, Inc.

Safety Data Sheet

Maxicrop Liquid Fish 3-1-1

1. IDENTIFICATION

TRADE NAME:	Ohrstrom's Maxicrop Liquid Fish
SYNONYMS:	Maxicrop Liquid Fish, Maxicrop Liquid Fish 3-1-1
DISTRIBUTOR:	Maxicrop USA, Inc.
ADDRESS:	900 Lively Blvd.
CITY, STATE & ZIP CODE:	Elk Grove Village, IL 60007
TELEPHONE:	847-956-8828
FAX:	847-364-7374
CONTACT PERSON:	Tom Ohrstrom
EMERGENCY TELEPHONE:	847-956-8828
RECOMMENDED USES:	Agricultural Fertilizer
RESTRICTIONS ON USE:	None

2. HAZARD IDENTIFICATION

HAZARD CLASSIFICATION:	Non-hazardous. This product does not require special labeling.
SAFETY PRECAUTIONS:	Wear suitable protective eye protection and clothing due to staining.

3. COMPOSITION OF PRODUCT

No.	Ingredients Name	CAS-NO	Cons. (weight %)	Classification
1	Menhaden Fish Oil	8002-50-4	100%	IK

LEGEND: T+ = Very Toxic, T = Toxic, C = Corrosive, Xn = Harmful, Xi = Irritant, IK = No Classification Required, E = Explosive, O = Oxidizing, F+ = Extremely Flammable, F = Very Flammable, Fo = Flammable, N = Dangerous to Environment, Mu = Genetoxic, Sens = Sensitizing, Care = Carcinogen, Repr = Causes Birth Defects

4. FIRST AID MEASURES

GENERAL:	Non-toxic. If irritation persists, seek medical advice from a physician.
EYE CONTACT:	Immediately flush eyes with plenty of water for 5 minutes or as long as necessary. Keep eyes wide open while flushing. Seek medical attention if irritation persists.
SKIN CONTACT:	Wash with mild soap and water. Seek medical attention if discomfort persists.
INHALATION:	Do not intentionally breathe vapors. Ventilate the area well and go to an open space.
INGESTION:	Do not induce vomiting and drink water or milk. Seek medical attention if discomfort occurs.

FIRST AID FACILITIES:	Eyewash station and normal washroom facilities.
ADVICE TO DOCTOR:	Treat symptomatically.
OTHER INFORMATION:	For advice in any emergency, contact a Poison Control Center at 1-800-222-1222 or contact a physician at once.

5. FIRE FIGHTING MEASURES

PROPER EXTINGUISHING EQUIPMENT:	Use extinguishing media appropriate for surrounding fire. Caution: Slippery in liquid form or when mixed with water. No unusual fire or explosion hazards noted.
FIRE & EXPLOSION HAZARDS:	Non-flammable. Non-explosive.
POSSIBLE SPECIAL HAZARDS:	This product is non-combustible. However, following evaporation of aqueous component under fire conditions, the non-aqueous component may decompose and/or burn. As a water based product, if spilt on electrical equipment the product will cause short-circuits.
FIREFIGHTER PRECAUTIONS:	Wear full protective equipment and a self-contained breathing apparatus (SCBA).

