



## 1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Hoagland Modified Basal Salt Mixture

PRODUCT NUMBER: H353

COMPANY INFO: PhytoTech Labs Inc.  
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Phone: 1-888-749-8682 or 1-913-341-5343; Fax: 1-888-449-8682 or 1-913-341-5442  
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EMERGENCY PHONE NUMBER (INFOTRAC): 1-800-535-5053 - US Only  
1-352-323-3500 - International

RECOMMENDED USE: For Research Use Only

RESTRICTIONS ON USE: Products sold by PhytoTech Labs Inc. are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, in vitro diagnostics, or as household chemicals.

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture:

#### GHS Classification:

H272 – Oxidizing solids (Category 3)  
H315 – Skin irritation (Category 2)  
H319 – Eye irritation (Category 2A)

### GHS Label elements, including hazard and precautionary statements:

Pictogram:



Signal Word: **Warning**

#### Hazard Statements:

H272 – May intensify fire; oxidizer.  
H315 – Causes skin irritation.  
H319 – Causes serious eye irritation.  
H335 – May cause respiratory irritation.

#### Precautionary Statements:

P210 - Keep away from heat  
P220 – Store away from combustible materials  
P221 – Take any precaution to avoid mixing with combustibles.  
P261 – Avoid breathing dust  
P280 – Wear protective clothing/protective gloves/eye protection.  
P302 + P352 + IF ON SKIN: Wash with plenty of soap and water  
P304 + P340 + P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get Medical attention if you feel unwell  
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazards not otherwise classified (HNOC) or not covered by GHS: - none

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture that contains, but is not limited to, the following components that may cause harm to the user or environment or may be suspected to do so:

| Ingredient                       | CAS Number | Percent | Hazardous  |
|----------------------------------|------------|---------|--|
| Ammonium Phosphate               | 7722-76-1  | 7.05%   | No exposure limits established by OSHA or ACGIH                            |
| Potassium Nitrate                | 7757-79-1  | 37.22%  | No exposure limits established by OSHA or ACGIH                            |
| Calcium Nitrate                  | 13477-34-4 | 40.27%  | No exposure limits established by OSHA or ACGIH                            |
| EDTA, Disodium Salt, Dihydrate   | 6381-92-6  | 0.22%   | No exposure limits established by OSHA or ACGIH                            |
| Ferrous Sulfate, Heptahydrate    | 7782-63-0  | 0.15%   | ACGIH TLV: 1 mg (Fe)/m <sup>3</sup>  |
| Cupric Sulfate, Pentahydrate     | 7758-99-8  | 0.005%  | NIOSH REL: 1 mg/m <sup>3</sup>   |
| Molybdenum Trioxide              | 1313-27-5  | 0.001%  | OSHA PEL: 5 mg (Mo)/m <sup>3</sup> ; ACGIH TLV: 0.5 mg (Mo)/m <sup>3</sup> |
| Manganese Chloride, Tetrahydrate | 13446-34-9 | 0.11 %  | OSHA PEL: 5 mg (Mn)/m <sup>3</sup> ; ACGIH TLV: 0.2 mg (Mo)/m <sup>3</sup> |
| Boric Acid                       | 10043-35-3 | 0.18%   | ACGIH TLV: 2 mg/m <sup>3</sup>   |

### 4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

| Route of Entry | Symptoms  | First Aid Procedures   |
|----------------|---|--|
| Ingestion      | May cause irritation if swallowed   | If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. <b>Get medical attention.</b>  |
| Inhalation     | May cause irritation to respiratory tract   | Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. <b>Get medical attention.</b>    |
| Eye Contact    | Direct contact may cause irritation. May cause redness, tearing, or blurred vision. | Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. <b>Get medical attention if irritation persists.</b> |
| Skin Contact   | Irritating. May cause reddening, itching or inflammation.                           | Wash area thoroughly with soap and water. Remove and wash contaminated clothing. <b>Get medical attention if irritation persists.</b>  |

