

SAFETY DATA SHEET

Orius 250 EW

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Version 2

Product No FNG56796-27
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
Formula	EW

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 99 Jip de Jager Drive Bellville 7530
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For further information, please contact

Email address	SDS@ADAMA.COM
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Emergency Telephone

Emergency Telephone	+ 27 82 446 8946 + 27 86 155 5777 + 27 21 982 1460
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Section 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Acute toxicity - Oral	Category 5 - (H303)
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 1 - (H400)
Chronic aquatic toxicity	Category 2 - (H410)
Flammable liquids	Category 4 - (H227)

Label Elements

Hazard pictograms



Signal word

Warning

Hazard Statements

H303 - May be harmful if swallowed
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H361 - Suspected of damaging fertility or the unborn child if inhaled
 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
 P270 - Do not eat, drink or smoke when using this product
 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

Other Hazards

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical Name	Weight-%	CAS No	EC No	GHS Classification	M-Factor
Tebuconazole	25-28	107534-96-3	403-640-2	Acute Tox. 4 (H302) Repr. 2 (H361d) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	M=1 M=10
N,N-dimethyldecanamide	61-68	14433-76-2	238-405-1	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) Aquatic Chronic 3 (H412)	

Full text of H- and EUH-phrases: see section 16

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.

Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.
Eye contact	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. Call a poison control center or doctor for treatment advice.
Ingestion	Rinse mouth. Drink plenty of water. If symptoms persist, call a physician.
Self-protection of the first aider	Use personal protective equipment as required.
<u>Most important symptoms and effects, both acute and delayed</u>	
Symptoms	None known.
<u>Indication of any immediate medical attention and special treatment needed</u>	
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

Combustible material.

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

Use suitable protective clothing and equipment if required, such as safety goggles certified to EN 166, gloves certified to EN 374, protective boots certified to EN 13832, and/or a water repellent woven coverall with 65% polyester and 35 % cotton.

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>
Appearance			
Physical state	: liquid		
Color	: light yellow		
Odor	: characteristic		
Odor threshold	: No data available		
pH	: 5 - 7	CIPAC MT 75.3	aqueous solution, 1 %
Melting point/freezing point °C	: No data available		
Boiling point/boiling range °C	: No data available		
Flash point °C	: > 79	CIPAC MT 12.2	
Evaporation rate	: Not Applicable		
Flammability (solid, gas)	: Not Applicable		
Upper/lower flammability or explosive limits	: No data available		
Vapor pressure kPa	: No data available		
Vapor density	: No data available		
Relative density	: 0.9 - 1.0	CIPAC MT 3.2.1	
Solubility(ies) mg/l	: No data available		
Partition Coefficient	:		See Section 12 for more information
(n-octanol/water) Log Pow			
Autoignition temperature °C	: 357	EEC A.15	
Decomposition temperature °C	: No data available		
Kinematic viscosity mm ² /s 40 °C	: 13.26	ASTM D445-53T	
Explosive properties	: Not an explosive		
Oxidizing properties	: Not oxidizing		
Other Information			
Bulk density g/ml	:		
Surface tension mN/m	: 32		

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

Heat, flames and sparks.

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	: Not classified

STOT - repeated exposure

Chemical Name	
Tebuconazole	: Not classified

Aspiration hazard

Chemical Name	
Tebuconazole	: Not classified

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

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Chronic aquatic toxicity				
Fish NOEC mg/l	: 0.056	Rainbow trout	OECD 210	21d
Crustacea NOEC mg/l	: 0.06	Daphnia magna	OECD 211	21d
Algae NOEC mg/l	: 3.13	D. Subspicatus	OECD 201	
Other plants NOEC mg/l	: No data available			

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

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed
 H303 - May be harmful if swallowed
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H361 - Suspected of damaging fertility or the unborn child
 H400 - Very toxic to aquatic life
 H410 - Very toxic to aquatic life with long lasting effects
 H412 - Harmful to aquatic life with long lasting effects

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