

MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFIER	Vegetative Growth Booster	WHMIS CLASSIFICATION	Not Regulated
PRODUCT USE	Fertilizer		
Manufacturers Name	Greenstar Plant Products Inc.	Suppliers Name	
Street Address	9430 198 th Street	Street Address	
City	Langley	Province	British Columbia
Postal Code	V1M 3C8	Emergency Telephone	(604) 882-7686
Date MSDS Prepared	August 19, 2009	Prepared By	Greenstar Plant Products Inc.

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Non-Hazardous Ingredients	%	CAS	LD ₅₀ of Ingredient	LC ₅₀ of Ingredient
Diammonium Phosphate	90-100	7783-28-0	NAV	NAV

SECTION 3 – HAZARDS IDENTIFICATION

Route of Entry	√ Skin contact	√ Eye Contact	√ Inhalation	√ Ingestion
Emergency Overview				
WHMIS Symbols: NAP				
EFFECTS OF ACUTE EXPOSURE TO PRODUCT:				
Eye Contact: Dust may cause mild irritation. No relevant animal or human information available.				
Skin Contact: Probably not irritating based on chemical and physical properties. The dust may cause slight irritation from mechanical action. No animal or human information available.				
Inhalation: At room temperature, diammonium phosphate decomposes to some extent producing ammonia gas which may pose an inhalation hazard in enclosed areas. No animal or human information available. Dusts are probably not irritating to the nose, throat or respiratory tract.				
Ingestion: Phosphates occur in some foods naturally at levels up to 0.5% and are used as a food additive. Exposure to high levels may cause kidney damage, based on animal information for related chemicals. Ingestion is not a typical route of exposure.				
EFFECTS OF CHRONIC EXPOSURE; Diammonium phosphate is not expected to accumulate. Phosphates are normally found in the body. Excess amounts are readily excreted, mainly in the urine.				

SECTION 4 – FIRST AID MEASURES

Skin Contact May cause skin irritation. Wash contaminated skin thoroughly with soap and water. If irritation persists, obtain medical advice.
Eye Contact May cause irritation by mechanical abrasion. Check for and remove any contact lenses. Immediately flush the contaminated eye(s) area with lukewarm gently running water for at least 5 minutes keeping eyelids open. If irritation persists seek medical advice.
Inhalation Repeat or prolonged inhalation of dust may lead to respiratory irritation. Move victim to a well ventilated area. Obtain medical attention if irritation persists. Persons who have inhaled decomposition gases (e.g. in a fire) should obtain immediate medical attention.
Ingestion Small quantities are unlikely to cause toxic effect. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Do not attempt to give anything by mouth to unconscious victim. If victim is alert and not convulsing, give 8-10 ounces (large glass) of water (or milk if available) to dilute stomach contents. If vomiting occurs naturally, rinse mouth and repeat administration of water. Obtain medical attention. Get medical attention if a large amount of DAP is ingested (small children, more than 50g).

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SECTION 5 – FIRE FIGHTING MEASURES

Flammable	Non-Flammable under normal conditions.	If yes, under what conditions?	
Means of Extinction: Dry chemical, carbon dioxide, water spray, fog or foam.			
Flashpoint (°C) and method	Does not burn	Upper Flammable Limit (% by volume)	NAP
Auto ignition Temperature (°C)	NAP	Explosion Data – Sensitivity to Impact	Not sensitive. Stable material
		Lower Flammable Limit (% by volume)	NAP
		Explosion Data-Sensitivity to Static Discharge	Not sensitive. Stable material

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedures
Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Wear adequate protective equipment. Ventilate area. Spillage should be swept up and placed in chemical waste container to be disposed at an appropriate waste disposal facility according to current applicable laws, regulations and product characteristics at time of disposal.
If spill could potentially enter any waterways including intermittent dry creeks contact the local authorities. Phosphorus products encourage algal blooms on bodies of water which rob the water of oxygen and kill aquatic life.

SECTION 7 – HANDLING AND STORAGE

Handling Procedures and Equipment
Keep in tightly closed container as exposure to the air causes loss of ammonia. Do not handle unless safety precautions have been read and understood. Avoid eye and skin contact. Do not breathe in dust. Do not puncture, drag or slide container. Protect against physical damage and moisture. Moisture will cause hydrolysis which will slowly produce acids corrosive to metals – see section 10 for details.
Storage Requirements
Store in a cool, dry, ventilated area. Store away from potential sources of heat and fire.

