



# MATERIAL SAFETY DATA SHEET

## SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>PRODUCT IDENTIFIER</b>		<b>AGROTEK ASCEND VAPORIZED SULPHUR</b>					
<b>PRODUCT USE</b>		Fungicide					
<b>MANUFACTURERS NAME</b>		Greenstar Plant Products Inc.		<b>SUPPLIERS NAME</b>			
<b>STREET ADDRESS</b>				<b>STREET ADDRESS</b>			
<b>CITY</b>	Langley	<b>PROVINCE</b>	BC	<b>CITY</b>		<b>PROVINCE</b>	
<b>POSTAL CODE</b>	V1M 3C8	<b>EMERGENCY TELEPHONE</b>	604-882-7699	<b>POSTAL CODE</b>		<b>EMERGENCY TELEPHONE</b>	
<b>DATE</b>	April 22, 2013	<b>PREPARED BY</b>	Greenstar Plant Products Inc.			<b>PHONE NUMBER</b>	

## SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT INGREDIENTS	%	CAS	EINECS / ELINCS
Elemental Sulphur	100%	7704-34-9	231-722-6

## SECTION 3 – HAZARDS IDENTIFICATION

<b>EMERGENCY OVERVIEW</b>	
FLAMMABLE SOLID. Dust clouds are readily ignited by flame, static discharge or friction spark. Toxic gases emitted during fire. Respiratory, eye and skin irritant.	
<b>EFFECTS OF ACUTE EXPOSURE TO PRODUCT:</b>	
<b>EYE CONTACT</b>	Dust may cause eye irritation
<b>SKIN CONTACT</b>	May cause irritation in some individuals. The presence of moisture or existing skin lesions may aggravate symptoms
<b>INHALATION</b>	Sulphur dust is irritating to the mucous membranes, nose, throat and lungs. Individuals with an allergy to sulfa drugs may have an allergic reaction to sulphur dust.
<b>INGESTION</b>	Swallowing large amounts can cause nausea, vomiting and diarrhea. Ingested sulphur is converted to sulfides in the digestive tract; ingestion of 10-20 grams has caused irritation of the digestive tract and kidney injury.
<b>EFFECTS OF CHRONIC EXPOSURE TO PRODUCT</b>	
With repeated exposure, susceptible workers can develop bronchitis, or asthma when exposed to sulphur dust. Chronic eye irritation and dermatitis may develop in some individuals.	

## SECTION 4 – FIRST AID MEASURES

<b>EYE CONTACT</b>	Immediately flush eye(s) with gently flowing water for 20 minutes, while holding the eyelids open. Do not flush with boric acid. Seek medical attention.
<b>SKIN CONTACT</b>	Immediately wash skin with soap and water and rinse skin thoroughly with plenty of water. Remove contaminated clothing, and shoes. Seek medical attention if irritation persists. Wash clothing separately before reuse.



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<b>INHALATION</b>	<b>Inhalation of dust:</b> Move victim to fresh air. Observe victim for signs of allergic reaction (swelling, hives rashes or difficulty breathing). Keep victim warm and quite. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek medical attention.
<b>INGESTION</b>	Never give anything by mouth to an unconscious person. If victim is alert and not convulsing, rinse mouth and give 2-4 cupfuls of milk or water. DO NOT induce vomiting without physician's direction. If vomiting occurs naturally, have victim lean forward with head down to avoid breathing in vomit, rinse mouth. Obtain immediate medical attention.

### SECTION 5 – FIRE FIGHTING MEASURES

<b>FLAMMABLE</b>	Flammable solid. Dust suspended in air can be readily ignited by flame, static electricity, or sparks. Sulphur burns with a pale blue flame that is sometimes difficult to see in daylight. Electrical equipment in area should be sparkless, grounded or bonded to prevent static electricity.				
<b>MEANS OF EXTINCTION</b>	Fine water spray, water fog, CO <sub>2</sub> or dry chemical. Do not use solid streams of water, which could create sulphur dust clouds and cause an explosion or move burning sulphur to adjacent areas. Fire will re-ignite until cooled below 154 °C (310 °F). Cool surrounding area with water fog to prevent re-ignition. Small fires can be smothered with sand.				
<b>FLASHPOINT &amp; METHOD</b>	207.2°C (405°F)	<b>UPPER FLAMMABLE LIMIT</b>	1400 gm/m <sup>3</sup>	<b>LOWER FLAMMABILITY LIMIT</b>	35 gm/m <sup>3</sup>
<b>AUTO IGNITION TEMPERATURE</b>	248 - 266 °C (478 - 511 °F)	<b>SENSITIVITY TO IMPACT</b>	NAV	<b>SENSITIVITY TO STATIC DISCHARGE</b>	Yes
<b>HAZARDOUS COMBUSTION PRODUCTS</b>	Toxic sulphur oxide gases formed during fire. Firemen exposed to gases should <b>seek immediate medical attention</b> . Symptoms (breathing difficulty, pulmonary edema) should not be mistaken for simple smoke inhalation or heat exhaustion. Symptoms may be delayed several hours or longer depending on exposure.				

