

# MATERIAL SAFETY DATA SHEET

**Orius® 20 AQ**

Page 1 of 4

## 1. IDENTIFICATION

Product name: **Orius® 20 AQ**  
 Chemical name of active ingredient(s): Tebuconazole:  $\alpha$ -(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	20	NA	NA	NA	NA
NA = Not applicable						

## 3. HAZARDS IDENTIFICATIONS

### PHYSICAL PROPERTIES

Appearance: Slight yellow liquid

Odor: Slight aromatic

**EMERGENCY OVERVIEW:** CAUTION. Harmful if swallowed, inhaled, or absorbed through skin. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Avoid contact with skin, eyes, or clothing. Remove and wash contaminated clothing before reuse. Wear the personal protective clothing specified in Section 8. Avoid breathing vapor or spray mist.

### 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	
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration,</li> </ul>

	preferably mouth-to-mouth if possible. <ul style="list-style-type: none"><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
Have a product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact Prosar at 1-877-250-9291 for emergency medical information.	
<b>NOTE TO PHYSICIAN:</b> There is no specific antidote. Treat symptomatically. Symptoms of Poisoning: The compound does not cause any definite symptoms that would be diagnostic.	

## 5. FIRE FIGHTING MEASURES

**FLASH POINT:** Not applicable

**EXTINGUISHING MEDIA:** Water spray, water fog, foam.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition generates: CO, CO<sub>2</sub>, NO<sub>x</sub>, chlorides.

### 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:** If container is leaking, invert to prevent leakage. If the container is leaking or material is spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing-type compounds and dispose of as directed for pesticides below. In spill or leak incidents, keep unauthorized people away. For spills, fire, or leak, contact INFOTRAC: 1-800-535-5053.

## 7. HANDLING AND STORAGE

Do not contaminate water, food, or feed by storage or disposal.

**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. Do not breathe fumes. Avoid contact with skin and eyes.

**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 the 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:

- Wash hands 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.

**ADDITIONAL PROTECTIVE MEASURES:** 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:** Minimize airborne concentrations.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** Slight yellow liquid

**ODOR:** Slight aromatic

**FLASH POINT:** Not applicable

**pH:** 4.81 @ 20° C

**DENSITY:** 1.00794 @ 20° C

**10. STABILITY AND REACTIVITY**

**STABILITY:** This product is stable under normal storage conditions.

**CONDITIONS TO AVOID:** Protect from sunlight, open flames and sources of heat.

**MATERIALS TO AVOID:** None known.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition generates: CO, CO<sub>2</sub>, NO<sub>x</sub>, chlorides.

**11. TOXICOLOGICAL INFORMATION**

**ACUTE TOXICITY/IRRITATION STUDIES**

Acute Oral LD<sub>50</sub> (Rat): >2,000 mg/kg

Acute Dermal LD<sub>50</sub> (Rat): >2,000 mg/kg

Acute Inhalation LC<sub>50</sub> (Rat): >5.4 mg/L (4-hours)

Eye Irritation (Rabbit): Non-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<sub>50</sub>: 4.4 mg/L

Bluegill sunfish 96-hour LC<sub>50</sub>: 5.7 mg/L

*Daphnia magna* 48-hour LC<sub>50</sub>: 4.2 mg/L

Bee 48-hour Oral LD<sub>50</sub>: 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**

MATERIAL SAFETY DATA SHEET

**Orius® 20 AQ**

Page 4 of 4

**DOT CLASSIFICATION:**

Not regulated

**INTERNATIONAL TRANSPORTATION**

**IMO (vessel):** UN3082, Environmentally Hazardous Substances, liquid, n.o.s. (tebuconazole), 9, PGIII, Marine Pollutant

**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**

<b>NFPA HAZARD RATINGS</b>	<b>NFPA</b>	<b>HMIS</b>		
<b>HEALTH:</b>	2	2	0	MINIMAL
<b>FLAMMABILITY:</b>	1	1	1	SLIGHT
<b>REACTIVITY:</b>	1	1	2	MODERATE
			3	HIGH
			4	SEVERE

**MSDS DATE:** 11-28-08

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.