

**SAFETY DATA SHEET**

Hard Water Micro

**SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE**

Product name: Hard Water Micro  
Fertilizer formula: 5-0-2  
Product type: Liquid  
Product usage: Hydroponics  
Restrictions on use: n/a  
Initial Supplier: Future Harvest Plantlife Products  
Emergency Telephone Number: 250-491-0255

**SECTION 2: HAZARD IDENTIFICATION**

**2.1 Classification of the substance or mixture**

Acute Oral Toxicity - Category 4  
Skin corrosion/irritation - Category 3  
Eye Irritation - Category 2A

**2.2 Label elements**

SIGNAL WORD: WARNING



Hazard Statement(s):  
H302 Harmful if swallowed.  
H316 Causes mild skin irritation.  
H319 Causes serious eye irritation.

Precautionary Statement(s):

Prevention:

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves / protective clothing / eye protection / face protection.

Response:

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do.

Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

### **SECTION 3: COMPOSITION / IDENTIFICATION ON INGREDIENTS**

Chemical Name	CAS No.	Concentration	Other Names
Calcium Nitrate	10124-37-5	5-10%	
Potassium Nitrate	7757-79-1	3-8%	
Ammonium Nitrate	6484-52-2	5-10%	

**Note:** 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**

#### **4.1 Description of first aid measures**

Eyes contact: In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin contact: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Get medical attention if irritation occurs.

Inhalation: Remove the victim from site of exposure to fresh air. If breathing is difficult, give oxygen. If not breathing give artificial respiration. Get medical attention.

Ingestion: Do not induce vomiting. If victim is conscious, wash mouth thoroughly with plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

#### **4.2 Most important symptoms and effects, both acute and delayed**

Dusts may cause coughing and sneezing. Ingestion of large quantities may cause gastrointestinal irritation, vomiting and diarrhea.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

Treat symptomatically. Clinical findings: The smooth muscle relaxant effect of nitrate salts may lead to headache, dizziness and marked hypotension.

Cyanosis is clinically detectable when approximately 15% of the haemoglobin has been converted to methaemoglobin (ie. ferric iron).

Symptoms such as headache, dizziness, weakness and dyspnoea occur when methaemoglobin concentrations are 30% to 40%; at levels of about 60%, stupor, convulsions, coma and respiratory paralysis occur and the blood is a chocolate brown colour. At higher levels death may result. Spectrophotometric analysis can determine the presence and concentration of methaemoglobin in blood.

Treatment:

1. Give 100% oxygen.
2. In cases of (a) ingestion: use gastric lavage, (b) contamination of skin (unburnt or burnt): continue washing to remove salts.
3. Observe blood pressure and treat hypotension if necessary.
4. When methaemoglobin concentrations exceed 40% or when symptoms are present, give methylene blue 1 to 2 mg/kg body weight in a 1% solution by slow intravenous injection. If cyanosis has not resolved within one hour a second dose of 2 mg/kg body weight may be given. The total dose should not exceed 7 mg/kg body weight as unwanted effects such as dyspnoea, chest pain, vomiting, diarrhoea, mental confusion and cyanosis may occur. Without treatment methaemoglobin levels of 20-30% revert to normal within 3 days.
5. Bed rest is required for methaemoglobin levels in excess of 40%.
6. Continue to monitor and give oxygen for at least two hours after treatment with methylene blue.
7. Consider transfer to centre where haemoperfusion can be performed to remove the nitrates from the blood if the condition of the patient is unstable.
8. Following inhalation of oxides of nitrogen the patient should be observed in hospital for 24 hours for delayed onset of pulmonary oedema. Further observation for 2-3 weeks may be required to detect the onset of the inflammatory changes of bronchiolitis fibrosa obliterans.

## **SECTION 5: FIRE-FIGHTING MEASURES**

### **5.1 Extinguishing media**

Not combustible, however, if material is involved in a fire use: Extinguishing media appropriate to surrounding fire conditions..

### **5.2 Special hazards arising from the substance or mixture**

Non-combustible material.

### **5.3 Advice for firefighters**

Decomposes on heating emitting toxic fumes, including those of oxides of nitrogen. If safe to do so, remove containers from path of fire. Keep containers cool with water spray. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Ventilate area of spill.

### **6.2 Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas.

### **6.3 Methods and materials for containment and cleaning up**

Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

### **6.4 Reference to other sections**

See Section 1 for emergency contact information.

See Section 13 for additional waste treatment information.

## **SECTION 7: HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

Minimize dust generation and accumulation. Do not breathe vapour. Avoid contact with skin and eyes. Wash thoroughly after handling.

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 measures.

### **7.2 Conditions for safe storage, including any incompatibilities**

Store and use away from heat, sparks, open flame or any other ignition source. Avoid contact with combustible materials. Prevent moisture pick-up in handling and storage. Packaging materials recommended: Use original container.

### **7.3 Specific use(s):**

Not available

## **SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION**

### **8.1 Control parameters**

Not applicable

**8.2 Appropriate engineering controls** General ventilation is usually adequate. Use local exhaust ventilation and enclosure, if necessary to control amount in the air.

