

MATERIAL SAFETY DATA SHEET

SECTION 1 – PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER:	Monster Grow		
PRODUCT USE:	Fertilizer	WHMIS CLASSIFICATION:	D2-B
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)
Ammonium Nitrate	10-20%	6484-52-2	LD ₅₀ (rat, oral) 2217/mg/kg	NAP
Potassium Sulphate	5-10%	7778-80-5	LD ₅₀ (rat, oral) 6600 mg/kg	NAP
Potassium Nitrate	10-15%	7757-79-1	LD ₅₀ (rat, oral) 3750 mg/kg	NAP
Monopotassium Phosphate	5-10%	7778-77-0	LD ₅₀ (skin, rabbit) >4640 mg/kg	NAP
Calcium Nitrate	10-20%	10124-37-5	LD ₅₀ (rat, oral) 302 mg/kg	NAP
Magnesium Nitrate	5-10%	10377-60-3	LD ₅₀ (rat, oral) 5440 mg/kg	NAP

SECTION 3 – PHYSICAL DATA

PHYSICAL STATE:	Solid (powder form)	ODOUR & APPEARANCE	Odourless, Green color powder with different size particles
ODOUR THRESHOLD (ppm):	NAV	VAPOUR PRESSURE (mmHg):	Negligible
VAPOUR DENSITY (air=1):	NAP	SPECIFIC GRAVITY:	>1
pH:	3.76 (1g/100ml solution)	BOILING POINT (°C)	NAP
FREEZING POINT (°C)	NAV	EVAPORATION RATE:	NAP
COEFF. WATER/OIL DIST	NAV	SOLUBILITY (in water):	Highly soluble in water

SECTION 4 – FIRE AND EXPLOSION DATA

FLAMMABLE:	No		
IF YES, UNDER WHAT CONDITIONS?	Even though product is not combustible, it can contribute to combustion as a source of fuel.		
MEANS OF EXTINCTION:	Water spray or fog, foam, Carbon dioxide or halon		
SPECIAL PROCEDURES:	If possible remove containers from fire area without risk. Spray 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 Oxides, Potassium Oxides, Nitric acid fumes, Nitrogen Dioxide 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).		

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SECTION 6 – TOXICOLOGICAL PROPERTIES

ROUTES OF ENTRY:

SKIN CONTACT:	Yes	SKIN ABSORPTION:	Yes	EYE CONTACT:	Yes	INHALATION:	No	INGESTION:	Yes
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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: NAP

EYE CONTACT: May cause eye irritation

SKIN CONTACT: May cause skin irritation

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:
Ammonium Nitrate	NAV	NAP
Potassium Sulphate	NAV	NAP
Potassium Nitrate	NAV	NAP
Monopotassium Phosphate	NAV	NAP
Calcium Nitrate	NAV	NAP
Magnesium Nitrate	NAV	NAP
MUTAGENICITY:	Evidence in <i>Escherichia coli</i> (Bacteria)	
REPRODUCTIVE HAZARD:	Evidence in Rats	TERATOGENICITY: Evidence in Rats
IRRITANCY:	Yes	SENSITIZATION: Yes
SYNERGISTIC PRODUCTS:	NAV	

SECTION 7 – PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT:	Hands wear: water resistant rubber type gloves (latex, nitrile, PVC). Respirator: wear- NIOSH approved dust filter cartridge to remove dust where dust is visually airborne, Eye – wear goggles, Footwear- work boot/rubber boots, Clothing – Long sleeve and pants - no special clothing required.
ENGINEERING CONTROLS:	General mechanical ventilation is adequate, minimize dust generation.
HANDLING PROCEDURES:	Do not handle unless safety precaution have been read and understood, avoid eye and skin contact. Avoid inhalation of dust or vapours. Do not puncture, drag or slide container.
STORAGE REQUIREMENTS:	Store in cool, dry area and well ventilated area. Keep container closed.
LEAK AND SPILL PROCEDURE:	Wear necessary personal protective equipment during clean-up, vacuum, avoid creating dust, Place in properly labeled containers for later disposal.
WASTE DISPOSAL:	Disposal in accordance Federal, Provincial & Municipal waste regulations.
SHIPPING INFORMATION:	TDG regulation – UN 2071, Class 9.1, 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.
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. 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.

BUSINESS NUMBER: 604-882-7686

DATE: 03.08.2005

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.