



## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** AZURE™ Xtra Fungicide

**EPA Reg. No.:** 228-728

**Product Type:** Fungicide

**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 the same as the FIFRA label. Certain sections of this SDS are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

## 2. HAZARDS IDENTIFICATION

### HEALTH HAZARDS:

Acute toxicity, oral	Category 4
Reproductive Toxicity:	Category 2
Specific Target Organ Toxicity: Repeated	Category 2
Specific target Organ Toxicity: Drowsiness	Category 3

### SIGNAL WORD (OSHA):

WARNING

### HAZARD STATEMENTS:

Harmful if swallowed. Causes eye irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.



### PRECAUTIONARY STATEMENTS

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist, vapors, spray. Wash hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, eye protection.

If swallowed: Call a poison control center, doctor or 1-877-325-1840 if you feel unwell. Rinse mouth.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

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.

If exposed or concerned: Get medical advice/attention.

Call a poison control center, doctor or 1-877-325-1840 if you feel unwell.

Store locked up.

Dispose of contents and container in accordance with local regulations.

### OTHER HAZARD STATEMENTS

None.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Azoxystrobin	131860-33-8	18.2
Cyproconazole	94361-06-5	7.3
Propylene glycol	57-55-6	Trade Secret
Other ingredients	Trade Secret	74.5

**Synonyms:** Mixture of azoxystrobin and cyproconazole

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

### 4. FIRST AID MEASURES

**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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**If in Eyes:** Hold eye open and rinse slowly and gently with water for 15 to 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 or Clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

**If Inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**Most Important Symptoms/effects:**

Eye irritation

Drowsiness or dizziness

**Indication of immediate medical attention and special treatment needed:**

There is no specific antidote if this product is ingested.

Treat symptomatically.

### 5. FIRE FIGHTING MEASURES

**Extinguishing Media:** Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

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

**Special protective equipment and precautions for firefighters:** 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.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment, and emergency procedures:** Follow exposure controls/personal protection outlined in Section 8.

**Methods and materials for containment and cleaning up:** Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions in Protective Equipment Section. 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 place in a disposal container, seal container and arrange for disposition.

## 7. HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**

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.

**CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:**

Store locked up. Store in original container only. Keep container closed when not in use. Do not store near food or feed. In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to the label. Do not contaminate water, food or feed by storage or disposal.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:**

Use effective engineering controls to comply with occupational exposure limits (if applicable).

**Individual Protection Measures:**

**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.

**Skin Contact:** Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.

**Inhalation:** A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

**Exposure Guidelines:**

Component	OSHA		ACGIH		Other	Source
	TWA	STEL	TWA	STEL		
Azoxystrobin	NE	NE	NE	NE	4 mg/m <sup>3</sup> TWA	Manufacturer
Cyproconazole	NE	NE	NE	NE	0.5 mg/m <sup>3</sup> TWA	Manufacturer
Propylene Glycol	NE	NE	NE	NE	10 mg/m <sup>3</sup> TWA	AIHA
Other Ingredients	N/A	N/A	N/A	N/A	N/A	N/A

NE = Not Established

N/A= Not Applicable

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Yellow liquid
<b>Odor:</b>	Sweet
<b>Odor threshold:</b>	No data available
<b>pH:</b>	7-8
<b>Melting point/freezing point:</b>	No data available
<b>Initial boiling point and boiling range</b>	ca. 212° F (ca. 100° C)
<b>Flash point:</b>	Does not flash up to 212°F (100° C)
<b>Evaporation rate:</b>	No data available
<b>Flammability (solid, gas):</b>	Not applicable
<b>Upper/lower flammability or explosive limits:</b>	Not applicable
<b>Vapor pressure:</b>	No data available
<b>Vapor density:</b>	No data available
<b>Relative density:</b>	1.10 g/ml @20° C
<b>Solubility(ies):</b>	Not determined
<b>Partition coefficient: n-octanol/water:</b>	No data available
<b>Autoignition temperature:</b>	851° F
<b>Decomposition temperature:</b>	No data available
<b>Viscosity:</b>	No data available

**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:** Will not occur.

**Conditions to Avoid:** None known.

**Incompatible Materials:** None known.

**Hazardous Decomposition Products:** None known.

**11. TOXICOLOGICAL INFORMATION**

**Potential Health Effects:**

**Likely Routes of Exposure:** Dermal, Inhalation

**Symptoms of Exposure:** Eye irritation, Drowsiness or dizziness

**Delayed, immediate and chronic effects of exposure:** Eye irritation, Drowsiness or dizziness.

**Eye Contact:** Mildly irritating based on EPA criteria.

**Skin Contact:** Slightly irritating based on toxicity studies.

**Ingestion:** Harmful if swallowed.

**Inhalation:** Do not breathe mists, vapors or spray.

**Toxicological Data:**

Data from laboratory studies conducted on a similar, but not identical, formulation:

**Oral, Rat LD<sub>50</sub>:** 500-2,000 mg/kg (female)

**Dermal, Rat or Rabbit LD<sub>50</sub>:** >5,000 mg/kg

**Inhalation, Rat 4-hr LC<sub>50</sub>:** 0.5 – 2.0 mg/L

**Eye Irritation, Rabbit:** Mildly irritating

**Skin Irritation, Rabbit:** Slightly irritating

**Skin Sensitization, Guinea Pig:** Not considered a sensitizer

**Subchronic (Target Organ) Effects:** Azoxystrobin : In a rat 90-day feeding study, liver toxicity was observed at 2,000 ppm. This was manifest as gross distension of the bile duct, increased numbers of lining cells and inflammation of the duct. No toxicologically significant effects were seen in repeat dose dog studies. Data reviews do not indicate any potential for endocrine disruption. There is no evidence of neurotoxicity in any of the studies conducted with azoxystrobin.

Cyproconazole: Liver enlargements and decreased body weight (mice). Liver damage in rats and dogs.

**Carcinogenicity / Chronic Health Effects:** Azoxystrobin : No carcinogenic effects observed in rats or mice at doses up to the maximum tolerated dose.

Cyproconazole: Liver tumors (mice only).

**Reproductive and Developmental Toxicity:** Azoxystrobin shows weak chromosomal damage in mammalian cells at cytotoxic levels. Negative in whole animal assays for chromosomal and DNA damage at high dosages (> or = 2,000 mg/kg). In rabbits, no effect was observed up to the highest dose level (500 mg/kg/day). In rats, developmental effects were seen only at maternally toxic doses (100 mg/kg/day).

Cyproconazole: Maternal and fetal toxicity were observed at high dose levels (rats).

**Germ Cell Mutagenicity:** There have been some positive and some negative studies, but the weight of evidence is that not mutagenic.

**Toxicity of other components: Propylene glycol**

Test results reported in Section 11 for the final product take into account any acute hazards related to the propylene glycol in the formulation. Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Chronic dietary exposure caused kidney and liver injury in experimental animals.

**Assessment Carcinogenicity:** None listed with ACGIH, IARC, NTP or OSHA.

<b>12. ECOLOGICAL INFORMATION</b>
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**Environmental Hazards:**

Azoxystrobin is toxic to freshwater, estuarine/marine fish and aquatic invertebrates. Azoxystrobin, a degradate of azoxystrobin, and cyproconazole are known to leach through soil to ground water under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

**Ecotoxicity:**

Data on Azoxystrobin Technical

<b>Rainbow Trout</b> 96-hour LC <sub>50</sub> :	470 ppb	<b>Mallard Duck</b> 14-day LD <sub>50</sub> :	>250 mg/kg
<b>Green Algae</b> 5-day EC <sub>50</sub> :	106 ppb		
<b>Daphnia</b> 48-hour EC <sub>50</sub> :	259 ppb		

Data on Cyproconazole Technical

<b>Rainbow Trout</b> 96-hour LC <sub>50</sub> :	19 ppm	<b>Mallard Duck</b> 14-day LD <sub>50</sub> :	150 mg/kg
<b>Green Algae</b> 5-day EC <sub>50</sub> :	0.026 ppm		
<b>Daphnia</b> 48-hour EC <sub>50</sub> :	26 ppm		

**Environmental Fate:**

Azoxystrobin: Low bioaccumulation potential. Not persistent in soil. Stable in water. Moderate mobility in soil. Sinks in water (after 24 h). Cyproconazole: Low bioaccumulation potential. Stable in soil and water. Low to moderate mobility in soil. Floats in water after 24 hours.

<b>13. DISPOSAL CONSIDERATIONS</b>
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**Waste Disposal Method:**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, 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 of the nearest EPA Regional Office for guidance.

**Container Handling and Disposal:**

**Nonrefillable Containers 5 Gallons 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 and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 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 5 gallons:** Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure 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 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. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure-rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, 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.

**Refillable containers larger than 5 gallons:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**14. TRANSPORTATION INFORMATION**

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

**DOT:**

<119 gallons per complete package  
Non Regulated

>119 gallons per complete package

UN3082, Environmentally Hazardous substance, liquid, n.o.s. (azoxystrobin, cyproconazole), 9, PG III, Marine Pollutant

**IMDG:**

UN3082, Environmentally Hazardous substance, liquid, n.o.s. (azoxystrobin, cyproconazole ), 9, PG III, Marine Pollutant

**IATA:**

UN3082, Environmentally Hazardous substance, liquid, n.o.s. (azoxystrobin, cyproconazole ), 9, PG III, Marine Pollutant

**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.

CAUTION. Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear long-sleeved shirt and long pants, and shoes plus socks.

**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 370.66):**

Immediate and Delayed

**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:** Not Listed.

**16. OTHER INFORMATION****National Fire Protection Association (NFPA) Hazard Rating:****Rating for this product: Health: 1 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.

**Date of Issue:** June 16, 2015**Supersedes:** February 4, 2015

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