



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Mycosshield®
EPA Reg. No.: 55146-97
Product Type: Bactericide

Company Name: Nufarm Americas Inc.
 11901 S. Austin Avenue
 Alsip, IL 60803
 1-800-345-3330

Telephone Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
 Call CHEMTREC Day or Night: 1-800-424-9300
 For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not exactly the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

PHYSICAL HAZARDS:

Not hazardous

HEALTH HAZARDS:

Eye Irritation	Category 2A
Skin Sensitization	Category 1B
Respiratory Sensitization	Category 1
Carcinogen	Category 1
Specific Target Organ Toxicity – Repeat Exposure	Category 1

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute	Category 1
Hazardous to aquatic environment, chronic	Category 1

SIGNAL WORD:

DANGER

HAZARD STATEMENTS:

Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause cancer by inhalation. Causes damage to lung through prolonged or repeated inhalation. Very toxic to aquatic life with long lasting effects.



PRECAUTIONARY STATEMENTS

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Avoid breathing dust. Do not eat, drink, or smoke when using this product. Contaminated clothing should not be allowed out of the workplace. Wear protective gloves, protective clothing, and eye protection. In case of inadequate ventilation, wear respiratory protection.

IF exposed or concerned: Get medical advice.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice.

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IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice. Take off contaminated clothing and wash it before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

Store locked up.

Dispose of contents in accordance with local, state, and federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Calcium oxytetracycline	15251-48-6	16.8 – 18.6
Crystalline silica (quartz)	14808-60-7	11.5 – 23.2
Pyrophyllite	12269-78-2	10.3 – 20.8
Mica	12001-26-2	3.4 – 6.9
Kaolin	1332-58-7	2.3 – 4.6
Other Ingredients	Trade Secret	Trade Secret

Synonyms: 2-Naphthacencarboxamide, 4-(dimethylamino)-1,4,4a,5,5a,6,11,12a- octahydro-3,5,6,10,12,12a-hexahydroxy-6-methyl-1,11-dioxo-, calcium salt, [4S-(4.alpha.,4a.alpha.,5.alpha.,5a.alpha.,6.beta.,12a.alpha.)]-

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

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, then continue rinsing eye. Get medical attention if irritation persists.

If on Skin or Clothing: Take off contaminated clothing. Wash thoroughly with soap and water. Get medical attention if irritation or rash develops and persists.

If Inhaled: Move person to fresh air. If symptoms develop, get medical advice. Seek immediate medical attention if allergic symptoms or breathing difficulties develop.

If Swallowed: Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. If symptoms develop, get medical advice.

Most important symptoms/effects, acute and delayed: May cause eye irritation. Allergic reactions, possibly serious, may develop in individuals who are sensitive to tetracyclines. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Ingestion may cause gastrointestinal irritation. May cause cancer or lung damage through prolonged or repeated inhalation.

Indication of immediate medical attention and special treatment if needed: Seek immediate medical attention if allergic symptoms or breathing difficulties develop

5. FIRE FIGHTING MEASURES

Extinguishing Media: Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

Special Fire Fighting Procedures: Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon, nitrogen and calcium.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

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Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Avoid creation of dusty conditions. If dry, sweep or scoop up material and place into container for disposal. If wet, pump any free liquid into an appropriate closed container. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING:

Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Do not breathe dust. Handle and open container in a manner as to prevent spillage. If the container is leaking or material is spilled for any reason or cause, carefully dispose of as directed for pesticides in Section 13.

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

STORAGE:

Keep container tightly closed and in a dry place. Product is temperature sensitive. Store below 77° F (25° C) with minimum exposure to the atmosphere. Do not contaminate water, foodstuffs, feed or seed by storage, disposal or cleaning of equipment.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:

Eye/Face Protection: To avoid contact with eyes, wear chemical goggles. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin wear long-sleeved shirt and long pants, shoes, socks, and chemical resistant gloves. Washing facilities should be readily accessible to the work area.

Respiratory Protection: Wear an NIOSH approved TC-21C dust filtering respirator.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Calcium oxytetracycline	NE	NE	NE	NE	
Crystalline silica (quartz)	30 / %SiO ₂ +2 (T) 10 / %SiO ₂ +2 (R)	NE	0.025 (R)	NE	mg/m ³
Pyrophyllite (As PNOR)	15 (T)	NE	NE	NE	mg/m ³

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	5 (R)				
Mica	20 mppcf	NE	3(R)	NE	mg/m ³
Kaolin	5(R) 15 (T)	NE	2 (R)	NE	mg/m ³
Other Ingredients	NE	NE	NE	NE	

R = Respirable Fraction

T = Total Dust

PNOR= as Particulates Not Otherwise Regulated

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light to dark brown powder
Odor:	Musty
Odor threshold:	No data available
pH:	3.84 (1% w/w dispersion in DIW)
Melting point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	No applicable due to product form (solid)
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	0.68 g/mL
Solubility(ies):	No data available
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	Not applicable due to product form (solid)

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical Stability: This material is stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Keep away from heat, sparks and open flame. Minimize dust generate and accumulation.

