


ORIOUS[®] 250 EW

Reg. no. L6832 Act/Wet 36 of/van 1947

GROUP	3	FUNGICIDE
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An emulsion oil in water systemic fungicide for the control of diseases in the crops indicated	'n Emulsie olie-in-water sistemiese swamdoder vir die beheer van siektes in gewasse soos aangedui.
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 <p>WARNING</p>	<p>Hazard statements Causes serious eye irritation. May cause respiratory irritation. Suspected of damaging fertility or the unborn child. Very toxic to aquatic life with long lasting effects.</p>
	<p>Precautionary statements Avoid breathing dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection.</p>

ACTIVE INGREDIENT/AKTIEWE BESTANDEEL

Tebuconazole (triazole) 250 g/L Tebukonasool (triasool)

NET VOLUME/NETTO VOLUME

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REGISTRATION HOLDER/REGISTRASIEHOUER

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UN no.: 3082

EMERGENCY NUMBERS:

Griffon Poison Information Centre: +27 82 446 8946
 Tygerberg Poison Information Centre: +27 861 555 777

Batch number
 Date of Manufacture
 Expiry date

Lotnommer
 Datum van Vervaardiging
 Vervaldatum

WARNINGS

- Causes serious eye irritation.
- May cause respiratory irritation.
- Suspected of damaging fertility or the unborn child.
- Very toxic to aquatic life with long lasting effects.

Withholding periods (minimum number of days between last application and harvest):

Barley, wheat (harvest, grazing and feeding)	77 days
Beans, potatoes (harvest)	14 days
Citrus	175 days
Groundnut, bean hay (feeding)	42 days
Oats (harvest, grazing and feeding)	56 days
Peas, tomatoes (harvest)	7 days

- Store in a cool, dry place away from food, feed and other agricultural chemicals.
- Keep out of reach of children, uninformed persons and animals.
- **Re-entry interval:** Do not enter treated field until spray deposit has dried unless wearing protective clothing.
- **Aerial application:** Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. Do not spray over water or areas not under treatment or allow the spray drift to contaminate these areas.

Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions because the action and effect thereof may be affected by factors such as abnormal climatic and storage conditions; quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of the disease against the remedy concerned, as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment, or harm to humans or animals or for lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS

- Keep out of reach of children.
- If medical advice is needed, have product container or label at hand.
- Read label before use.
- Obtain, read and follow all safety instructions before use.

- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Wash face, hands and any exposed skin thoroughly after handling. Do not touch eyes.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.
- If exposed or concerned get medical advice.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical help if you feel unwell.
- 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 help.
- Collect spillage.
- Store locked up in cool, well-ventilated place. Keep container tightly closed.
- Dispose of contents/ container to an approved waste disposal plant.

- Do not eat drink or smoke whilst handling this product.
- Prevent contamination of food, feed, drinking water and eating utensils.
- While spraying, avoid contact with the spray as much as you can. Avoid spray drift onto other crops, grazing rivers or dams.
- Clean applicator thoroughly after use and dispose of wash water where it will not contaminate crops, grazing, rivers or dams.
- Destroy empty container and do not use for any other purpose.
- Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10% of that of the container. Add the rinsings to the contents of the spray tank before destroying the container.
- Change and wash your work clothes. Wash yourself.

RELEVANT SUBSTANCES

Chemical name	w/w %	CAS no.
N,N-Dimethyldecan-1-amide	>60%	14433-76-2
Tebuconazole	20–60 %	107534-96-3

FIRST AID

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). First aider: Pay attention to self-protection.



Take the container label or product name with you when seeking medical attention.

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. Get medical attention immediately if symptoms occur.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.

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

Ingestion: If conscious, rinse mouth thoroughly with water. Drink plenty of water. Never give anything by mouth to an unconscious or convulsing person. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomit, rinse mouth and administer more water. Get medical attention immediately if symptoms occur.

TOXICOLOGICAL INFORMATION

Antidotes

No specific antidote. Treat symptomatically.

Symptoms of human poisoning

None known.

