



Cerexagri-Nisso LLC

FlameOut(TM) 17 WP Fungicide/Bactericide

Material Safety Data Sheet

Cerexagri-Nisso LLC

1 PRODUCT AND COMPANY IDENTIFICATION

Pre-Harvest Experimental

Cerexagri-Nisso, LLC

EMERGENCY PHONE NUMBERS:

Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887

Medical: Rocky Mountain Poison Control Center
(866) 767-5089 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
R&D Technical Service	610-878-6100	8:00 am - 5:00 pm EST

Product Name	FlameOut(TM) 17 WP Fungicide/Bactericide
Product Synonym(s)	
Chemical Family	
Chemical Formula	C22H24N2O9HCL
Chemical Name	Oxytetracycline hydrochloride
EPA Reg Num	80990-1-82695
Product Use	Control of bacterial diseases in agricultural crops

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical Wt. %	OSHA
Quartz	14808-60-7	<46.4	Y
Mica	12001-26-2	<19.3	Y
Oxytetracycline hydrochloride	2058-46-0	17	Y
Kaolin	1332-58-7	<3.9	Y

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

3 HAZARDS IDENTIFICATION

Emergency Overview

Free flowing yellow to tan powder

Odorless to faint odor

WARNING!

KEEP OUT OF REACH OF CHILDREN.

MAY CAUSE ALLERGIC SKIN AND RESPIRATORY REACTIONS

CAUSES EYE AND SKIN IRRITATION.

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. May cause moderate eye irritation if contact occurs. Based on single exposure animal tests the active antimicrobial ingredient of this mixture is considered to be practically nontoxic if swallowed, slightly toxic to practically nontoxic if applied to the skin, it is not irritating if skin contact occurs. Symptoms of overexposure include gastrointestinal irritation, nausea and vomiting. Repeated exposure can cause an allergic skin reaction. In some individuals a sudden, severe, potentially life-threatening allergic reaction can occur. Symptoms can include hives, swelling (especially of the lips and face), difficulty breathing (either because of swelling in the throat or an asthmatic reaction), vomiting, diarrhea, cramping and a fall in blood pressure. Prolonged exposure to the eye may result in glaucoma, cataract formation or changes in clarity or field of vision. Blood disorders (delayed clotting) and kidney disease have also been reported. Studies in laboratory animals indicate that this material can cause harm to developing offspring. Repeated and



FlameOut(TM) 17 WP Fungicide/Bactericide

Material Safety Data Sheet

Cerexagri-Nisso LLC

prolonged inhalation of crystalline silica may cause a disabling lung disease (commonly known as silicosis). Clinical signs and symptoms of silicosis include cough, shortness of breath, wheezing and impairment of lung function. Impairment of lung function may be progressive. In the usual case of silicosis, there is a slow deterioration of capacity for physical effort, decreased chest expansion, and an increased susceptibility to tuberculosis and other respiratory infections. Crystalline silica inhaled in the form of quartz is classified as carcinogenic to humans (Group 1) by the International Agency for Research on Cancer (IARC) and respirable forms of crystalline silica are listed as substances known to be a human carcinogen by the National Toxicology Program. Short term, extremely heavy exposures to crystalline quartz dust (particularly small-sized particles) can result in acute silicosis. This disease is rapidly progressive with diffuse pulmonary involvement, which may develop within months of initial exposure. Individuals with acute silicosis may suffer an abrupt onset of violent coughing, labored breathing, and weight loss; death has been known to occur within one to two years. Medical conditions which can be aggravated by exposure to this material include kidney disease, which could be increased in persons with pancreatitis or fatty liver; blood clotting disorders. Super infections may occur due to overgrowth of organisms not affected by the antibiotic.

4 FIRST AID MEASURES

IF IN EYES,

- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

IF ON SKIN, Wash with plenty of soap and water. Get medical attention.

IF SWALLOWED,

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

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 a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIANS, Treat symptomatically. There is no specific antidote. Emesis may be indicated in recent substantial ingestion unless the patient is or could rapidly become obtunded, comatose, or convulsing. Is most effective if initiated within 30 minutes. Plasma tetracycline levels are not clinically useful. No specific lab work (CBC, electrolyte, urinalysis) is needed unless otherwise indicated. Anaphylaxis may be managed with appropriate supportive measures including securing an adequate airway, epinephrine and diphenhydramine.

5 FIRE FIGHTING MEASURES

Fire and Explosive Properties

Auto-Ignition Temperature	NA	
Flash Point	NAPP	Flash Point Method
Flammable Limits- Upper	NA	
Lower	NA	



Extinguishing Media

Use water spray, foam or dry chemical.