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

### 5. FIRE FIGHTING MEASURES

|   |   |
|---|---|
| Suitable Extinguishing Media:                                 | Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.                                       |
| Special Protective Equipment and Precaution for Firefighters: | In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance. |
| Hazardous Combustion Products:                                | No data available   |

### 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas. Avoid breathing dust.

|                                    |   |
|------------------------------------|---|
| Environmental Precautions:         | Prevent further leakage or spillage if safe to do so. Do not let product enter drains.  |
| Method of Containment and Cleanup: | Wear suitable protective clothing. Avoid dust formation. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water. Do not let products enter drains. |

## 7. HANDLING AND STORAGE

|                                  |  |
|----------------------------------|--|
| Precaution for Safe Handling:    | Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Keep away from combustible materials. Wash thoroughly after use. |
| Conditions for Safe Storage:     | Keep in a tightly closed container and store in a cool, dry, and well-ventilated area. Protect from moisture.  |
| Incompatibilities:               | No data available  |
| Recommended Storage Temperature: | 2-8°C  |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

|  |   |
|--|---|
| OSHA's Permissible Exposure Limits (PELs): | Manganese Chloride, Tetrahydrate: 5 mg (Mn)/m <sup>3</sup><br>Molybdenum Trioxide: 5 mg (Mo)/m <sup>3</sup>   |
| ACGIH Threshold Limit Values (TLVs):       | Molybdenum Trioxide: 0.5 mg (Mo)/m <sup>3</sup><br>Ferrous Sulfate, Heptahydrate: 1 mg (Fe)/m <sup>3</sup><br>Manganese Chloride, Tetrahydrate: 0.2 mg (Mn)/m <sup>3</sup><br>Boric Acid: 2 mg/m <sup>3</sup>   |
| Engineering Controls:                      | Handle in accordance to general industrial hygiene and safety practice.   |
| Personal Protective Equipment (PPE):       |   |
| Eye/Face Protection:                       | Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.  |
| Skin Protection:                           | Protective gloves   |
| Body Protection:                           | Lab coat  |
| Respiratory Protection:                    | Respiratory protection is not required.<br>Use N95 (US) or type P1 (EN 143) dust mask where dust level is nuisance.<br>A NIOSH/MSHA approved air purifying respirator is recommended where airborne concentrations are expected to exceed exposure limits. Protection provided by purifying respirators is limited. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|  |                           |
|--|---------------------------|
| Appearance:                              | White to off-White Powder |
| pH (1.63 g/L):                           | Approximately 4.2 – 5.3   |
| Solubility:                              | Soluble in Water          |
| Melting Range:                           | No data available         |
| Vapor Density:                           | No data available         |
| Vapor Pressure:                          | No data available         |
| Specific Gravity:                        | No data available         |
| Odor:                                    | Odorless                  |
| Odor Threshold:                          | No data available         |
| Viscosity:                               | No data available         |
| Relative Density:                        | No data available         |
| Evaporation Rate:                        | No data available         |
| Initial Boiling Point and Boiling Range: | No data available         |

|   |  |
|---|--|
| Flammability (solid, gas):                  | No data available  |
| Partition coefficient:<br>n-octanol/water): | No data available  |
| Auto-ignition Temperature:                  | No data available  |
| Decomposition Temperature:                  | No data available  |
| Flash Point (Closed Cup):                   | No data available  |
| Flammable Limits:                           | Upper (%) – No data available      Lower (%) – No data available |

## 10. STABILITY AND REACTIVITY

|                                   |  |
|-----------------------------------|--|
| Reactivity:                       | No data available  |
| Chemical Stability:               | Stable under normal conditions of use  |
| Possibility of Hazard Reactions:  | No data available.   |
| Conditions to Avoid:              | No data available.   |
| Incompatibles Materials:          | Strong reducing agents, strong acids, finely powered metals, organic materials   |
| Hazardous Decomposition Products: | Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas, Potassium oxides, Sodium oxides, Molybdenum oxides, Copper oxides |