6. ACCIDENTAL RELEASE MEASURES

SAFETY MEASURES TO PROTECT PERSONS:	Wear suitable protective clothing, gloves and eye protection.
PROPER METHODS FOR DAMAGE LIMITATION & CLEAN UP:	Wear suitable protective clothing, gloves and eye protection. Absorb large spills with sand or any suitable medium. Handle in a well ventilated area. Dispose of according to local authority guidelines.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING:	Avoid inhalation, direct contact with skin and eyes. Use personal protective equipment as specified in section 8. Always respect hygienic rules, do not drink or eat in work areas.
STORAGE RECOMMENDATIONS:	Store in a cool place and out of direct sunlight. Protect from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROL:	Eyewash facilities should be available.
EXPOSURE LIMITS:	No data available.
RESPIRATION PROTECTION:	No respiratory protection required during normal handling.
EYE PROTECTION:	Eye protection should be worn when handling due to temporary staining.
HAND PROTECTION:	Gloves should be worn when handling due to temporary staining.
SKIN PROTECTION:	No special personal protection required under conditions of intended use. In the event of a bulk spill, wear appropriate protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	**Air Reactive**	N/A
Color	Turbid, yellow to amber	**Percent Volatile**	N/A
Odor	Fishy	**Bulk Density**	N/A
Solubility	100% Water Soluble	**Vapor Pressure**	N/A
Melting Pont/Range	10 - 15° C	**Viscosity**	N/A
Explosive Limits (LEL/UEL)	Not Determined	**Solubility in Water**	Negligible
Vapor Pressure	Not Determined	**Saturation Conc.**	Not Determined
Decomposition Temp.	Not Determined	**Rel. Density Sat. Air (Air = 1)**	Not Determined
pH Value	6.0-8.0	**Boiling Point/Range**	<250° C
Flash Point	>300° F (closed cup)	**Smelling Limits (Lo-High)**	Not Determined
Specific Gravity (H_2O=1):	0.930	**Rel. Evap. Velocity**	Not Determined
Ignition Temp.	550° C	**Water Reactive**	N/A
Vapor Density (air = 1)	Not Determined	**Further Information**	No Data

10. STABILITY AND REACTIVITY

STABILITY: Product is stable under normal use and storage conditions.

CONDITIONS TO AVOID: Excessive heat or freezing temperatures and direct sunlight. Avoid introducing pure oxygen.

MATERIALS TO AVOID: Pure Oxygen

HAZARDOUS DECOMPOSITION PRODUCTS: Not Available

HAZARDOUS POLYMERIZATION: Will not occur

11. TOXICOLOGICAL INFORMATION

TOXICOLOGY INFORMATION: No adverse health effects are expected under normal conditions of use.

ACUTE TOXICITY: No acute toxicity study is provided due to the nature of the substance. This product is not deemed to pose any toxicological hazard.

ROUTES OF EXPOSURE: Can be an irritant for the nose and respiratory system if inhaled. Can be an irritant for the mouth, nose, throat and digestive tract if ingested. Can be an irritant for the skin or the eyes.

INGESTION: Ingestion of significant amounts may cause nausea and discomfort.

OCULAR: May be irritating to the ocular tissue of non-irrigated eyes. The symptoms may include redness, itching and tearing.

DERMAL: May be irritating to the skin. The symptoms include redness, itching and swelling.

INHALATION: Inhalation may cause irritation of the nose, throat, and respiratory system

12. ECOLOGICAL INFORMATION

ECOTOXICITY:	Plant nutritional supplement and plant vitamin; high concentrations may cause burn of plants.
BREAKDOWN:	Product presents minimal environmental impact.
PERSISTENCE/DEGRADABILITY:	No data available
BIOACCUMULATIVE:	Product is not expected to bio accumulate.
ENVIRONMENTAL:	Large quantities should not be discharged into waterways, drains, or sewers.

13. DISPOSAL CONSIDERATIONS

PRODUCT DISPOSAL:	Not classified as hazardous waste. Product must be disposed of in accordance with all applicable Federal, State and local regulations.
CONTAINER DISPOSAL:	When possible, containers should be rinsed with clean water and disposed of in line with local regulations.

14. TRANSPORT INFORMATION

GENERAL:	Non-hazardous material according to transportation regulations. No special precautions are necessary.
IMDB MARINE POLLUTANT:	No

15. REGULATORY INFORMATION

REGULATORY INFORMATION:	Classified as non-hazardous. Substance is subject to any prohibitions or restrictions in the country or region where it is being shipped.
SAFETY:	Keep out of reach of children.
REFERENCES:	SDS

16. OTHER INFORMATION

DATE OF PREPARATION:	January 2018
LAST REVISION DATE:	March 6, 2018

Issued January 2018. This revised SDS cancels and replaces any preceding release or MSDS. It refers solely to the product indicated and constitutes no guarantee of particular quality.