Incompatible Materials: Strong oxidizing agents: bases and acids.

Hazardous Decomposition Products: Under fire conditions may produce gases such as oxides of carbon, nitrogen and calcium

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, ingestion, eye and skin contact.

Symptoms of Exposure:

Eye Contact: Causes substantial but temporary eye injury.

Skin Contact: Slightly toxic and non-irritating based on toxicity studies. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Ingestion: Slightly toxic based on toxicity studies.

Inhalation: Low inhalation toxicity. May cause allergic respiratory reaction and difficulty breathing. Prolonged or repeated inhalation may cause lung damage or cancer.

Delayed, immediate and chronic effects of exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

Toxicological Data:

Data from laboratory studies conducted on Oxytetracycline Calcium Technical:

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Oral: Rat LD₅₀: >5,000 mg/kg
Dermal: Rat LD₅₀: >2,000 mg/kg
Inhalation: Rat 4-hr LC₅₀: Not Data Available
Eye Irritation: Rabbit: Severe Irritation
Skin Irritation: Rabbit: Slightly Irritating
Skin Sensitization: Sensitizing

Subchronic (Target Organ) Effects: For oxytetracycline, gastrointestinal irritation with nausea, epigastric pain and burning, vomiting, abdominal pain, transitory yellowish-brown discoloration of the tongue, anorexia and diarrhea have been reported following oral administration. Blood disorders (delay in coagulation) have also been reported. Possible hypersensitization and superinfections due to overgrowth of organisms not affected by the antibiotic agent. Three types of renal disease are associated with overexposure: Acute Non-Oliguric Renal Failure (individuals with pre-existing pancreatitis or fatty liver); Uremia (individuals with pre-existing impaired renal function) and Reversible Nephrotoxicity (due to out-dated or degraded tetracyclines).

Carcinogenicity / Chronic Health Effects: Prolonged overexposure to oxytetracycline may cause effects to skin and digestive tract. Oxytetracycline did not cause cancer in laboratory animals.

Reproductive Toxicity: None observed.

Developmental Toxicity: Adverse effects were reported in mother (severe hepatic damage) and fetus (retardation of skeletal developmental, discoloration of teeth and enamel hypoplasia).

Genotoxicity: None observed.

Assessment Carcinogenicity:

This product contains substances that are considered to be probable or suspected human carcinogens as follows:

Component	Regulatory Agency Listing As Carcinogen			
	ACGIH	IARC	NTP	OSHA
Calcium oxytetracycline	No	No	No	No
Crystalline Silica (quartz)	A2	1	Known	No
Pyrophyllite	No	No	No	No
Mica	No	No	No	No
Kaolin	A4	No	No	No
Other Ingredients	No	No	No	No

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Oxytetracycline Calcium:

96-hour LC₅₀ Bluegill:	>56 ppm	Bobwhite Quail Acute Oral LC₅₀:	>2,000 mg/kg
96-hour LC₅₀ Rainbow Trout:	>58.5 ppm	Bobwhite Quail 8-day Dietary LC₅₀:	>5,620 ppm
48-hour EC₅₀ Daphnia:	>59.4 ppm	Mallard Duck 8-day Dietary LC₅₀:	>5,620 ppm
7-day aquatic plant (Lemna):	0.65 ppm	48-hour Honey Bee LD₅₀:	100 µg/bee
96-hour freshwater algae:	43 ppb		

Environmental Fate:

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater. Low bioaccumulation potential.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Handling and Disposal:

Plastic Containers:

Nonrefillable Containers 50 lb or Less: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary

landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

Nonrefillable Containers larger than 50 lb: Nonrefillable container. Do not reuse or refill this container.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

Bags:

Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Fiber Drums with Liners:

Nonrefillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then offer for recycling, if available, or dispose of liner in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

DOT:

Non Regulated

IMDG:

Non Regulated

IATA:

Non Regulated

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

WARNING. Causes substantial but temporary eye injury. Harmful if absorbed through skin. Do not get in eyes, on skin, or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Do not breathe dust or spray mist.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):

Acute Health, Chronic Health

Section 313 Toxic Chemical(s):

None

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Oxytetracycline and Tetracyclines are listed for developmental toxicity (internal use).

16. OTHER INFORMATION**National Fire Protection Association (NFPA) Hazard Rating:**

Rating for this product: Health: 2 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

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