### SECTION 6 – ACCIDENTAL RELEASE MEASURES

<b>LEAK &amp; SPILL PROCEDURES</b>	Remove all personnel from the area. Remove all potential ignition sources. Ventilate area if safe to do so. No smoking. Wear personal protective equipment outlined in SECTION 8. Sweep or shovel up spilled material using a natural fibre broom and an aluminum dustpan to prevent sparking. Place collected material in appropriate chemical waste containers for disposal. Flush spill site with water following clean-up.
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### SECTION 7 – HANDLING AND STORAGE

<b>HANDLING</b>	Personal Protective Equipment outlined in SECTION 8 should be used when handling this product. Handle under well ventilated conditions. NEVER start sulphur vaporizer until all personnel have vacated the greenhouse. Use a remote start for vaporization. Wash skin thoroughly after handling and before eating or smoking. Do not wear clothing that is heavily covered with sulphur. Avoid creation of dusts or sparks. READ PRODUCT LABEL FULLY BEFORE USING THIS PRODUCT.
<b>STORAGE</b>	Containers should be stored in a cool, dry, well ventilated area in a tightly closed container away from flammable materials, sources of flame, heat and sparks. Keep away from incompatible materials (see SECTION 10). Care should be taken not to damage containers. Post "NO SMOKING OR OPEN FLAMES in storage area.



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### SECTION 8 – EXPOSURE CONTROL / PERSONAL PROTECTION

<b>EXPOSURE LIMITS</b>	None established
<b>ENGINEERING CONTROLS</b>	Local ventilation. Ensure equipment is spark-free.
<b>PERSONAL PROTECTIVE EQUIPMENT (PPE):</b>	
<b>EYE PROTECTION:</b>	Close-fitting safety glasses with side shields, face shield, and / or goggles to protect against eye contact with airborne dust.
<b>SKIN PROTECTION:</b>	Wear long sleeved shirt, long pants, socks and shoes
<b>RESPIRATORY PROTECTION:</b>	Use appropriate NIOSH approved respirator if there is airborne dust. If material is involved in a fire, wear a full face positive pressure or pressure / demand supplied air or self contained breathing apparatus.

### SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

<b>PHYSICAL STATE</b>	Solid	<b>APPEARANCE</b>	Flakes	<b>COLOUR</b>	Bright yellow
<b>EVAPORATION RATE</b>	NAP	<b>SPECIFIC GRAVITY</b>	2.07 at 21°C (70°F)	<b>ODOUR</b>	Odourless. Faint smell of rotten eggs
<b>CORROSIVITY</b>	Corrosive to copper and copper alloys. Damp sulphur will corrode steel.				
<b>MELTING POINT</b>	110-119°C	<b>SOLUBILITY IN WATER</b>	Insoluble	<b>VAPOUR PRESSURE</b>	0 mmHg at 138 °C (280 °F)

### SECTION 10 – STABILITY AND REACTIVITY

<b>CHEMICAL STABILITY</b>	Normally stable.
<b>CONDITIONS TO AVOID</b>	Keep away from heat sources, sparks and open flames. Avoid dust generation.
<b>INCOMPATIBILITY WITH OTHER SUBSTANCES</b>	Oxidizing agents (may react violently), finely divided metals, alkalis, and mineral acids.
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b>	Burning may produce toxic fumes, including oxides of sulphur

### SECTION 11 – TOXICOLOGICAL INFORMATION

<b>EFFECTS OF ACUTE EXPOSURE</b>	LD <sub>50</sub> (oral, rat) >8437 mg/kg LC <sub>50</sub> (inhalation, mammal unspecified) 1660 mg/m <sup>3</sup> .
<b>RESPIRATORY SENSITIZATION</b>	NAV
<b>SKIN SENSITIZATION</b>	NAV
<b>CARCINOGENICITY</b>	Sulphur is not listed by: ACGIH, IARC, NTP, or CA Prop 65
<b>REPRODUCTIVE TOXICITY</b>	NAV
<b>TERATOGENICITY</b>	NAV
<b>MUTAGENICITY</b>	NAV
<b>EMBRYOTOXICITY</b>	NAV



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### SECTION 12 – ECOLOGICAL INFORMATION

ECOTOXICITY	<p><b>Ecotoxicity values:</b> <b>Aquatic Life:</b> LC<sub>50</sub> Lepomis macrochinis (Bluegill sunfish) &gt;180 ppm / 96 hr / 4 days LC<sub>50</sub> Oncorhynchus mykiss (Rainbow trout) &gt;180 ppm / 96 hr / 4 days LC<sub>50</sub> Gambusia affinis (Mosquito fish) &gt;10000 ppm / 24 hr / 1 day LC<sub>50</sub> Americamysis bahia (opossum shrimp) 649-839 ppm / 96 hr / 4 day EC<sub>50</sub> Daphnia magna (Water flea) &gt;5000 ppm / 48 hr / 2 day</p> <p><b>Bees:</b> Sulfur is low in toxicity to honeybees through contact or ingestion.</p> <p><b>Birds:</b> LC<sub>50</sub> Bobwhite quail &gt; 5620 ppm (in the diet) / 8 day</p> <p><b>Environmental Fate - Soil:</b> Sulphur is ubiquitous in the environment. Elemental sulphur is slowly converted to sulphate by soil bacteria which is slowly leached through soil.</p> <p><b>Environmental Fate – Water:</b> No information available.</p>
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### SECTION 13 – DISPOSAL CONSIDERATIONS

WASTE DISPOSAL	Dispose of product in accordance with federal, provincial, and municipal government regulations.
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### SECTION 14 – TRANSPORT INFORMATION

SHIPPING	<p><b>TGD:</b> Not regulated for transport – Schedule II, special provision 33 <b>DOT:</b> Not regulated for transport - 9CFR 172.102, Special Provision 30</p>
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### SECTION 15 – REGULATORY INFORMATION

<p><b>DSL:</b> Sulphur is on the domestic substance List <b>WHMIS CLASSIFICATION:</b> B4 – Flammable Solid</p>
<p><i>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</i></p>

### SECTION 16 – OTHER INFORMATION

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*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*