VENDOR NOTES

Every endeavor has been made to ensure that the information contained in this SDS leaflet is reliable, but we cannot accept liability for any loss, injury or damage, which may result from its use or misuse. Data given in this SDS is solely for the guidance in safe handling and use of the product by customers; they do not form part of any specification. If any difficulties arise, we shall be glad to discuss them. Customers are encouraged to conduct their own tests following discussion with our technical department. The above information is based on experience, but it is always advisable for customers to satisfy themselves, by consultation with our technical department and small-scale testing is necessary, that product, which they have selected, is suitable for their purpose under their conditions of use.

SAFETY DATA SHEET

Company:	Rockwool B.V. - Grodan		
Trade name:	Growth substrate based on mineral wool	**Product name:**	Grodan
Revised on:	21-09-11	**Replaces issue:**	11 August 1999

1 Product and company identification

Material name	Mineral fibres according to Note Q
Revision date	21 September 2011
Version #	01
Cas #	Generic: 65997-A-3 / Specific: 28 7922-11-6
Product code	Roxul®1000, RIF41001, HT, MMVF34
Product use	Growth substrate material based on stone wool, high-alumina, low-silica (HT) wool.
Company name	Rockwool B.V. Grodan Industrieweg 15 6045 JG Roermond The Netherlands P.O. Box 1160 6040 KD Roermond The Netherlands T +31 475 35 30 20 F +31 475 35 37 16 E-mail: **info@grodan.nl**
Further information	If further information is required, please call or fax or e-mail Grodan: att: Health & Safety Officer T +31 475 35 30 20 | F +31 475 35 37 16 | E-mail: info@grodan.com

2 Hazards identification

Physical state Solid.

Appearance Solid, Grey-green and brown

OSHA regulatory status This product is not hazardous according to OSHA 29CFR 1910.1200.

IARC classified rock (stone) wool in Group 3 – not classifiable as to its carcinogenicity to human. Newer materials (Nota Q fibres) are found to be non-carcinogenic.

Potential health effects

- **Routes of exposure** Eye contact. Inhalation. Skin contact.
- **Eyes** Product dust or powder may cause mechanical eye irritation.
- **Skin** Dust and/or powder may cause mechanical skin irritation.
- **Inhalation** Dust may irritate respiratory system.
- **Ingestion** Ingestion is not likely to be a primary route of occupational exposure.

Target organs Eyes. Skin. Respiratory system.

Chronic effects None known.

Signs and symptoms Dust may irritate the eyes and the respiratory system. Symptoms include itching, burning, redness and tearing.

3 Composition/information on ingredients

Components	CAS #	Percent
Synthetic vitreous (silicate) fibres, note Q	Generic: 65997-A-3 Specific: 28 7922-11-6	95-100

Composition comments REACH Registration number: 01-2119472313-44-0003.
Man-made vitreous (silicate) fibres with random orientation with alkaline and alkali earth oxides (NA2O +K2O + CaO + MgO + BaO) content greater than 18% by weight and fulfilling one of the Note Q conditions.

This product contains no crystalline silica.

4 First aid measures

First aid procedures

-	**Eye contact**	Contact with dust: Do not rub eye. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Seek medical attention if irritation persists after washing.
-	**Skin contact**	If itching occurs: Do not rub or scratch exposed skin. Remove contaminated clothing immediately and wash skin with soap and water. Seek medical attention if irritation persists after washing.
-	**Inhalation**	Move injured person into fresh air and keep person calm and under observation. Seek medical attention if any discomfort occurs.
-	**Ingestion**	Clean mouth with water and drink plenty of water afterwards. Seek medical attention if irritation develops and persists.

Notes to physician Treat symptomatically.

5 Fire fighting measures

Extinguishing media

Suitable extinguishing media Dry chemical. Water spray. Carbon dioxide or dry powder.

Unsuitable extinguishing media None known.

Protection of fire fighters

Specific hazards arising from the chemical During fire, traces of gases hazardous to health may be formed.

Fire fighting equipment / instructions Self-contained breathing apparatus and full protective clothing must be worn in case of Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

Specific methods Use standard fire fighting procedures and consider the hazards of other involved materials.

6 Accidental release measures

Personal precautions Ensure adequate ventilation. Avoid inhalation of dusts from machining operation. Avoid contact with skin and eyes. Wear suitable protective clothing. See Section 8 of the SDS for Personal Protective Equipment.

