

# MATERIAL SAFETY DATA SHEET

## SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>PRODUCT IDENTIFIER</b>		Solo-Tek Grow		<b>WHMIS CLASSIFICATION</b>		D-2A (Possible human carcinogen), D-2B (eye, skin & respiratory irritant)	
<b>PRODUCT USE</b> Fertilizer							
<b>Manufacturers Name</b>		Greenstar Plant Products Inc.		<b>Suppliers Name</b>			
<b>Street Address</b>		9850-201 <sup>st</sup> Street		<b>Street Address</b>			
<b>City</b>	Langley	<b>Province</b>	BC	<b>City</b>		<b>Province</b>	
<b>Postal Code</b>	V1M 4A3	<b>Emergency Telephone</b>	(604) 882-7699	<b>Postal Code</b>		<b>Emergency Telephone</b>	
<b>Date MSDS Prepared</b>	June 24, 2010	<b>Prepared By</b>	Greenstar Plant Products Inc.		<b>Phone Number</b>		

## SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	%	CAS	LD <sub>50</sub> of Ingredient	LC <sub>50</sub> of Ingredient
Iron EDTA	0-1	15708-41-5	LD <sub>50</sub> >5000 mg/kg, (oral rat)	NAV
Calcium Nitrate	15-20	10124-37-5	LD <sub>50</sub> 302 mg/kg, (oral rat)	NAV
Ammonium Nitrate	1-5	6484-52-2	LD <sub>50</sub> 2217 mg/kg, (oral rat)	NAV
Monopotassium Phosphate	5-10	7778-77-0	LD <sub>50</sub> 4640 mg/kg, (oral rat)	NAV
Potassium Nitrate	15-20	7757-79-1	LD <sub>50</sub> 3750 mg/kg, (oral rat)	NAV
Magnesium Nitrate	1-5	10377-60-3	LD <sub>50</sub> 5440 mg/kg, (oral rat)	NAV
Magnesium Sulphate	5-10	10034-99-8	NAV	NAV

## SECTION 3 – HAZARDS IDENTIFICATION

<b>Route of Entry</b>	√ <b>Skin contact</b>	√ <b>Eye Contact</b>	√ <b>Inhalation</b>	√ <b>Ingestion</b>
<b>Emergency Overview</b> MAY CAUSE IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. CONTAINS A SMALL QUANTITY OF A SUSPECTED HUMAN CARCINOGEN				
<b>WHMIS Symbols:</b> NAV				
<b>EFFECTS OF ACUTE EXPOSURE TO PRODUCT:</b>				
<b>Eye Contact:</b> Irritation, redness and pain.				
<b>Skin Contact:</b> Irritation, redness, itching and pain. May cause skin sensitization.				
<b>Inhalation:</b> May cause irritation to the respiratory tract.				
<b>Ingestion:</b> Ingestion of large amounts may cause gastrointestinal irritation characterized by abdominal cramps, nausea, vomiting and bloody diarrhea. Ingestion may also cause headaches, laboured breathing, confusion, dizziness, convulsions and collapse. Other symptoms may include blue lips or fingernails and blue skin. The product may also cause effects on the blood resulting in the formation of methamoglobin.				
<b>EFFECTS OF CHRONIC EXPOSURE:</b> Chronic exposure may cause kidney damage and central nervous system depression (headache and mental impairment). Chronic dermatitis or an allergic skin sensitization may also develop from repeated exposure. Other symptoms include anemia and the formation of methamoglobin. Inorganic phosphorus compounds may cause irritation and hemorrhages in the stomach as well as liver damage. Bone structure may be attacked, especially the jaw and teeth. Repeated iron ingestion can produce cardiac toxicity.				

## SECTION 4 – FIRST AID MEASURES

<b>Skin Contact:</b> Immediately flush skin with plenty of water (cold water may be used) for a minimum of 15 minutes. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists. Wash clothing before reuse.
<b>Eye Contact:</b> Immediately flush eyes with a gentle but large stream of water (cold water may be used) for at least 15 minutes holding both the upper and lower eye lids open. Get medical attention if irritation develops or persists.
<b>Inhalation:</b> Move victim to fresh air. Allow the victim to rest in a well ventilated area. If not breathing, give artificial respiration and seek medical attention immediately. If breathing is difficult, give oxygen. Get medical attention if irritation develops or persists.
<b>Ingestion:</b> Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If victim is conscious and alert, give 2-4 cupfuls of water or milk to dilute material. If vomiting occurs have victim lean forward with head down to avoid breathing in vomit. Rinse mouth. Obtain medical attention immediately.

