

MATERIAL SAFETY DATA SHEET

SECTION 1 — PRODUCT IDENTIFICATION

Product identifier: **MetaPhos**

Supplier name and address:

Plant Science Inc.

2934 Vandorf Sideroad
Gormley, Ontario, Canada
L0H 1G0

Emergency Telephone #: 613-996-6666 (Canutec)

Product use: Liquid micronutrient fertilizer

Chemical Family: liquid phosphate, potassium and magnesium fertilizer

Manufacturer's name and address:

Refer to Supplier

WHMIS information: Class E

SECTION 2 — CHEMICAL COMPOSITION/HAZARDOUS INGREDIENTS

<u>Ingredients</u>	<u>% (weight)</u>
1. Acidulent (phosphoric acid);	40.0%
2. Inerts;	60.0%

SECTION 3 — PHYSICAL AND CHEMICAL PROPERTIES

% P₂O₅	:	28 – 30%
% K₂O	:	4 – 6%
% Magnesium (Mg)	:	3.5 – 4.5%
Appearance	:	Red/Pink liquid.
Odour	:	None.
Specific Gravity	:	1.45 – 1.5
pH	:	2.5 – 2.7
Solubility In Water	:	100%

SECTION 4 — FIRE AND EXPLOSION DATA

Fire hazards/conditions of flammability: Non-combustible. Product may release flammable hydrogen gas on contact with metals, which may contribute to fire hazards.

Flash point (Method): N/Ap

Auto-ignition temperature: N/Av

Lower flammable limit (% by volume): N/Ap

Upper flammable limit (% by volume): N/Ap

Explosion data: *Sensitivity to mechanical impact:* Not expected to be sensitive.
Sensitivity to static discharge: Not expected to be sensitive.

Oxidizing properties: No

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

Special fire-fighting procedures/equipment: Firefighters should wear proper chemically resistant equipment and self-contained breathing apparatus operated in positive pressure mode. Move containers from fire area if it can be done without risk. Water spray may be useful in cooling equipment exposed to heat and flame.

Unusual Fire and Explosion Hazards: Product containers may build-up pressure during a fire and explode.

Hazardous combustion products: Phosphorous oxides, carbon oxides.

SECTION 5 — REACTIVITY AND STABILITY DATA

Stability and reactivity: Stable under the recommended storage and handling conditions prescribed. Product may form flammable hydrogen gas on contact with metals. Product may corrode metals. Hazardous polymerization will not occur.

Conditions to avoid: Extreme heat and open flame.

Incompatible materials: Metals, strong caustics, strong oxidizing agents, reducing agents.

Hazardous decomposition products: None known.

SECTION 6 — TOXICOLOGICAL INFORMATION

Routes of exposure: Skin contact, eye contact, inhalation and ingestion.

Toxicological data:

POTENTIAL HEALTH EFFECTS

Signs and symptoms of short-term (acute) exposure:

- Inhalation:* Harmful by inhalation. May cause severe irritation to the nose, throat and respiratory tract. Symptoms may include shortness of breath, coughing and chest pain.
- Skin contact:* Skin contact may cause severe irritation and/or corrosive burns.
- Eye contact:* Direct eye contact may cause severe irritation and corrosive burns. Could cause permanent eye damage.
- Ingestion:* Ingestion may cause severe irritation and corrosive injury to the mouth, throat and stomach. Could cause stomach ulcers.

Effects of long-term (chronic) exposure: Prolonged or repeated skin exposure to low concentrations may cause drying and cracking of the skin.

Other important hazards: None known.

Carcinogenicity: None of the ingredients are classified as carcinogens by IARC or ACGIH.

Teratogenicity, mutagenicity, other reproductive effects: None known.

Sensitization to material: None known.

Synergistic materials: Not available.

Conditions aggravated by exposure: Skin, eye and respiratory disorders.

SECTION 7— FIRST AID MEASURES

- Inhalation:** Immediately remove person to fresh air. If breathing stops, provide rescue breathing. If breathing is difficult, give oxygen. Obtain medical attention immediately.
- Skin contact:** Immediately flush skin with running water for at least 20 minutes, while removing contaminated clothing. Obtain medical attention immediately. Launder clothing before re-use.
- Eye contact:** Immediately flush eyes with running water for at least 20 minutes. Obtain medical attention immediately.
- Ingestion:** If swallowed, do NOT induce vomiting. Have victim drink one to two glasses of water to dilute material in the stomach. If milk is available it may be given after water. Obtain medical attention immediately. Never give anything by mouth to an unconscious person.

SECTION 8 — PREVENTATIVE MEASURES

Spill, leak or release: Restrict access to area until completion of clean-up. All persons dealing with clean-up should wear the appropriate protective equipment including proper respiratory protection. Keep all other personnel away from the spill/release. Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. Eliminate all sources of heat and flame. Ventilate area of release. Stop leak if you can do so without risk. Contain and absorb with inert absorbent material, then place absorbent material into a suitable container for later disposal (see below). Do not use metal containers. Flush spill area with water. Do not flush to sewer. Notify the appropriate authorities as required.

Waste disposal: Handle waste according to recommendations below. Dispose in accordance with all applicable federal, provincial, and local regulations.

PROTECTIVE EQUIPMENT

Ventilation and engineering controls: Use with adequate ventilation. Exhaust ventilation may be required to meet TLV requirements.

Respiratory protection: Respiratory protection is required if the airborne concentration exceeds the TLV. Use NIOSH approved respirators. For emergencies or where the airborne concentration is not known, use a full-face air-supplied respirator. Advice should be sought from respiratory protection specialists.

Protective gloves: Wear gloves impervious to the material. Advice should be sought from glove suppliers.

Eye protection: Chemical goggles, to prevent liquid splashes from entering the eyes.

Other protective equipment: Wear chemically resistant overalls and impervious boots to prevent skin contact. A safety shower and eyewash station should be made available in the immediate working area.

SECTION 8 — PREVENTATIVE MEASURES Continued

STORAGE & HANDLING

Storage and handling conditions:

Handling: This material is a corrosive liquid. Wear chemically protective equipment during handling. Use in a well-ventilated area. Do not breathe vapours or mists. Avoid contact with eyes, skin and clothing. Do not wear contact lenses while handling this material. Wash thoroughly after handling. Keep away from extreme heat and flame. Keep away from metals and incompatibles. Use caution when opening containers. Keep container tightly closed when not in use.

Storage: Store in a cool, dry, well-ventilated area away from incompatibles, heat and flame. Protect from damage.

Special Shipping Information:

Transportation of Dangerous Goods (TDG) information: CORROSIVE LIQUID, N.O.S., Class 8, UN1760, PGIII.
(contains phosphoric acid)

Shipping Description: liquid micronutrient fertilizer

Other Shipping Information: Limited Quantity exemption may apply for containers which hold 5 Litres or less of the product. Under the CLR, refer to Section 1.17 for Limited Quantity Shipping Information, if shipping under this exemption.

SECTION 9 — PREPARATION INFORMATION

Prepared by: Plant Science Inc.

Telephone number: 1-866-499-0659

Preparation date: Aug 22 2015

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