SECTION 8 – EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits	<input checked="" type="checkbox"/> ACGIH TLV	<input checked="" type="checkbox"/> OSHA PEL	<input type="checkbox"/> Other (specify)
ACGIH TLV-TWA: 10 mg/m ³ (inhalable particles); 3 mg/m ³ (respirable particles) OSHA TWA-PEL: 15mg/m ³ (total dust); 5 mg/m ³ (respirable dust)			
Specific Engineering Controls			
Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible.			
Personal Respirators (NIOSH Approved): When engineering controls are not feasible, a respirator (NIOSH approved) may be worn.			
Personal Protective Equipment	<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
Hands: Wear chemical resistant rubber or plastic (PVC) gloves. Eyes: Wear safety glasses with side shields. Clothing and Footwear: long sleeved clothing, & coveralls. Respirator: When engineering controls are not feasible, a dust/mist respirator (NIOSH approved) should be worn whenever dust expected to exceed exposure limits.			

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical State Green Powder	Odour and Appearance Slight ammonia odor	Odour Threshold (ppm) NAV
Specific Gravity 1.619 (Water = 1)	Vapour Density (air = 1) NAV	Vapour Pressure (mmHg) NAV
Evaporation Rate NAV	Boiling Point (°C) Decomposes at 155°C (311°F)	Freezing Point (°C) NAV
pH 7.4-8.0 in 10% solution with water	Coefficient of Water/Oil Distribution NAV	Solubility in Water Very soluble (68-70 g/100ml @ 20°C)

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Under which conditions: Stable under normal conditions.
Incompatibility with Other Substances	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Highly reactive with oxidizing agents, acids and alkalis. Corrosive to iron and mild steel, aluminum, zinc and copper
Reactivity, and under what conditions?		Possible violent reaction with magnesium metal and sodium hypochlorite.
Hazardous Decomposition Products		When heated to decomposition, oxides of phosphorus, oxides of nitrogen (NO, NO ₂ , NO ₄) and ammonia (NH ₃) vapors are released.

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SECTION 11 – TOXICOLOGICAL INFORMATION

Diammonium Phosphate: There are no standard animal toxicity values available. Ammonium phosphate (mono, and dibasic) is used as a general purpose food additive in animal drugs, feeds and related products and is generally recognized as safe when used in accordance with good manufacturing and feeding practices.

Irritancy of Product

May cause mild irritation to eyes, skin, digestive tract and respiratory system.

Skin Sensitization: No information available

Respiratory Sensitization: No information available

Carcinogenicity - IARC

NAV

Carcinogenicity – ACGIH

NAV

Reproductive Toxicity

NAV

Teratogenicity

NAV

Embryotoxicity

NAV

Mutagenicity

NAV

Name of Synergistic Products/Effects

NAV

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity:

Aquatic / Marine toxicity: Will release ammonium ions. Ammonia is a toxicity hazard to fish. Will release phosphate. Phosphates will result in algae growth which may increase turbidity and deplete oxygen resulting in a hazard to fish or other marine organisms. Will disperse with the current. Release to watercourses may cause effects down stream from the point of release.

Acute Toxicity to Fish: (Coho salmon, Chinook salmon, Rainbow trout, Bluegill, Large mouth bass, Tilapia, Fathead minnow) 96-hr: LC₅₀=90-1875 mg/L

Acute Toxicity to Aquatic Invertebrates: (Amphipod) 96-hr: LC₅₀=40-52 mg/L; (Snails, worm) 96-hr: LC₅₀=1005-2472 mg/L

Acute Toxicity to Aquatic Plants: (*Selenastrum capricornutum*) 72-hr: NOEC (stimulation)=3.57 mg DAP/L; NOEC (toxicity)= 97.1 mg DAP/L.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal

Waste must be disposed of in accordance with federal, provincial and municipal environmental control regulations.

SECTION 14 – TRANSPORT INFORMATION

Shipping Information

TDG

Not Regulated for transport

DOT

Not regulated for transport

SECTION 15 – REGULATORY INFORMATION

WHMIS Classification: **Not Regulated**

OSHA: Does not meet criteria for hazardous material, as defined by 29 CFR 1910.1200

SARA: This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Dibasic ammonium phosphate CAS# 7783-28-0, ammonia equivalent wt % = 25.79 ammonia (includes anhydrous and aqueous ammonia from water dissociable ammonium salts and other sources, 10% of which if reportable under this listing)

TSCA: 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.