## Solo-Tek Grow

### SECTION 5 – FIRE FIGHTING MEASURES

Flammable	Non-Flammable	If yes, under what conditions?			
Means of Extinction: Dry chemical, carbon dioxide, water spray, fog or foam.			Special Procedures: None needed		
Flashpoint (°C) and method	NAV	Upper Flammable Limit (% by volume)	NAP	Lower Flammable Limit (% by volume)	NAP
Auto ignition Temperature (°C)	NAP	Explosion Data – Sensitivity to Impact	No evidence	Explosion Data-Sensitivity to Static Discharge	No evidence
Hazardous Combustion Products: Nitrogen oxides, ammonia, phosphorus oxides, phosphine, potassium nitrate, potassium peroxide, sulfur oxides, magnesium and potassium oxides, nitric acid fumes and nitrogen tetroxide.					

### SECTION 6 – ACCIDENTAL RELEASE MEASURES

<b>Leak and Spill Procedures:</b> Isolate hazard area. Ventilate area of leak or spill. Wear appropriate protective equipment as specified in Section 8. Adsorb or cover with dry earth, sand or other non-combustible material and transfer into containers for later disposal.
<b>Small Spill:</b> Use appropriate tools to put the spilled solid in a convenient a closed waste disposal container.
<b>Large Spill:</b> Prevent entry into sewers, basements, or confined areas; dike if needed. Dispose of in accordance with municipal, provincial and federal regulations.

### SECTION 7 – HANDLING AND STORAGE

<b>Handling Procedures and Equipment:</b>
Use containment whenever possible and personal protective equipment where potential for splashing or contact may occur. 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.
<b>Storage Requirements:</b> Store in a cool, dry and ventilated area away from heat sources. Separate from incompatibles

### SECTION 8 – EXPOSURE CONTROL / PERSONAL PROTECTION

<b>Exposure Limits</b>	<input checked="" type="checkbox"/> ACGIH TLV	<input checked="" type="checkbox"/> OSHA PEL	<input type="checkbox"/> Other ( <i>specify</i> )
Monopotassium Phosphate	ACGIH TLV-TWA: 10 mg/m <sup>3</sup> from ACGIH. ACGIH TLV-STEL: 3 mg/m <sup>3</sup> from ACGIH OSHA PEL: 8Hr TWA 15mg/m <sup>3</sup> .		
<b>Specific Engineering Controls</b>			
<b>Ventilation System:</b> A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Avoid splashing			
<b>Personal Respirators (NIOSH Approved):</b> When engineering controls are not feasible, a respirator (NIOSH approved) may be worn.			
<b>Personal Protective Equipment</b>	<input checked="" type="checkbox"/> Gloves	<input checked="" type="checkbox"/> Respirator	<input checked="" type="checkbox"/> Eye <input checked="" type="checkbox"/> Footwear <input checked="" type="checkbox"/> Clothing <input checked="" type="checkbox"/> Other
<b>Hands:</b> Wear water resistant rubber (latex, butyl or plastic (PVC) gloves. <b>Respirator:</b> Wear a NIOSH approved dust and mist air-purifying respirator with NIOSH type N 95 or better filters. <b>Eyes:</b> Wear chemical safety goggles and face shield if splashing may occur. <b>Footwear:</b> Wear work boots or rubber boots. <b>Clothing:</b> Wear long sleeves and pants.			

### SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b> Liquid	<b>Odour and Appearance</b> Dark brown viscous liquid. Slight odour.	<b>Odour Threshold (ppm)</b> NAV
<b>Specific Gravity</b> 1.31 g/cm <sup>3</sup>	<b>Vapour Density (air = 1)</b> NAP	<b>Vapour Pressure (mmHg)</b> Negligible
<b>Evaporation Rate</b> NAP	<b>Boiling Point (°C)</b> >100°C	<b>Freezing Point (°C)</b> NAV
<b>pH</b> 6	<b>Coefficient of Water/Oil Distribution</b> NAV	<b>Solubility in Water</b> Soluble

### SECTION 10 – STABILITY AND REACTIVITY

<b>Chemical Stability</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If no, under which conditions</b> Avoid excessive heat.
<b>Incompatibility with Other Substances</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, which ones?</b> Powdered metals, ammonia, hydrazine, reducing agents, strong acids and bases, alkyl esters, dimethyl formamide, methenamine, ethoxyethynyl alcohols, and chlorine trifluoride.
<b>Reactivity, and under what conditions?</b>	Keep away from heat and incompatible materials.	
<b>Hazardous Decomposition Products</b>	See hazardous combustion products (Section 5).	