## 11. TOXICOLOGICAL INFORMATION

|                                 |   |                   |
|---------------------------------|---|-------------------|
| Toxicity:                       | LD <sub>50</sub> (Oral-Rat)(mg/Kg):         | No data available |
|                                 | LD <sub>50</sub> (IP-Mouse)(mg/Kg):         | No data available |
|                                 | LD <sub>50</sub> (Dermal-Rabbit)(mg/Kg):    | No data available |
| Carcinogenicity:                | NTP:  | No                |
|                                 | IARC:                                       | No                |
|                                 | OSHA Reg:                                   | No                |
| Reproductive Toxicity:          | No data available                           |                   |
| Specific Target Organ Toxicity: | Single Exposure:                            | No data available |
|                                 | Repeated Exposure:                          | No data available |
| Target Organs:                  | No data available                           |                   |
| Routes of Entry:                | Inhalation, Ingestion, skin and eye contact |                   |
| NIOSH/RTECS NO:                 | Not Listed                                  |                   |

***To the best of our knowledge the toxicological properties of this product have not been thoroughly investigated.***

## 12. ECOLOGICAL INFORMATION

|                                |                   |
|--------------------------------|-------------------|
| Ecotoxicity:                   | No data available |
| Persistence and Degradability: | No data available |
| Bioaccumulative Potential:     | No data available |
| Mobility in Soil:              | No data available |
| Other Adverse Effects:         | No data available |

## 13. DISPOSAL CONSIDERATION

|                     |  |
|---------------------|--|
| Disposal Procedure: | Dispose in accordance with all applicable federal, state, and local environmental regulations. |
|---------------------|--|

## 14. TRANSPORT INFORMATION

Domestic (D.O.T.): Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)

Hazard Class: N/A

UN/NA: N/A

Labels: N/A

International:

IMDG: Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)

Hazard Class: N/A

UN/NA: N/A

Labels: N/A

IATA: Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)

Hazard Class: N/A

UN/NA: N/A

Labels: N/A

## 15. REGULATORY INFORMATION

**TSCA:** No

### SARA TITLE III:

Section 302 (EHS) Ingredients: No

Section 313 Ingredients:

|                   |           |
|-------------------|-----------|
|                   | CAS No.   |
| Potassium Nitrate | 7757-79-1 |

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

**California Proposition 65 List:** None of the components in this product are known to cause cancer or reproductive toxicity

## Massachusetts Right To Know Components:

|                     | CAS No.   |
|---------------------|-----------|
| Molybdenum Trioxide | 1313-27-5 |
| Potassium Nitrate   | 7757-79-1 |
| Ferrous Sulfate     | 7782-63-0 |
| Zinc Sulfate        | 7446-20-0 |

### New Jersey Right to Know Components:

|                     | CAS No.   |
|---------------------|-----------|
| Molybdenum Trioxide | 1313-27-5 |
| Potassium Nitrate   | 7757-79-1 |
| Ferrous Sulfate     | 7782-63-0 |
| Zinc Sulfate        | 7446-20-0 |

## Pennsylvania Right to Know Components:

|                                  | CAS No.    |
|----------------------------------|------------|
| Molybdenum Trioxide              | 1313-27-5  |
| Potassium Nitrate                | 7757-79-1  |
| Manganese Chloride, Tetrahydrate | 13446-34-9 |
| Ferrous Sulfate                  | 7782-63-0  |

Zinc Sulfate  
Calcium Nitrate

7446-20-0  
13477-34-4

## 16. OTHER INFORMATION

|              |        |              |                 |                     |
|--------------|--------|--------------|-----------------|---------------------|
| HMIS Rating: | Health | Flammability | Physical Hazard | Personal Protection |
|              | 2      | 0            | 2               | B                   |
| NFPA Rating: | Health | Fire Hazard  | Instability     | Special Hazard      |
|              | 2      | 0            | 2               | OX                  |

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