

1. IDENTIFICATION

Product name: **Orius® 3.6F**
 Chemical name of active ingredient(s): Tebuconazole: α -(2-(4-Chlorophenyl)ethyl)-a-(1,1-dimethylethyl)-1H-1,2,4-triazol-1-ethanol
 Manufacturer: Makhteshim Agan of North America, Inc.
 4515 Falls of Neuse Road, Suite 300
 Raleigh, NC 27609
 Phone: 919-256-9300
 For fire, spill, and/or leak emergencies, contact Infotrac: Phone: 1-800-535-5053
 For medical emergencies and health and safety inquiries, contact Prosar: Phone: 1-877-250-9291

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMMON NAME	CAS NO.	%	OSHA PEL	ACIGH TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
Tebuconazole	107534-96-3	38.7	NA	NA	NA	NA
NA = Not applicable						

3. HAZARDS IDENTIFICATIONS**PHYSICAL PROPERTIES:**

Appearance: White viscous liquid

Odor: Slight aromatic

EMERGENCY OVERVIEW: CAUTION Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

LIKELY ROUTES OF EXPOSURE: Ingestion; skin contact; skin absorption; eye contact.

SYMPTOMS OF ACUTE EXPOSURE: Contact with the eyes may cause irritation.

SYMPTOMS OF CHRONIC EXPOSURE: Based on toxicity studies of the active ingredient, tebuconazole, there may be toxic effects on the following organs: spleen, liver, adrenals, and lens of the eye.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: No specific conditions are known which may be aggravated by exposure to this product.

4. FIRST AID MEASURES

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> 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 by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> 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 IN EYES:	<ul style="list-style-type: none"> 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 INHALED:	<ul style="list-style-type: none"> 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.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For medical emergencies, call Prosar 24 hours a day at 1-877-250-9291.

NOTE TO PHYSICIAN: No specific antidote. Treat symptomatically.

SYMPTOMS OF POISONING: The compound does not cause any definite symptoms that would be diagnostic. Contact with the eyes may cause irritation.

5. FIRE FIGHTING MEASURES

FLASH POINT: > 100°C

EXPLODABILITY: This product should be considered as a substance without explosive and oxidizing properties.

EXTINGUISHING MEDIA: Water, carbon dioxide (CO₂), dry chemical, foam.

HAZARDOUS DECOMPOSITION PRODUCTS: None known.

FIRE-FIGHTING PROCEDURES: Keep out of smoke; cool exposed containers with water spray. Fight fire from upwind position. Use self-contained breathing equipment. Contain run-off by diking to prevent entry into sewers or waterways. Equipment or materials involved in pesticide fires may become contaminated.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS: In spill or leak incidents, keep unauthorized people away. If the container is leaking or material is spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Do not walk through spilled material. Absorb material with absorbing type compounds and dispose of as directed in Section 13. Wear proper protective equipment. Scrub contaminated area with soap and water. Use dry absorbent materials such as clay granules to absorb and collect wash solution for proper disposal. Contaminated soil may have to be removed and disposed. Do not allow material to enter streams, sewers or other waterways or contact vegetation. For spills, fire, or leak, contact INFOTRAC: 1-800-535-5053.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Handle and open container in a manner as to prevent spillage. If container is leaking, invert to prevent leakage.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed. Store in original container and out of reach of children, preferably in a locked storage area.

STORAGE TEMPERATURE (MIN/MAX): Normal ambient temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

EYE PROTECTION: Use splash-proof goggles, if needed, to prevent liquid from getting into eyes.

SKIN PROTECTION: Long-sleeved shirt, long pants, shoes plus socks and coveralls.

HAND PROTECTION: Chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride or Viton.

RESPIRATOR REQUIREMENTS: Control exposure levels through the use of general and local exhaust ventilation.

USER SAFETY RECOMMENDATIONS:

Users should:

MATERIAL SAFETY DATA SHEET

Orius® 3.6F

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- Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

EXPOSURE GUIDELINES: Refer to Section 2.

ENGINEERING CONTROLS: Refer to product label.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: White viscous liquid

ODOR: Slight aromatic

FLASH POINT: > 100°C

pH: 8.27 @ 20° C

DENSITY: 1.10016 kg/L @ 20° C

VISCOSITY: 0.5227 Pa s @ 20° C; 0.4452 Pa s @ 40° C

10. STABILITY AND REACTIVITY

STABILITY: This product is stable under normal warehouse conditions. Under normal conditions, this product has no known oxidizing or reducing properties.

CONDITIONS TO AVOID: None known.

MATERIALS TO AVOID: None known.

HAZARDOUS POLYMERIZATION: Not known to occur.

HAZARDOUS DECOMPOSITION PRODUCTS: None known.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY/IRRITATION STUDIES

Acute Oral LD ₅₀ (Rat):	>2,000 mg/kg
Acute Dermal LD ₅₀ (Rat):	>2,000 mg/kg
Acute Inhalation LC ₅₀ (Rat):	>5.23 mg/L (4-hours)
Eye Irritation (Rabbit):	Slightly irritating
Dermal Irritation (Rabbit):	Non-irritating
Dermal Sensitization (Guinea pig):	Not a skin sensitizer

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: This pesticide is toxic to estuarine and marine invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

ECOLOGICAL EFFECTS (tebuconazole):

Rainbow trout 96-hour LC ₅₀ :	4.4 mg/L
Bluegill sunfish 96-hour LC ₅₀ :	5.7 mg/L
<i>Daphnia magna</i> 48-hour LC ₅₀ :	4.2 mg/L
Bee 48-hour Oral LD ₅₀ :	83 µg/L

13. DISPOSAL CONSIDERATIONS

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

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

CONTAINER DISPOSAL: Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

14. TRANSPORT INFORMATION

DOT CLASSIFICATION:

Not regulated

INTERNATIONAL TRANSPORTATION:

IMO (vessel): Not regulated

IATA (air): Not regulated

15. REGULATORY INFORMATION

SARA TITLE III CLASSIFICATION:

Section 302: Not applicable.

Section 311/312: Acute health hazard (immediate)

Delayed health hazard (chronic)

Section 313: Not applicable

CA PROPOSITION 65: Not applicable

CERCLA RQ: Not applicable

RCRA CLASSIFICATION: 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.

TSCA STATUS: The ingredients of this product are listed on the TSCA inventory or are exempt.

16. OTHER INFORMATION

NFPA HAZARD RATINGS		NFPA	
HEALTH:	1	0	MINIMAL
FLAMMABILITY:	1	1	SLIGHT
REACTIVITY:	1	2	MODERATE
		3	HIGH
		4	SEVERE

MSDS DATE: 9-29-09. Supercedes versions dated 3-22-06, 2-23-06 and 2-16-05. Changes made to Sections 3, 4, 7, 12, 13, 14 and 15.

The information herein is given in good faith, but no warrant, express or implied, is made. Consult Makhteshim Agan of North America, Inc. for further information.