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NUSTAR 20 DF  
GPA00096 Revised 20-JUN-2011 Printed 20-JUN-2011  
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CHEMICAL PRODUCT/COMPANY IDENTIFICATION  
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Material Identification

"NUSTAR" is a registered trademark of DuPont.

Corporate MSDS Number : DU005717

Tradenames and Synonyms

Company Identification

MANUFACTURER/DISTRIBUTOR

E.I. du Pont Canada Company  
P.O. Box 2200  
Streetsville  
Mississauga, Ontario L5M 2H3

PHONE NUMBERS

Product Information : 1-800-387-2122  
Medical Emergency : 1-800-441-3637 (24 hours)

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COMPOSITION/INFORMATION ON INGREDIENTS  
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Components

Material	CAS Number	%
FLUSILAZOLE (1-[[BIS(4-FLUOROPHENYL)METHYLSILYL]METHYL]-1H- 1,2,4-TRIAZOLE)	85509-19-9	20 %
INERT INGREDIENTS		80 %

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HAZARDS IDENTIFICATION  
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Emergency Overview

WARNING! Causes substantial but temporary eye injury.

Potential Health Effects

Based on animal testing, inhalation of Flusilazole may cause irritation of nose, throat and lungs, with cough, difficulty breathing or shortness of breath.

Skin contact with Flusilazole may cause irritation with itching, burning, redness, swelling or rash.

## (HAZARDS IDENTIFICATION - Continued)

Eye contact with Flusilazole may cause eye irritation with tearing, pain or blurred vision.

Ingestion of Flusilazole may cause liver, kidney, bladder and testes effects and hematologic changes.

## Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

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FIRST AID MEASURES  
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## First Aid

## INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

## SKIN CONTACT

In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse.

## EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

## INGESTION

If swallowed, immediately give 2 glasses of water and induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

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FIRE FIGHTING MEASURES  
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## Flammable Properties

Autoignition : 525 C (977 F)  
Autodecomposition : 300 C (572 F) (slow exotherm)

Not a fire or explosion hazard.

## (FIRE FIGHTING MEASURES - Continued)

## Fire and Explosion Hazards:

There is a possibility of generating hazardous gases during a fire due to presence of F and CN groups, but material will not burn vigorously. The material poses no explosion hazard in granular form.

## Extinguishing Media

Water, Water Spray, Foam, Dry Chemical.

## Fire Fighting Instructions

Wear self-contained breathing apparatus. Use water spray. Runoff from fire control may be a pollution hazard.

If area is exposed to fire and conditions permit, let fire burn itself out. Burning chemicals may produce by-products more toxic than the original material. If product is on fire, wear self-contained breathing apparatus and full protective equipment. Use water spray. Control runoff.

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ACCIDENTAL RELEASE MEASURES  
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## Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Emergency Response - Chemical resistant coveralls, waterproof gloves, waterproof boots and face/eye protection. If dusting occurs, use NIOSH approved respirator protection.

## Spill Clean Up

Shovel or sweep up. Never return to container for reuse. Scoop into bags or boxes with plastic or aluminum shovel.

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HANDLING AND STORAGE  
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## Handling (Personnel)

Do not get in eyes. Avoid breathing dust. Avoid contact with skin. Avoid contact with clothing. Wash thoroughly after handling. Wash clothing after use. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

## Handling (Physical Aspects)

Keep away from heat, sparks and flames.

## (HANDLING AND STORAGE - Continued)

## Storage

Store in a well ventilated place. Keep container tightly closed.

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EXPOSURE CONTROLS/PERSONAL PROTECTION  
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## Engineering Controls

Use only with adequate ventilation. Keep container tightly closed.

## Personal Protective Equipment

Eye/Face : Use eye protection during mixing and loading operations.  
Protective Gloves : Rubber or neoprene gloves.

Respiratory protection should not be required for normal use and handling. During abnormal exposures, use of an approved pesticide respirator is recommended.