## Solo-Tek Grow

### SECTION 11 – TOXICOLOGICAL INFORMATION

<b>Iron EDTA</b>	LD <sub>50</sub> >5000 mg/kg, (oral rat)
<b>Calcium Nitrate</b>	LD <sub>50</sub> 302 mg/kg, (oral rat)
<b>Ammonium Nitrate</b>	LD <sub>50</sub> 2217 mg/kg, (oral rat)
<b>Monopotassium Phosphate</b>	LD <sub>50</sub> 4640 mg/kg, (oral rat)
<b>Potassium Nitrate</b>	LD <sub>50</sub> 3750 mg/kg, (oral rat)
<b>Magnesium Nitrate</b>	LD <sub>50</sub> 5440 mg/kg, (oral rat)
<b>Magnesium Sulphate</b>	NAV
<b>Trisodium Nitrilotriacetic acid (NTA) in EDTA</b>	LD <sub>50</sub> 1100 mg/kg, (oral rat)
<b>Irritancy of Product</b> May cause mild irritation to eyes, skin, digestive tract and respiratory system.	
<b>Skin Sensitization</b> Yes	<b>Respiratory Sensitization</b> Yes
<b>Carcinogenicity - IARC</b> Trisodium Nitrilotriacetic Acid on list 2B (Possibly carcinogenic to humans)	<b>Carcinogenicity – ACGIH</b> NAV
<b>Reproductive Toxicity</b> EDTA - Some evidence	<b>Teratogenicity</b> EDTA - Some evidence
<b>Embryotoxicity</b> EDTA - Some evidence	<b>Mutagenicity</b> EDTA - Some evidence
<b>Name of Synergistic Products/Effects:</b> NAV	

### SECTION 12 – ECOLOGICAL INFORMATION

<b>Potassium Nitrate:</b> Aquatic Toxicity: <b>Fish:</b> (Lepomis macrochirus) LC <sub>50</sub> = 1839 mg NO <sub>3</sub> /L <b>Environmental Fate:</b> Potassium Nitrate will disassociate into potassium and nitrate ions which may be absorbed by plants. The nitrate ions may be converted to organic nitrogen compounds or nitrogen dioxides and released to the environment.
<b>Monopotassium Phosphate:</b> NAV
<b>Magnesium Sulphate:</b> NAV
<b>Calcium Nitrate:</b> <b>Environmental Fate:</b> NAV <b>Environmental Toxicity:</b> The LC <sub>50</sub> /96-hour values for fish are over 100 mg/L.
<b>Iron sodium EDTA Chelates:</b> NAV
<b>Trisodium Nitrilotriacetic acid (NTA):</b> NAV
<b>Ammonium Nitrate:</b> May be harmful to fish, livestock and wildlife. Will increase ammonium ions. Avoid spills or release to watercourses. Highly soluble. Will disperse with current. Release to watercourses may cause effects down stream from the point of release. Promotes algae growth which may degrade water quality and taste.

### SECTION 13 – DISPOSAL CONSIDERATIONS

<b>Waste Disposal:</b> Waste must be disposed of in accordance with federal, provincial and municipal environmental control regulations.
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### SECTION 14 – TRANSPORT INFORMATION

<b>Special Shipping Information</b>	
<b>TDG</b> – Not regulated for Transport	<b>DOT</b> – Not regulated for transport

### SECTION 15 – REGULATORY INFORMATION

<b>WHMIS Classification</b> D-2A (Possible human carcinogen), D-2B (eye, skin & respiratory irritant).	<b>OSHA</b> - NAV
<b>SARA</b> – NAV	<b>TSCA</b> - NAV

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

### SECTION 16 – OTHER INFORMATION

As of the date of this document, the foregoing information is believed to be accurate and is provided in good faith to comply with applicable laws. However, no warranty or representation of law or fact, with respect to such information is intended or given.