

MATERIAL SAFETY DATA SHEET

SECTION 1 – PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER:	Solo Tek Grow		
PRODUCT USE:	Organic Based Liquid Fertilizer	WHMIS CLASSIFICATION:	D1B, D2A, D2B, C, E
MANUFACTURER'S NAME:	Grotek Manufacturing Inc.	SUPPLIER'S NAME:	Same as manufacturer
ADDRESS:	284,505 8840 210 th Street, Langley, BC V1M 2Y2	ADDRESS:	Same as manufacturer
IN CASE OF EMERGENCY: (604) 882-7686			

SECTION 2 – HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	CAS #	LD ₅₀ OF INGREDIENT (SPECIFY SPECIES AND ROUTE)	LC ₅₀ OF INGREDIENT (SPECIFY SPECIES)
Calcium Nitrate	10 – 30 %	10124-37-5	LD ₅₀ (rat, oral) 302 mg/kg	NAV
Ammonium Nitrate	1 – 5 %	6484-52-2	LD ₅₀ (rat, oral) 2,217 mg/kg	NAV
Monopotassium Phosphate	5 – 10 %	7778-77-0	NAV	NAV
Potassium Nitrate	10 – 30 %	7757-79-1	LD ₅₀ (rabbit, oral) 1.166 g anion/ kg /Nitrate ion.	NAV
Potassium Sulphate	5 – 10 %	7778-80-5	LD ₅₀ (rat, oral) >6,600 mg/kg	NAV
Magnesium Nitrate	5 – 10 %	10377-60-3	LD ₅₀ (rat, oral) 5,440 mg/kg	NAV
Magnesium Sulphate	7 – 13 %	18939-43-0	LD _{Lo} (mouse, oral) 5,000 mg/kg	NAV
Potassium Carbonate	1 – 5 %	584-08-7	LD ₅₀ (rat, oral) 1,870 mg/kg	NAV

SECTION 3 – PHYSICAL DATA

PHYSICAL STATE:	Liquid	ODOUR & APPEARANCE	Dark brown viscous liquid. Slight odour.
ODOUR THRESHOLD (ppm):	NAV	VAPOUR PRESSURE (mmHg):	Negligible
VAPOUR DENSITY (air=1):	NAP	SPECIFIC GRAVITY:	1.31 g/cm ³
pH:	2.9	BOILING POINT (°C)	> 100°C
FREEZING POINT (°C)	NAV	EVAPORATION RATE:	NAP
COEFF. WATER/OIL DIST	NAV	SOLUBILITY (in water):	Soluble

SECTION 4 – FIRE AND EXPLOSION DATA

FLAMMABLE: No			
IF YES, UNDER WHAT CONDITIONS? Product is not combustible, however, it can contribute to combustion as a fuel source.			
MEANS OF EXTINCTION: Water spray or fog, dry chemical, carbon dioxide, or halon.			
SPECIAL PROCEDURES: Water may be used to cool containers to prevent pressure build up when exposed to extreme heat. Remove containers from fire area if possible without risk. Apply water from as far a distance as possible.			
FLASHPOINT (°C) & METHOD:	NAV	AUTOIGNITION TEMPERATURE (°C)	NAP
LOWER FLAMMABLE LIMIT (% by volume):	NAP	UPPER FLAMMABLE LIMIT (% by volume):	NAP
SENSITIVITY TO IMPACT:	Some evidence	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 5 – REACTIVITY DATA

CHEMICAL STABILITY:	Stable under normal conditions.		
INCOMPATIBILITY:	Oxidizable substances, powdered metals, ammonia, hydrazine, reducing agents, strong acids and bases, alkyl esters, dimethyl formamide, methenamine, ethoxyethynyl alcohols, magnesium and chlorine trifluoride.	CORROSIVE BEHAVIOUR:	Corrosive
REACTIVITY AND UNDER WHAT CONDITIONS:	Keep away from ignition sources, shock, water/moisture, heat and incompatible materials.		
HAZARDOUS DECOMPOSITION PRODUCTS:	See hazardous combustion products (Section 4).		

