MATERIAL SAFETY DATA SHEET

Nufarm Americas, Inc. AGT Division
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In Case of Emergency, Call
1-800-424-9300

1. PRODUCT IDENTIFICATION

Product Name: **AGRI-MYCIN 17 AGRICULTURAL STREPTOMYCIN** Product No.:

EPA Signal Word: Caution

Active Ingredient(%): Streptomycin Sulfate (22.4%) CAS No.: 3810-74-0

Chemical Name: O-2-deoxy-2-methylamino-alpha-L-glucopyranosyl-(1->2)-O-5-deoxy-3-C-formyl-alpha-L-lyxofuranosyl-(1->4)-N3,N3-diamidino-D-streptamine-sulfate (2:3)

Chemical Class: Antibiotic For Agricultural Control Of Bacterial Diseases In Plants

EPA Registration Number(s): 55146-96 **Section(s) Revised: n/a**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Diluent	Not Established	Not Established	Not Established	NTP, IARC: Group 2A
Kaolin Clay	15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)	2 mg/m³ TWA (respirable dust)	10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust**	No
Crystalline Silica, Quartz	10 mg/m³/(%SiO2+2) (respirable dust)	0.1 mg/m³ (respirable silica)	Not Established	IARC Group 2A
Streptomycin Sulfate (22.4%)	Not Established	Not Established	Not Established	No

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

3. HAZARDS IDENTIFICATION

Symptoms of Acute Exposure

Exposure may cause skin or eye irritation. A skin sensitization (allergic) reaction may occur in some individuals. Antibiotics have the potential to significantly change the microflora of the intestine and allow overgrowth of nonsusceptible organisms.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Tan powder

Odor: Fermentation-like odor

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling CHEMTREC (800-424-9300), a poison contol center or doctor, or going for treatment.

Ingestion: If swallowed: Call Prosar (877-325-1840), a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 877-325-1840 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Prosar (877-325-1840), a poison control center or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Prosar (877-325-1840), a poison control center or doctor for treatment advice.

Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Prosar (877-325-1840), a poison control center or doctor for further treatment advice.

Notes to Physician

There is no specific antidote if this product is ingested.

Be alert for possible intestinal obstruction.

Treat symptomatically.

An aqueous suspension of activated charcoal can be administered to absorb remaining toxicant.

Monitor serum aminoglycoside concentration, renal and eighth cranial nerve function carefully. Obtain baseline serum creatinine and BUN.

Observe for anaphylactic type reaction. Management of anaphylactics include establishment of open airway with use of epinephrine and diphenhydramine.

Maintain good urine output (3 to 6 mL/kg/hr) with IV fluids. Hemodialysis or peritoneal dialysis should be considered in the presence of renal failure.

Medical Condition Likely to be Aggravated by Exposure

Individuals with allergic history or pre-existing dermatitis should use extra care in handling this product.

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash Point (Test Method):	Not Applicable	
Flammable Limits (% in Air):	Lower: % Not Applicable	Upper: % Not Applicable
Autoignition Temperature:	Not Available	
Flammability:	Not Available	

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire

Use dry chemical, foam or CO2 extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Control the spill at its source. Contain the spill to prevent it from spreading, contaminating soil, or entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. If a solid, sweep up material and place in a compatible disposal container. If a liquid, cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages

or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT.

FOR COMMERCIAL APPLICATIONS AND ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Ingestion:	Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
Eye Contact:	Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Skin Contact:	Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.
Inhalation:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with an N, P or R 95 or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Tan powder
Odor:	Fermentation-like odor
Melting Point:	Not Available
Boiling Point:	Not Applicable
Specific Gravity/Density:	1.00 g/mL
pH:	4.67

Solubility in H2O

Streptomycin Sulfate:	>20 g/L in water (pH 7, 82°F (28°C))

Vapor Pressure

Streptomycin Sulfate:	Not Available

10. STABILITY AND REACTIVITY

Stability:	Stable under normal use and storage conditions.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Use airtight containers to protect from moisture.
Materials to Avoid:	Strong acids and bases.
Hazardous Decomposition Products:	Can decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:	Practically Non-Toxic	
	Oral (LD50 Rat) :	> 5,000 mg/kg body weight
Dermal:	Slightly Toxic	
	Dermal (LD50 Rat) :	> 2,000 mg/kg body weight
Inhalation:	Slightly Toxic	
	Inhalation (LC50 Rat) :	> 2.72 mg/l air - 4 hours
Eye Contact:	Mildly Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Neurotoxicity

Streptomycin Sulfate: Neurotoxic and ototoxic.

Reproductive Effects

Streptomycin Sulfate: Auditory nerve damage in the developing fetus.

Chronic/Subchronic Toxicity Studies

Streptomycin Sulfate: Severe allergic reactions (anaphylactic). Clinical studies reported kidney damage and ear damage manifested by nausea, vomiting, dizziness, numbness/tingling of face.

Carcinogenicity

Streptomycin Sulfate: None observed.

Other Toxicity Information

None.

Toxicity of Other Components

Diluent

Inhalation of high dust levels can cause pneumoconiosis, silicosis or pulmonary fibrosis. Listed by IARC as a group 2A carcinogen based on limited evidence in humans and sufficient data in animals. NTP recognizes this as a substance reasonably anticipated to be a carcinogen.

Target Organs

Active Ingredients

Streptomycin Sulfate: Kidney, ear, skin

Inert Ingredients

Diluent: Respiratory system

12. ECOLOGICAL INFORMATION

Summary of Effects

Streptomycin Sulfate:

Not Available

Eco-Acute Toxicity

Streptomycin Sulfate: Not Available

Eco-Chronic Toxicity

Streptomycin Sulfate: Not Available

Environmental Fate

Streptomycin Sulfate:

Not Available

13. DISPOSAL CONSIDERATIONS

Disposal

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Not regulated by DOT.

B/L Freight Classification

Insecticides or Fungicides; Agricultural, N.O.S.

Comments

None

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard
Chronic Health Hazard

Section 313 Toxic Chemicals: Not Applicable

California Proposition 65

This product contains a chemical (streptomycin sulfate) known to the state of California to cause cancer or reproductive toxicity [listed Jan. 1991].
This product contains a chemical (silica) known to the state of California to cause cancer [listed Oct. 1988].

CERCLA/SARA 302 Reportable Quantity (RQ)

None

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings		HMIS Hazard Ratings	
Health:	1	Health:	1
Flammability:	1	Flammability:	1
Instability:	0	Reactivity:	0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

For non-emergency questions about this product call:

1-800-345-3330

Original Issued Date: 03/29/04
Revision Date: _____ Replaces: _____

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

End of MSDS