Environmental precautions Collect and dispose of spillage as indicated in Section 13 of the SDS.

Methods for containment Collect spillage.

Methods for cleaning up	Use a vacuum cleaner. If not possible, moisten dust with water before it is collected with shovel, broom or the like. Clean up in accordance with all applicable regulations.
Other information	Clean up in accordance with all applicable regulations.

7 Handling and storage

Handling	Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes. Wear appropriate personal protective equipment. Use personal protective equipment. Change contaminated clothing. Observe good industrial hygiene practices.
Storage	Store in a dry place. Store in original packaging.

8 Exposure controls and personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Engineering controls	Minimize dust generation and accumulation. Observe occupational exposure limits and minimize the risk of inhalation of dust.

Personal protective equipment

- **Eye / face protection**	Use approved safety goggles or face shield.
- **Skin protection**	Wear appropriate clothing to prevent reasonably probable skin contact.
- **Respiratory protection**	In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter. In case of inadequate ventilation or risk of inhalation of dust, use a suitable NIOSH approved respirator with an appropriate particulate filter.
- **General hygiene considerations**	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and / or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9 Physical and chemical composition

-	**Appearance**	Solid, Grey-green and brown.
-	**Color**	Grey-green and brown.
-	**Odor**	Not applicable.
-	**Odor threshold**	Not available.
-	**Physical state**	Solid.
-	**Form**	Loose fibres.
-	**pH**	Not applicable.
-	**Melting point**	> 1832 °F (>1000 °C).
-	**Freezing point**	Not available.
-	**Boiling point**	Not relevant.
-	**Flash point**	Not relevant.
-	**Evaporation rate**	Not available.
-	**Flammability**	Non-flammable (DIN 4102).
-	**Flammability limits in air, upper, % by volume**	Not available.
-	**Flammability limits in air, lower,% by volume**	Not available.
-	**Vapor pressure**	Not available.
-	**Vapor density**	Not available.
-	**Specific gravity**	Not available.
-	**Solubility (water)**	Insoluble in water.
-	**Partition coefficient (n-octanol/water)**	No data available.
-	**Auto-ignition temperature**	Not available.
-	**Decomposition temperature**	Not available.
-	**Density**	2.6 g/cm^3 (approx.)

10 Stability and reactivity

Chemical stability	Stable.
Conditions to avoid	Avoid dust formation and contact with incompatible materials.
Incompatible materials	Strong acids. Strong bases.
Hazardous decomposition products	Carbon dioxide (CO_2). Carbon monoxide. Trace gases.
Possibility of hazardous reactions	Will not occur.

11 Toxicological information

Acute effects	May cause mechanical irritation of skin and eyes. Dust may irritate respiratory system.
Sensitization	None known.
Chronic effects	None known.
Carcinogenicity	IARC classified rock (stone) wool in Group 3 – not classifiable as to its carcinogenicity to humans. Newer materials (Nota Q fibres) are found to be non-carcinogenic.
Epidemiology	Experiences in humans (epidemiological studies). Large morbidity and mortality studies of North American mineral wool [rock (stone) and slag wool] manufacturing workers have been conducted with the traditional mineral wools. The studies have found no significant evidence of non-malignant lung disease (e.g. fibrosis). Note Q has not been subject to epidemiological studies but consists of the less bio persistent fibres, which will disappear even faster from the lung than the rock (stone) wool fibres.
Mutagenicity	None known.
Reproductive effects	None known.
Symptoms and target organs	Dust may irritate the eyes and the respiratory system.

12 Ecological information

Eco toxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	Not known.
Bioaccumulation/Accumulation	No data available.
Partition coefficient (n-octanol/water)	No data available.
Mobility in environmental media	Low water solubility, expected to sink and migrate into the sediment. Expected to partition to sediment and wastewater solids. Persistence and degradability not available.

13 Disposal considerations

Disposal instructions	Collect in marked containers and deliver to approved depot. Dispose of waste and residues in accordance with local authority requirements.
Waste from residues/ unused products	Dispose of waste and residues in accordance with local authority requirements.
Contaminated packaging	No special precautions.