SECTION 6 – TOXICOLOGICAL PROPERTIES

ROUTES OF ENTRY:									
SKIN CONTACT:	Yes	SKIN ABSORPTION:	Yes	EYE CONTACT:	Yes	INHALATION:	Yes	INGESTION:	Yes
EFFECTS OF ACUTE EXPOSURE TO PRODUCT:									
INGESTION:	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 methaemoglobin.								
INHALATION:	May cause respiratory tract irritation.								
EYE CONTACT:	May cause eye irritation.								
SKIN CONTACT:	May cause skin irritation and possible skin sensitization.								
EFFECTS OF CHRONIC EXPOSURE:									
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 methaemoglobin. 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.									
EXPOSURE STANDARDS:									
COMPOUND:	STANDARD:				REGULATORY AGENCY:				
Calcium Nitrate	NAV				NAV				
Ammonium Nitrate	NAV				NAV				
Monopotassium Phosphate	NAV				NAV				
Potassium Nitrate	NAV				NAV				
Potassium Sulphate	NAV				NAV				
Magnesium Nitrate	NAV				NAV				
Magnesium Sulphate	NAV				NAV				
Potassium Carbonate	NAV				NAV				
CARCINOGENICITY:	Not listed				MUTAGENICITY:	No evidence			
REPRODUCTIVE HAZARD:	Possible (evidence in animals)				TERATOGENICITY:	Possible (evidence in animals)			
IRRITANCY:	Yes				SENSITIZATION:	Yes			
SYNERGISTIC PRODUCTS:	NAV								

SECTION 7 – PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT:	<p>Glove and Eye Protection : Wear neoprene rubber or butyl rubber gloves. Wear chemical safety goggles and face shield if splashing may occur.</p> <p>Footwear : Impervious safety boots.</p> <p>Clothing: Wear coveralls with an impervious apron to protect street clothing.</p> <p>Respirator: A NIOSH approved dust and mist air-purifying respirator with NIOSH type N 95 or better filters.</p>
ENGINEERING CONTROLS:	Use containment whenever possible, and good general ventilation.
HANDLING PROCEDURES:	Use containment whenever possible and personal protective equipment where splashing or potential for contact exists. 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 or smoking.
STORAGE REQUIREMENTS:	Protect against physical damage. Store in cool, dry place away from heat sources. Keep separate from incompatible materials.
LEAK AND SPILL PROCEDURE:	Isolate hazard area. Ventilate area of spill or leak. Remove all sources of ignition. Wear appropriate personal protective equipment. Keep unnecessary and unprotected personnel from entering. Contain and recover spilled material where possible into containers for later disposal.
WASTE DISPOSAL:	Dispose of in compliance with government requirements and local disposal regulations.
SHIPPING INFORMATION:	Oxidizing liquid, NOS, UN 3139, Class 5.1, Packing Group III

SECTION 8 – FIRST AID MEASURES

INHALATION:	Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped, assist breathing with oxygen. Obtain medical assistance immediately if symptoms persist.
SKIN CONTACT:	Remove contaminated clothing. Wash affected area with water for a minimum of 15 minutes. Obtain medical attention if irritation or redness persists.
EYE CONTACT:	Flush eyes thoroughly while holding both upper and lower eye lids for a minimum of 15 minutes. Obtain medical attention.
INGESTION:	Do not attempt to give anything by mouth to unconscious victim. If victim is alert and not convulsing, rinse mouth and give water to dilute material. Do not induce vomiting without physician's direction. If vomiting occurs, have victim lean forward with head down to avoid breathing in vomit, rinse mouth. Obtain medical attention immediately.

SECTION 9 – PREPARATION DATE OF MSDS

PREPARED BY: Grotek Manufacturing Inc.	ADDITIONAL INFORMATION: At the time of preparation, the information and data contained in this MSDS are believed to be accurate and have been compiled from sources that are believed to be reliable.
BUSINESS NUMBER: 604-882-7686	
DATE: November 30, 2005	