### **8.3 Individual protection measures, such as personal protective equipment**

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin protection Hand protection: Chemical resistant gloves

Other: Wear suitable protective clothing.

Respiratory protection: In case of inadequate ventilation, use respiratory protection.

Hygiene measures: Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on basic physical and chemical properties**

Appearance: Dark Brown Liquid

Odour: Odorless

Odour threshold: Odorless

pH: Unknown

Initial boiling point/boiling range: > 100°C

Flash point: Not applicable

Evaporation rate: Not volatile (butyl acetate=1)

Flammability: Not flammable

Upper/lower flammability or explosive limits:  
Vapor pressure:  $4.5 \times 10^{-15}$  Pa at 25°C- Not Volatile  
Vapor density: Not volatile Relative Density: 1.0 at 25.1±0.5°C (water=1)  
Solubility(ies):  
Water solubility- Miscible  
Partition coefficient Octanol/Water: The product is more soluble in water;  
 $\log(\text{octanol/water}) < 1$   
Auto-ignition temperature: Not applicable  
Decomposition temperature: Not available  
Viscosity: Not viscous  
Explosive properties: Not explosive  
Oxidizing properties: Not oxidizer

### **9.2 Other information**

Melting point/Freezing point:  $< 0^\circ\text{C}$   
VOC: Not an organic compound  
Specific Gravity:  $1.15 \pm 0.05$   
Miscibility: Miscible  
Fat solubility: Not applicable  
Gas group: Not applicable

## **SECTION 10: STABILITY AND REACTIVITY**

### **10.1 Reactivity**

No information available

### **10.2 Chemical stability**

The product is stable under normal handling and storage conditions described in Section 7. Reacts with acids and alkalis.

### **10.3 Possibility of hazardous reactions**

Hazardous reactions are not expected, under normal conditions of storage and use.

### **10.4 Conditions to avoid**

Do not allow product to dry out.

### **10.5 Incompatible materials**

Incompatible with organic chemicals, ammonia.

### **10.6 Hazardous decomposition products**

Oxides of nitrogen.

## **SECTION 11: TOXICOLOGICAL INFORMATION**

### **11.1 Information on likely routes of exposure**

Ingestion: Irritating. May cause nausea, stomach pain and vomiting.

Inhalation: May cause irritation to the respiratory system.

Skin contact: Causes mild skin irritation.

Eye contact: Causes eye irritation.

### **11.2 Information on toxicological effects**

Acute toxicity (list all possible routes of exposure)

Oral Product: LD 50: CALCIUM NITRATE: (rat): 302 mg/kg. Potassium nitrate 3750 mg/kg (rat), Ammonium nitrate: 2217 mg/kg (Rat).

Chronic effects: No information available for the product.

NITRATES: Ingestion of large quantities will cause methaemoglobinemia with headaches, heart beat irregularities, blood pressure loss, cramps and breathing difficulties. Cyanosis will occur. Nephritis can result from chronic exposure.

## **SECTION 12: ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Calcium Nitrate 96hr LC50 (fish): 2400 mg/L (Lepomis macrochirus)

Potassium nitrate 24 hr

Toxicity to crustaceans: 490 mg/L (Daphnia magna (water flea))

### **12.2 Persistence and Degradability**

Not applicable, since inorganic substance.

### **12.3 Bioaccumulative potential**

The potential for bioaccumulation consider to be minimal.

### **12.4 Mobility in soil**

Soil/water partition coefficient (Koc): N/A

Mobility: Soluble in water.

### **12.5 Results of PBT and vPvB assessment**

Not applicable

### **12.6 Other adverse effects**

Substances which have an unfavorable influence on the oxygen balance and can be measured using parameters such as BOD, COD, etc.: Absent

## **SECTION 13: DISPOSAL CONSIDERATIONS**

### **13.1 Waste treatment methods**

Product: Waste must be disposed of in accordance with federal, state, provincial and local environmental control regulations.

Packing: Empty containers should be taken for local recycling, recovery or waste disposal.

## **SECTION 14: TRANSPORT INFORMATION**

Canadian TDG Not Dangerous Goods  
US DOT Not Dangerous Goods

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code  
Not applicable

## **SECTION 15: REGULATORY INFORMATION**

Classification:

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Acute Oral Toxicity - Category 4

Skin corrosion/irritation - Category 3

Eye Irritation - Category 2A

Hazard Statement(s):

H302 Harmful if swallowed.

H316 Causes mild skin irritation.

H319 Causes serious eye irritation.

Poisons Schedule (SUSMP): None allocated.

## **SECTION 16: OTHER INFORMATION**

Date of issue: April 5 2018

Disclaimer To the best of our knowledge, the information contained herein is accurate. However, neither Plantlife Products nor any of its distributors, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Although certain hazards are described, we cannot guarantee that these are the only hazards that exist. Final determination of suitability of any product is the sole



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responsibility of the user. All materials may present unknown hazards and should be used with caution.