## # Exposure Guidelines

## Applicable Exposure Limits

FLUSILAZOLE  
PEL (OSHA) : None Established  
TLV (ACGIH) : None Established  
AEL \* (DuPont) : 0.1 mg/m<sup>3</sup>, 8 & 12 Hr. TWA, Skin

\* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

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PHYSICAL AND CHEMICAL PROPERTIES  
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## Physical Data

Solubility in Water : Dispersible  
pH : 1% in water: 10.0  
Odor : Slight lignin sulfonate  
Form : Granules  
Color : Light brown  
Bulk Density (Loose) : 33 - 40 lbs/cu ft

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STABILITY AND REACTIVITY  
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## Chemical Stability

Stable at normal temperatures and storage conditions.

## Incompatibility with Other Materials

None reasonably foreseeable.

## Decomposition

Decomposition will not occur.

## Polymerization

Polymerization will not occur.

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TOXICOLOGICAL INFORMATION  
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## Animal Data

## Flusilazole

Oral LD50:	674-1110 mg/kg in rats (Slightly toxic)
Dermal LD50:	> 2000 mg/kg in rabbits (Moderately toxic)
Inhalation LC50, 4 hrs:	> 5.0 mg/L in rats (Very low toxicity)

Flusilazole is a mild to moderate eye and a mild skin irritant. It is not a skin sensitizer in animals.

Single high exposures to Flusilazole by skin contact, ingestion, or inhalation produced weight loss, labored breathing, depression, and/or other nonspecific effects.

Repeated ingestion of Flusilazole produced changes in the bladder, kidneys, testes, epididymides, stomach, and liver, a slight hemolytic effect, and reduced body weight gain. Repeated ingestion at high dose levels in mice produced mortality, heart muscle degeneration, and pneumonitis.

Animal data indicates that Flusilazole is a weak carcinogen at high exposure levels. Rat testicular and bladder and mouse liver tumors appeared in the presence of significant chronic toxicity in the target organs and would not be expected to present a significant risk to humans exposed to much lower levels of Flusilazole.

Animal data suggest that Flusilazole may be a weak developmental toxicant following excessive oral or dermal exposures.

## (TOXICOLOGICAL INFORMATION - Continued)

In a two-generation feeding study, there was an increase in gestation length, were fewer viable pups born, and lower weanling weights in exposed animals; however, these effects occurred only at dose levels that caused other toxicity in the parental animals. Therefore, Flusilazole is not considered a reproductive hazard.

Flusilazole has not produced genetic damage in bacterial or mammalian cell cultures or in animals.

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ECOLOGICAL INFORMATION  
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## Ecotoxicological Information

## FLUSILAZOLE

## AQUATIC TOXICITY:

Moderately toxic.

96 hour LC50 - Rainbow trout: 1.2 mg/L.

## ENVIRONMENTAL TOXICITY:

Acute Oral LD50 - Mallard Duck: > 1590 mg/kg.

Acute Dietary LC50 - Bobwhite Quail: > 5260 ppm

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DISPOSAL CONSIDERATIONS  
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## Waste Disposal

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Remove nonusable solid material and/or contaminated soil, for disposal in an approved and permitted landfill.

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TRANSPORTATION INFORMATION  
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## Shipping Information

## DOT/IMO

Proper Shipping Name : NOT REGULATED

## Shipping Information -- Canada

This material is Not Regulated.

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REGULATORY INFORMATION  
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## U.S. Federal Regulations

## TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute : Yes  
Chronic : Yes  
Fire : No  
Reactivity : No  
Pressure : No

## Canadian Regulations

Regulated under the Pest Control Products Act--WHMIS Exempt

Registration No. 25547 Pest Control Products Act

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OTHER INFORMATION  
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## NFPA, NPCA-HMIS

NFPA Rating  
Health : 1  
Flammability : 1  
Reactivity : 0

NPCA-HMIS Rating  
Health : 2  
Flammability : 1  
Reactivity : 0

Personal Protection rating to be supplied by user depending on use conditions.

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The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

## Responsibility for MSDS

----- Crop Protection E.I. du Pont Canada Company  
Box 2200, Streetsville  
Mississauga, Ontario L5M 2H3  
(905) 821-3300.

# Indicates updated section.

End of MSDS

