

Section 1: Product and Company Identification

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|--|---|----------------------|----------------|----------------------|-----------------------|------------------|----|-----------------------------|----------------------|--------------|--------------|--------------------------|---------------|
| Field 16 LLC 54875 Bautista Canyon Road Anza, CA. 92539 Business: 951.763.4392 Fax: 951.763.0517 Web: www.field16.com | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Product Name:</td> <td>Heavy 16 Veg B</td> </tr> <tr> <td>Generic Name:</td> <td>Hydroponic plant food</td> </tr> <tr> <td>Synonyms:</td> <td>NA</td> </tr> <tr> <td>Product Description:</td> <td>Hydroponic nutrients</td> </tr> <tr> <td>CAS #</td> <td>NA – mixture</td> </tr> <tr> <td>Date of Revision:</td> <td>4 August 2010</td> </tr> </table> | Product Name: | Heavy 16 Veg B | Generic Name: | Hydroponic plant food | Synonyms: | NA | Product Description: | Hydroponic nutrients | CAS # | NA – mixture | Date of Revision: | 4 August 2010 |
| Product Name: | Heavy 16 Veg B | | | | | | | | | | | | |
| Generic Name: | Hydroponic plant food | | | | | | | | | | | | |
| Synonyms: | NA | | | | | | | | | | | | |
| Product Description: | Hydroponic nutrients | | | | | | | | | | | | |
| CAS # | NA – mixture | | | | | | | | | | | | |
| Date of Revision: | 4 August 2010 | | | | | | | | | | | | |

Section 2: Hazard Identification

Emergency Overview: Clear pinkish liquid. Contact causes irritation to eyes, skin and respiratory tract. Ingestion impairs blood function and may cause kidney damage.

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|----------------------------|----------|
| HMIS HEALTH | 1 |
| HMIS FLAMMABILITY | 0 |
| HMIS REACTIVITY | 0 |
| PERSONAL PROTECTION | C |

OSHA Regulatory Status: This material is considered hazardous under the OSHA standard.

Canadian WHMIS Classification: C, D2A

Potential Health Effects:

Inhalation: Inhalation of spray or mist causes irritation of respiratory tract. Symptoms may include coughing and shortness of breath.

Ingestion: Large doses may cause dizziness, abdominal pain, vomiting, bloody diarrhea, weakness, convulsions, and collapse. May cause methemoglobinemia, an interference with the blood's capability to carry oxygen, with symptoms of bluish tint to skin and lips.

Skin Contact: Causes irritation to skin. Symptoms may include redness, itching and pain.

Eye Contact: Causes irritation and burns to eyes. Symptoms may include redness itching and pain.

Chronic Exposure: Chronic oral ingestion of nitrates may cause weakness, depression, headache, and mental impairment. Potassium poisoning may occur with prolonged exposure.

Aggravation of Pre-existing Conditions: No information found.

Target Organs: Blood, eyes, skin, respiratory tract

Section 3: Composition / Information On Ingredients

| Component | Common Names, Synonyms | CAS # | EINECS | Weight % |
|--------------------------------|--------------------------------|------------|-----------|----------|
| Potassium nitrate | Nitric acid potassium salt | 7757-79-1 | 231-818-8 | < 10 |
| Potassium phosphate, monobasic | Phosphoric acid potassium salt | 7778-77-0 | 231-913-4 | < 10 |
| Magnesium nitrate | Nitric acid magnesium salt | 10377-60-3 | 233-826-7 | < 10 |
| Magnesium sulfate | Sulfuric acid magnesium salt | 7487-88-9 | 231-298-2 | < 10 |
| Potassium sulfate | Sulfuric acid potassium salt | 7778-80-5 | 231-915-5 | < 10 |

Non-hazardous components may or may not be listed. Carcinogens are listed when present at 0.1% or more; components which are otherwise hazardous according to OSHA are listed when present at 1.0% or more. This is not intended to be complete compositional disclosure. See Section 15 for applicable states right to know and other regulatory information.

Section 4: First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

Skin: Immediately flush skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops.

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician: IV administration of calcium gluconate will partially reverse the effects of acute magnesium toxicity. Ventricular support with calcium chloride infusion and mannitol-forced diuresis has also been successful. Treat symptomatically and supportively.

