

# SAFETY DATA SHEET

## Orius 250 EW

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Version 1

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Product No FNG56796-27  
R-9129 9500032 HT 308 25 EW

### Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### Product identifier

## Orius 250 EW

Synonyms Tebuconazole 250 EW  
Pure substance/mixture Mixture

#### Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Fungicide  
Uses advised against No information available

#### Details of the supplier of the safety data sheet

Supplier Address ADAMA SOUTH AFRICA (PTY) LTD  
Ground Floor, Simeka House  
The Vineyards Office Estate  
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Bellville 7530

For further information, please contact

Email address SDS@ADAMA.COM

#### Emergency Telephone

Emergency Telephone + 27 82 446 8946  
+ 27 86 155 5777  
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### Section 2: HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

Serious eye damage/eye irritation Category 2 - (H319)  
Reproductive toxicity Category 2 - (H361)  
Specific target organ toxicity (single exposure) Category 3 - (H335)  
Acute aquatic toxicity Category 2 - (H401)  
Chronic aquatic toxicity Category 2 - (H410)  
Flammable liquids Category 4 - (H227)

#### Label Elements

#### Hazard pictograms



**Signal word**

Warning

**Hazard Statements**

H319 - Causes serious eye irritation  
 H335 - May cause respiratory irritation  
 H361 - Suspected of damaging fertility or the unborn child if inhaled  
 H401 - Toxic to aquatic life  
 H410 - Very toxic to aquatic life with long lasting effects  
 H227 - Combustible liquid

**Precautionary Statements**

P102 - Keep out of reach of children  
 P201 - Obtain special instructions before use  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P243 - Take precautionary measures against static discharge  
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P501 - Dispose of contents/ container to an approved waste disposal plant  
 P302 + P352 - IF ON SKIN: Wash with plenty of water.  
 P201 - Obtain special instructions before use  
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

**Other Hazards**

No information available

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**Mixture**

Chemical Name	Weight-%	CAS No	EC No	GHS Classification	M-Factor
Tebuconazole	25-27	107534-96-3	403-640-2	Acute Tox. 4 (H302) Repr. 2 (H361) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	M=1 M=10
N,N-dimethyldecanamide	60-70	14433-76-2	238-405-1	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) Aquatic Chronic 3 (H412)	

**Section 4: FIRST AID MEASURES**

**First aid measures**

**General advice**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). First aider: Pay attention to self-protection!.

**Inhalation**

Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician.

<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician.
<b>Self-protection of the first aider</b>	Use personal protective equipment as required.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** None known

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

**Note to physicians** Treat symptomatically.

**Section 5: FIRE-FIGHTING MEASURES**

**Extinguishing media**

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**

No information available.

**Special hazards arising from the substance or mixture**

No specific hazard known.

**Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus  
In the event of fire and/or explosion do not breathe fumes.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**

Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**For emergency responders**

Use personal protection recommended in Section 8.

**Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

**Methods and material for containment and cleaning up**

**Methods for cleaning up**

Take up mechanically, placing in appropriate containers for disposal.

Reference to other sections

**Other Information**

See also section 8,13

**Section 7: HANDLING AND STORAGE**

Precautions for safe handling

**Advice on safe handling**

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.

**General Hygiene Considerations**

When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Regular cleaning of equipment, work area and clothing is recommended.

Conditions for safe storage, including any incompatibilities

**Storage Conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

**Risk Management Methods (RMM)**

The information required is contained in this Material Safety Data Sheet.

**Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

National occupational exposure limits

Exposure controls

**Engineering Controls**

Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment**

**Eye/face protection**

Tight sealing safety goggles.

**Hand Protection**

Suitable chemical resistant gloves (EN 374) also with prolonged, direct contact (recommendation: protection index 6, corresponding > 480 minutes Permeability time (permeation) according to EN 374): e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm).

**Body Protection**

Rubber boots, Apron, Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact, Gloves made of plastic or rubber.

**Respiratory protection**

Use only with adequate ventilation.

**General Hygiene Considerations**

When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Regular cleaning of equipment, work area and clothing is recommended.

**Environmental exposure controls**

Do not allow into any sewer, on the ground or into any body of water.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Physical and Chemical Properties**

<u>Property</u>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
<b>Appearance</b>			
<b>Physical state</b>	: Liquid		
<b>Color</b>	: light yellow		
<b>Odor</b>	: characteristic		
<b>Odor threshold</b>	: No data available		
<b>pH</b>	: 5.1-6.1	CIPAC MT 75.3	aqueous solution, 1 %
<b>Melting point/freezing point °C</b>	: No data available		
<b>Boiling point/boiling range °C</b>	: No data available		
<b>Flash point °C</b>	: >79	CIPAC MT 12.2	
<b>Evaporation rate</b>	: Not Applicable		
<b>Flammability (solid, gas)</b>	: Not Applicable		
<b>Upper/lower flammability or explosive limits</b>	: No data available		
<b>Vapor pressure kPa</b>	: No data available		
<b>Vapor density</b>	: No data available		
<b>Relative density</b>	: 0.9-1.0	CIPAC MT 3.2.1	
<b>Solubility(ies) mg/l</b>	: No data available		
<b>Partition Coefficient (n-octanol/water) Log Pow</b>	:		See Section 12 for more information
<b>Autoignition temperature °C</b>	: 357	EEC A.15	
<b>Decomposition temperature °C</b>	: No data available		
<b>Kinematic viscosity mm<sup>2</sup>/s 40 °C</b>	: 13.2590	ASTM D445-53T	
<b>Explosive properties</b>	: Not an explosive		
<b>Oxidizing properties</b>	: No		
<b>Other Information</b>			
<b>Bulk density g/ml</b>	:		
<b>Surface tension mN/m</b>	: <60		

**Section 10: STABILITY AND REACTIVITY**

**Reactivity**

Not available.