14 Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
TDG	Not regulated as dangerous goods.

15 Regulatory information

US federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification(40 CFR 707, Subpt. D)

Not regulated.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

None.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

- **Hazard categories** Immediate Hazard - No
  Delayed Hazard - No

	Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
- **Section 302 extremely hazardous substance (40 CRF 355, Appendix A)**	No
- **Section 311/312 (40 CFR 370)**	No

Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)

Not controlled.

Canadian regulations This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

WHMIS status Non-controlled.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
- Australia	Australian Inventory of Chemical Substances (AICS)	Yes
- Canada	Domestic Substances List (DSL)	Yes
- Canada	Non-Domestic Substances List (NDSL)	No
- China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
- Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
- Europe	European List of Notified Chemical Substances (ELINCS)	No
- Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
- Korea	Existing Chemicals List (ECL)	Yes
- New Zealand	New Zealand Inventory	Yes
- Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
- United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).

16 Further information

Further information

HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings

Health: 0
Flammability: 0
Physical hazard: 0
NFPA ratings Health: 0
Flammability: 0
Instability: 0

Disclaimer

To the best of our knowledge, the information contained herein is accurate. However no warranty, guarantee or representation is made as to its accuracy, reliability or completeness. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability to assure proper use, disposal, and safety of these materials.

Issue date

01 September 2011

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Big & Chunky Perlite
PRODUCT DESCRIPTION: Perlite

MANUFACTURER:
United Compost and Organics
DBA FoxFarm Soil and Fertilizer Co.
1900 Bendixsen Street
Samoa, CA. 95564
707-443-4369

2. HAZARDOUS INGREDIENTS IDENTIFICATION

Chemical Name	CAS#	OHSA PEL	ACGIH TLV
Perlite – A nuisance dust	93763-70-3		
Respirable		5mg/m3	5mg/m3
Total		15mg/m3	10mg/m3

A mineral composed of sodium potassium aluminum silicate of variable composition; perlite is considered a nuisance dust only.

Crystalline Silica (<0.10%) 14808-60-7
Cristobalite (<0.10%) 14464-46-1

POTENTIAL HEALTH EFFECTS
EYES: May cause temporary eye irritation and inflammation.
SKIN: N/A
SKIN ABSORPTION: No
INGESTION: Not hazardous. Generally regarded as safe by the FDA.
INHALATION: Congestion and irritation of throat, nasal passages, and upper respiratory systems.
ACUTE TOXICITY: No
CHRONIC: Contains less than 0.1% crystalline silica, a nuisance dust. Inhaling over long periods of high amounts of any nuisance dust may overload lung clearance mechanism and make lungs more vulnerable to respiratory disease

MEDICAL CONDITIONS AGGRAVATED: Individuals with pulmonary and/or respiratory disease should avoid exposure to dust.

3. FIRST AID MEASURES

EYES: Flush eyes with water for 15 minutes.
SKIN: N/A
INGESTION: N/A
INHALATION: Move victim to fresh air. Drink water to clear throat and blow nose.

4. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Perlite is a fully oxidized, non-flammable mineral.

FIRE FIGHTING PROCEDURES: N/A
AUTOIGNITION TEMPERATURE: N/A
FLASHPOINT: N/A
HAZARDOUS DECOMPOSITION PRODUCTS: N/A.

5. HANDLING AND STORAGE

HANDLING: In case of spill, sweep or vacuum and dispose in compost area or garden.

STORAGE: Store at ambient temperature in a dry location.

6. EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT
EYES AND FACE: Eye protection recommended.
SKIN: N/A
RESPIRATORY: Dust mask recommended.

7. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Loose particulate.
COLOR: White.
BOILING POINT: N/A
SOLUBILITY IN WATER: No

8. STABILITY AND REACTIVITY

STABLE: Yes
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: None known.
POLYMERIZATION: Will not occur.
INCOMPATIBLE MATERIALS: Reacts with hydrofluoric acid to form toxic silicon tetrafluoride gas.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

ALWAYS READ AND FOLLOW LABEL INSTRUCTIONS.