Section 5: Fire Fighting Measures

Fire: Flash point: Not flammable. Solution itself does not burn, but solution applied to paper, fabric, cardboard or other absorbent flammables may catch fire on drying.

Explosion: Not considered an explosion hazard.

Extinguishing Media: Use any suitable media for the surrounding fire. Water spray may be used to keep fire exposed containers cool.

Special Precautions: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

NFPA Rating: Health - 1 Flammability - 0 Reactivity - 0 Other - NA

Section 6: Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer.

Section 7: Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage and moisture. Isolate from any source of heat or ignition. Separate from incompatibles, combustibles, organic or other readily oxidizable materials. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

Section 8: Exposure Control / Personal Protection

Exposure Guidelines:

| Component | CAS # | OSHA PEL | ACGIH TLV | NIOSH TLV |
|--------------------------------|------------|-----------------|-----------------|-----------------|
| Potassium nitrate | 7757-79-1 | Not established | Not established | Not established |
| Potassium phosphate, monobasic | 7778-77-0 | Not established | Not established | Not established |
| Magnesium nitrate | 10377-60-3 | Not established | Not established | Not established |
| Magnesium sulfate | 7487-88-9 | Not established | Not established | Not established |
| Potassium sulfate | 7778-80-5 | Not established | Not established | Not established |

Personal Protective Equipment:

Skin Contact: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Contact: Use chemical safety goggles and/or full face shield where misting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Inhalation: Use NIOSH-approved vapor respirator if exposure is unknown or exceeds permissible limits. A respiratory protection program that meets OSHA's 29 CFR 1910.134, European standard EN 149 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Engineering Controls: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Section 9: Physical and Chemical Properties

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|----------------|----------------------|-------------------------|----------------|
| Appearance | Clear pinkish liquid | Specific Gravity (g/mL) | 1.15 – 1.25 |
| Odor | Burnt, metallic | pH | 6.0 |
| Odor Threshold | Not determined | Solubility in water | Not soluble |
| Melting Point | Not determined | % Volatiles | 80% |
| Boiling Point | > 100°C (212°F) | Evaporation Rate | ND |
| Flash Point | Does not burn | Vapor Pressure | Not determined |

Section 10: Stability and Reactivity

Chemical Stability: This product is stable in closed containers at room temperature.

Hazardous Decomposition Products: Nitrogen oxides (NO, N₂O, NO₂), phosphorus oxides, sulfur oxides (SO₂, SO₃)

Incompatibilities: Reducing agents, combustibles, strong acids or bases

Conditions to Avoid: Incompatible materials, combustible materials.

Section 11: Toxicological Information

Acute Dose Effects: Eye: No information found.

Oral: Potassium nitrate: Rat: LD50: 3750 mg/kg; Rabbit LD50: 1901 mg/kg; Magnesium nitrate: Rat LD50: 5440 mg/kg (hexahydrate); Potassium sulfate: Rat LD50: 6600 mg/kg

Inhalation: No information found.

Skin: Monopotassium phosphate: Rabbit: LD50: >4640 mg/kg;

Section 12: Ecological Information

Environmental Fate: This product is not expected to bioaccumulate.

Ecotoxicity: Magnesium sulfate: 24 hour EC50 *Daphnia magna* (water flea) : 1700 mg/L; 24 hour LC50 *Lepomis machrochirus* (bluegill) : > 5000 mg/L [static]; 72 hour EC50 *Scenedesmus subspicatus* (green algae) : 2700 mg/L.

Section 13: Disposal Considerations

As a waste, this material in its raw form IS NOT considered a HAZARDOUS WASTE under RCRA (29 CFR 261).

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14: Transport Information

U.S. Domestic Ground **Proper Shipping Name:** Not regulated for transport
DOT Hazard Class: Not applicable
UN Number: Not applicable
Packing Group: Not applicable

U.S. Domestic Air **Proper Shipping Name:** Not regulated for transport
DOT Hazard Class: Not applicable
UN Number: Not applicable
Packing Group: Not applicable

Canadian TDG **Proper Shipping Name:** Not regulated for transport
DOT Hazard Class: Not applicable
UN Number: Not applicable
Packing Group: Not applicable

International Air **Proper Shipping Name:** Not regulated for transport
DOT Hazard Class: Not applicable
UN Number: Not applicable
Packing Group: Not applicable

CERCLA Reportable Quantity (RQ): N/A

Releases exceeding the reportable quantity (RQ) must be reported to the National Response Center (800) 424-8802.