**Chemical stability**

Stable under normal conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

To avoid thermal decomposition, do not overheat.

**Incompatible Materials**

Strong bases, Strong acids

**Hazardous Decomposition Products**

None under normal use conditions.

**Section 11: TOXICOLOGY INFORMATION**

Information on toxicological effects

**Acute toxicity**

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Oral LD50 mg/kg	: > 2000	Rat	OECD 401	Maximum attainable concentration
Dermal LD50 mg/kg	: > 2000	Rat	OECD 402	
Inhalation LC50 mg/l/4h	: > 4.95	Rat	OECD 403	
Skin corrosion/irritation	: Non-irritating to the skin	Rabbit	OECD 404	
Serious eye damage/eye irritation	: Irritating to eyes	Rabbit	OECD 405	
Respiratory/skin sensitization	: Not a skin sensitizer	Guinea pig	OECD 406	

**Chronic toxicity**

**Germ cell mutagenicity**

Chemical Name  
 Tebuconazole : Not classified

**Carcinogenicity**

Chemical Name  
 Tebuconazole : Not Carcinogenic

**Reproductive toxicity**

Chemical Name  
 Tebuconazole : H361d - Suspected of damaging the unborn child

**STOT - single exposure**

Chemical Name  
 Tebuconazole : No data available

**STOT - repeated exposure**

Chemical Name  
 Tebuconazole : No data available

**Aspiration hazard**

Chemical Name  
 Tebuconazole : No data available

**Section 12: ECOLOGICAL INFORMATION**

Toxicity

**Aquatic toxicity**

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Acute toxicity				
Fish 96-hour LC50 mg/l	: 4.68	Rainbow trout	OECD 203	Static
Crustacea 48-hour EC50 mg/l	: 16	Daphnia magna	OECD 202	
Algae 72-hour EC50 mg/l	: 9.12	D. Subspicatus	OECD 201	
Other plants EC50 mg/l	:			No data available

**Chronic aquatic toxicity**

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Fish NOEC mg/l	:			
Crustacea NOEC mg/l	:			
Algae NOEC mg/l	:			
Other plants NOEC mg/l	:			

**Terrestrial Toxicity**

Birds Oral LD50 mg/kg  
 Chemical Name  
 Tebuconazole : 1988 Bobwhite quail

**Bees Oral LD50 µg/bee**

**Chemical Name**

Tebuconazole : 83.05 Oral

**Persistence and degradability**

**Abiotic Degradation**

**Water DT50 days**

**Chemical Name**

Tebuconazole : 365

**Soil DT50 days**

**Chemical Name**

Tebuconazole : 34.8

**Biodegradation**

**Chemical Name**

Tebuconazole : Not readily biodegradable OECD 301B

**Bioaccumulative potential**

**Partition Coefficient**

**(n-octanol/water) Partition**

**Coefficient (n-octanol/water) Log**

**Pow**

**Chemical Name**

Tebuconazole : 3.7

**Bioconcentration factor (BCF)**

**Chemical Name**

Tebuconazole : 78

**Mobility in soil**

**Adsorption/Desorption**

**Chemical Name**

Tebuconazole : 769 Koc

**Results of PBT and vPvB assessment**

The components in this formulation do not meet the criteria for classification as PBT or vPvB

**Other adverse effects**

No information available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Waste from residues/unused products**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging**

Improper disposal or reuse of this container may be dangerous and illegal.

**Other Information**

Waste codes should be assigned by the user based on the application for which the product was used.

**Section 14: TRANSPORTATION INFORMATION**

**IMDG/IMO**

**UN/ID No \*** 3082  
**Proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Tebuconazole )  
**Hazard Class** 9  
**Packing Group** III  
**Marine pollutant** This material meets the definition of a marine pollutant Yes  
**Special precautions for user**

**RID/ADR**

**UN/ID No \*** 3082  
**Proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Tebuconazole )  
**Hazard Class** 9  
**Packing Group** III  
**Environmental hazard** Yes  
**Special precautions for user**

**ICAO/IATA**

**UN/ID No \*** 3082  
**Proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Tebuconazole )  
**Hazard Class** 9  
**Packing Group** III  
**Environmental hazard** Yes  
**Special precautions for user**  
**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not Applicable



\* Note: UN3077 & UN3082 – These products may be transported as non-dangerous goods under the special provisions of IMDG Code 2.10.2.7; ADR SP375 and ICAO/IATA A197 when packed in single or inner packaging of up to 5L for liquids or 5 kg or less for solids.

**Section 15: REGULATORY INFORMATION**

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Section 16: OTHER INFORMATION**

**Revision Note** Changes made to the last version are labeled with this sign \*\*\*.

**List of Acronyms**

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road  
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
CAS Number - Chemical Abstracts Service number  
EC Number - EINECS and ELINCS Number  
EINECS - European Inventory of Existing Commercial Substances  
ELINCS - European List of notified Chemical Substances  
IATA - International Air Transport Association  
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air  
IMDG - International Maritime Dangerous Goods  
LC50 - Lethal Concentration to 50 % of a test population



LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)  
OECD - Organization for Economic Co-operation and Development  
PBT - Persistent, Bioaccumulative and Toxic substance  
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail  
STOT - Specific Target Organ Toxicity  
vPvB - Very Persistent and Very Bioaccumulative

**Disclaimer**

**The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**