Fire Fighting Instructions

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazards

Oxides of carbon and nitrogen

Use grounding and bonding connection when transferring material to prevent static discharges, fire or explosion.

Use spark resistant tools.

Use explosion proof equipment.

Avoid breathing fumes from fire exposed material.

6 ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Stop the leak, if possible. Ventilate the space involved. Absorb, sweep up, place in container for disposal. Reduce dust spreading with a water spray. Shut off or remove all ignition sources. Prevent waterway contamination. Construct a dike to prevent spreading. Protect workers with water spray. Collect run-off water and transfer to drums or tanks for later disposal. Avoid creating a dusty atmosphere. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Clean up procedures: Transfer to containers, preparatory for later disposal. Avoid generation of dusts. Place in non-sparking containers for recovery or disposal. Remove from spill location. Flush area with water spray, collect rinsate.

7 HANDLING AND STORAGE

Handling

Avoid creating dust in handling, transfer or clean-up. Avoid breathing spray mist or dust. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Keep container closed. Wash thoroughly after handling.

Use grounding and bonding connection when transferring material to prevent static discharges, fire or explosion.

Use spark resistant tools.

Use explosion proof equipment.

Storage

This material is not hazardous under normal storage conditions; however, material should be stored in closed containers, in a secure area to prevent container damage and subsequent spillage. Store away from food and feed.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye / Face Protection

Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment available.

Skin Protection

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Rinse contaminated skin promptly. Wash contaminated clothing and clean protective equipment before reuse. Wash skin thoroughly after handling.



FlameOut(TM) 17 WP Fungicide/Bactericide

Material Safety Data Sheet

Cerexagri-Nisso LLC

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection

Avoid breathing dust. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Airborne Exposure Guidelines for Ingredients

Exposure Limit		Value
Kaolin		
ACGIH TWA	-Respirable fraction	2 mg/m3
OSHA TWA PEL	-Total dust	15 mg/m3
OSHA TWA PEL	-Respirable fraction	5 mg/m3
Quartz		
ACGIH TWA	Respirable particle	0.05 mg/m3
Mica		
ACGIH TWA	-	3 mg/m3

- Only those components with exposure limits are printed in this section.
- Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
- ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.
- WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	Free flowing yellow to tan powder Odorless to faint odor
pH	2.5-4.0
Specific Gravity	NA
Vapor Pressure	NA
Vapor Density	NA
Melting Point	NA
Freezing Point	NAPP
Boiling Point	NAPP
Solubility In Water	Soluble
Percent Volatile	<8% (water)
Bulk Density	42.7 loose 63.7 compacted

**10 STABILITY AND REACTIVITY****Stability**

This material is chemically stable under normal and anticipated storage and handling conditions.

Hazardous Polymerization

Does not occur.

Incompatibility

Decomposed by strong acids and alkalis

Hazardous Decomposition Products

None known

11 TOXICOLOGICAL INFORMATION**Toxicological Information**

Data on this material and/or its components are summarized below.

Single exposure (acute) studies indicate:

Oral - mouse LD50 6646 mg/kg Practically non-toxic

Dermal - rabbit LD50 > 2000 mg/kg No more than Slightly toxic

Skin Irritation - Not irritating

Eye Irritation - Moderately irritating

Based on reports in humans symptoms of overexposure include gastrointestinal irritation, nausea and vomiting.

Repeated exposure can cause an allergic skin reaction and anaphylaxis in some individuals. Blood disorders and kidney disease have also been reported. Prolonged exposure to the eye may result in glaucoma, cataract formation or changes in clarity or field of vision. Permanent discoloration of the teeth in the offspring can occur due to exposure during the last half of pregnancy. Results of animal studies indicate toxicity to developing offspring and evidence of embryotoxicity if given during pregnancy. Lifetime oral exposure to rats produced an equivocal increase in tumor formation in rats and no evidence of carcinogenicity in mice. Positive results have been reported in tests for genetic effects in tests using animal cells. No genetic damage or changes were noted in tests using bacteria or animals.