This data provided for information only. The description shown may not apply to all shipping situations.

Consult 49 CFR, or appropriate regulations to properly classify your shipment for transportation.

Section 15: Regulatory Information

TSCA Chemical Inventory: All of the chemicals in this product are listed on the TSCA Inventory.

TSCA Sec 4 Chemical Test Rule: None of the chemicals in this product are on this list.

TSCA Sec 8(d): None of the chemicals in this product are on the Health and Safety Reporting List.

TSCA Sec 12(b) Notices of Export: None of the chemicals in this product are on this list.
TSCA Significant New Use Rule (SNUR): None of the chemicals in this product are on this list.
SARA Sec 302 (EHS) TPQ: None of the chemicals in this product have a TPQ.
SARA Sec 302 (EHS) RQ: None of the chemicals in this product have a RQ.
SARA Sec 311/312: Acute – YES; Chronic – YES; Fire – NO; Release of Pressure – NO; Reactivity – NO
SARA 313 List: None of the chemicals in this product is reportable under Section 313 Title III and 40 CFR Part 372.
CERCLA Hazardous Substances and corresponding RQs: N/A
RCRA: None of the chemicals in this product are on this list.
Clean Air Act: Hazardous Air Pollutants? NO **Class 1 Ozone Depletors?** NO **Class 2 Ozone Depletors?** NO
Clean Water Act: Hazardous Substance? NO **Priority Pollutant?** NO **Toxic Pollutant?** NO
Chemical Weapons Convention: None of the chemicals in this product are on this list.
Drug Enforcement Agency (DEA) CDTA: None of the chemicals in this product are on this list.
OSHA: None of the chemicals in this product are considered Highly Hazardous by OSHA.
State Right-to-Know Lists: Potassium nitrate is found on the Right-to-Know lists of Florida, Massachusetts, New Jersey and Pennsylvania.
California Proposition 65: None of the chemicals in this product are on this list.
Canadian: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations. The components in this product are listed, or exempt from listing, on the Canadian Domestic Substances List.
Canadian WHMIS: This product has a WHMIS classification of C, D2A.
Canadian Ingredient Disclosure List: Potassium phosphate, monobasic is listed on the Canadian Ingredient Disclosure List. Potassium nitrate is not listed on the Canadian Ingredient Disclosure List.

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| Section 16: Other Information |
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Abbreviations and acronyms used:

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|--------|---|-------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists | NA | not applicable, not available |
| ANSI | American National Standards Institute | NIOSH | National Institute for Occupational Safety and Health |
| atm | atmosphere (pressure unit) | ND | not determined |
| BOD | biological oxygen demand | NFPA | National Fire Prevention Association |
| CAS | Chemical Abstracts Service | NTP | National Toxicology Program |
| CC | closed cup | OC | open cup |
| CDTA | Chemical Drug and Trafficking Act | OSHA | Occupational Safety and Health Administration |
| COC | Cleveland Open Cup | Part | partition |
| COD | chemical oxygen demand | PEL | permissible exposure limits |
| coeff. | coefficient | ppb | parts per billion |
| CFR | Code of Federal Regulations | PPE | personal protective equipment |
| CPR | cardio-pulmonary resuscitation | ppm | parts per million |
| DEA | Drug Enforcement Agency | psi | pounds per square inch |
| DOT | Department of Transportation | RCRA | Resource Conservation and Recovery Act |
| FDA | Food and Drug Administration | RQ | Reportable quantity |
| IARC | Internat'l Agency for Research on Cancer | RTK | Right to Know |
| IDLH | immediate danger to life and health | SARA | Superfund Amendments and Reauthorization Act |
| kg | kilogram | STEL | short-term exposure limit |
| L | liter | TCC | Tagliabue Closed Cup |
| LC50 | median lethal concentration | TPQ | threshold planning quantity |
| LD50 | median lethal dose | TQ | threshold quantity |
| LEL | lower explosive limit | TSCA | Toxic Substances Control Act |
| mg | milligram | TWA | time-weighted average |
| mL | milliliter | UEL | upper explosive limit |

This document was prepared in accordance with 29 CFR 1910.1200 and ANSI Z400.1-2004.
 Prepared by Douglas R. Christophe on 4 August 2010.

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