Quartz

Chronic inhalation of crystalline silica may cause a progressive pneumoconiosis (a disabling lung disease) called silicosis. Data from animal studies on crystalline forms of silica confirm the capacity of free crystalline silica to induce a fibrinogenic response in lungs. Studies on a variety of laboratory animals (rats, guinea pigs, rabbits, and monkeys) using inhalation as well as intratracheal routes of exposure indicate the ability of crystalline silica to produce silicosis similar to that seen in man. In addition, experiments in animals have confirmed human experience that the presence of crystalline silica in the lung increased susceptibility to tuberculosis and other lung infections. Crystalline silica inhaled in the form of quartz is classified as carcinogenic to humans (Group 1) by the International Agency for Research on Cancer (IARC), and respirable forms of crystalline silica are listed as substances known to be a human carcinogen by the National Toxicology Program. Epidemiology studies cited by IARC give indications of increased risk for lung cancer from inhaled crystalline silica (quartz) resulting from occupational exposure. Studies involving heavy industrial exposure to silica in granite and foundry workers, brick factories and sandblasting produced increased levels of protein and enzymes in urine, which is indicative of kidney damage.

Mica

Numerous epidemiology studies and case reports of workers exposed to dust indicate that the lung is the primary target organ. Workers in milling and bagging, mining, and rubber manufacture have developed pneumoconiosis associated with inhalation. Generally, the lung pathology is described as fine nodules dispersed throughout the lungs that do not progress to larger nodules typical of silicosis. Shortness of breath and reduction of respiratory function are often observed. Although it is possible that these changes may be the result of low-level inhalation of silica, which may be present, some studies have suggested that this material was the causative agent for pneumoconiosis.



FlameOut(TM) 17 WP Fungicide/Bactericide

Material Safety Data Sheet

Cerexagri-Nisso LLC

11 TOXICOLOGICAL INFORMATION

Intratracheal injection of dust into the lungs of mice and rats showed a weak fibrogenic response in the lungs in comparison to silica. Long-term administration of titanium dioxide-coated material in the diet of rats showed no systemic or carcinogenic effects.

Kaolin

Therapeutic administration has shown that humans can ingest more than 600 g/day without adverse effects. Studies of workers chronically exposed in mining, bagging and loading operations show that the only organ affected is the lung. Chronic inhalation of dust produces a benign pneumoconiosis with a small proportion of exposed workers progressing to complicated pneumoconiosis with fibrotic changes in the lungs (including obstruction and respiratory impairment). Following repeated feeding studies in rats, no adverse effects other than reduced weight gain were observed. Several long-term inhalation studies have been conducted with rats and guinea pigs. It was slightly fibrogenic in the animals' lungs, but was not considered to be likely to cause severe pulmonary disease.

12 ECOLOGICAL INFORMATION

Ecotoxicological Information

Data on this material and/or its components are summarized below.

Oxytetracycline hydrochloride

Lake trout 6 hr LC50: 251 mg/l

Blue-green algae 7 day EC50: 0.21 mg/l (Microcystis aeruginosa)

Chemical Fate Information

Oxytetracycline hydrochloride

Unstable to light and heat.

13 DISPOSAL CONSIDERATIONS

Waste Disposal

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

14 TRANSPORT INFORMATION

DOT Name	Not regulated under DOT
DOT Technical Name	
DOT Hazard Class	
UN Number	
DOT Packing Group	PG
RQ	

15 REGULATORY INFORMATION

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

Immediate (Acute) Health	Y	Fire	N
Delayed (Chronic) Health	Y	Reactive	N
		Sudden Release of Pressure	N



FlameOut(TM) 17 WP Fungicide/Bactericide

Material Safety Data Sheet

Cerexagri-Nisso LLC

Ingredient Related Regulatory Information:

SARA Reportable Quantities

	CERCLA RQ	SARA TPQ
Kaolin	NE	
Quartz	NE	
Mica	NE	
Oxytetracycline hydrochloride	NE	NE

California Prop 65 - Carcinogen

This product does contain the following chemical(s), as indicated below, currently on the California list of Known Carcinogens.

Quartz

California Prop 65 - Developmental Toxin

This product does contain the following chemical(s), as indicated below, currently on the California List of Developmental Toxins.

Oxytetracycline hydrochloride

Massachusetts Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Kaolin

Mica

Quartz

New Jersey Right to Know

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.

Mica

Quartz

Pennsylvania Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.

Kaolin

Mica

Quartz

16 OTHER INFORMATION

Revision Information

Revision Date	06 JAN 2006	Revision Number	5
Supersedes Revision Dated	03-JAN-2006		

Revision Summary

Update section 1

Key

NE= Not Established NA= Not Applicable (R) = Registered Trademark

Miscellaneous

FlameOut(TM) is a trademark of Cerexagri, Inc.



Cerexagri-Nisso LLC

FlameOut(TM) 17 WP Fungicide/Bactericide

Material Safety Data Sheet

Cerexagri-Nisso LLC

Cerexagri-Nisso LLC believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use are beyond the control of Cerexagri-Nisso LLC, Cerexagri-Nisso LLC expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.