NOTICE TO THE USER: This agricultural remedy is to be used only according to the directions of this label. It is an offense under the Act to use this product inconsistent with the directions on the label.

RESISTANCE WARNING

For resistance management, **ORIOUS® 250 EW** is a group code 3 fungicide. Any fungus population may contain individuals naturally resistant to **ORIOUS® 250 EW** and other group code 3 fungicide. The resistant individuals can eventually dominate the fungus population if these fungicides are used repeatedly. These resistant fungi may not be controlled by **ORIOUS® 250 EW** or any other group code 3 fungicide. To delay fungicide resistance:

- Avoid exclusive repeated use of fungicide from the same fungicide group code. Alternate or tank mix with products from different fungicide group codes,
- For tank mixing or alternation with products in other fungicide group codes, refer to applicable individual product labels.
- Integrate the control methods (chemical, cultural, biological) into disease control programmes.

For specific information on resistance management contact the registration holder of this product.

MODE OF ACTION

3: Sterol biosynthesis in membranes: Demethylation inhibitor (DMI).

DIRECTIONS FOR USE

Use only as indicated.

Compatibility

The compatibility of **ORIOUS® 250 EW** with other products can be influenced by the formulation of those products and the quality of the dilution water. As formulations of products can change without the knowledge of ADAMA South Africa (Pty.) Ltd. and the quality of water can differ from farm to farm, a physical compatibility test should always be carried out prior to application. **ORIOUS® 250 EW** is compatible with RIMON® 10 EC (Reg. No. L6285) and other non-alkaline agricultural chemicals.

Mixing instructions

Half fill the spray tank with water. Add the required volume of **ORIOUS® 250 EW** while agitating. Fill the spray tank with water. It is important to note that during the filling and application process, the spray-mixture must be agitated continuously.

APPLICATION

Ground application

ORIOUS® 250 EW can be applied by any conventional high-volume sprayer which is fitted with an efficient agitation system. The boom must be fitted with hollow cone nozzles which are able to deliver medium to fine droplets. The applicator must be calibrated correctly to deliver an even distribution of the spray-mixture over the target area.

Aerial application

Aerial application of **ORIOUS® 250 EW** may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SANS Code 10118 (Aerial Application of Agricultural Pesticides). Ensure that the spray mixture is distributed evenly over the target area and that the loss of spray material during application is restricted to a minimum. It is therefore essential that the following criteria be met:

- Volume: A spray mixture volume of 30 L/ha is recommended. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy, or be held responsible for any adverse effects if this product is applied aerially at a lower volume rate than recommended above.
- Droplet coverage: 25–35 droplets/cm² must be recovered at the target area.
- Droplet size: A droplet spectrum with a VMD of 280–300 micron is recommended. Limit the production of fine droplets less than 150 micron (high drift and evaporation potential) to a minimum.
- Flying height: Maintain the height of the spray boom at 3–4 m above the target. Do not spray when aircraft is diving, climbing or when banking
- Use suitable atomising equipment that will produce the desired droplet size and coverage, but which will ensure the minimum loss of product. The spraying system must produce a droplet spectrum with the lowest possible Relative Span.
- Position all the atomisers within the inner 60–75% of the wingspan to prevent droplets from entering the wingtip vortices.
- The difference in temperature between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8 °C.
- Stop spraying if the wind speed exceeds 15 km/h.



- Stop spraying under turbulent, unstable and dry conditions during the heat of the day.
- Spraying under temperature inversion conditions (spraying in or above the inversion layer) and/or high humidity conditions (relative humidity 80% and above) may lead to the following:
 - a) reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage), and
 - b) damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target field.
- Ensure that the Aerial Spray Operator knows exactly which fields to spray.
- Obtain an assurance from the Aerial Spray Operator that the above requirements will be met and that relevant data will be compiled in a logbook and kept for future reference.

APPLICATION RATES

CROP AND TARGET	DOSAGE/HA (or as indicated)	REMARKS
Barley Eye spot (<i>Pseudocercospora herpotrichoides</i>)	Ground application 750 ml	Apply in 300 L water/ha between the seven leaf and flag leaf stage.
	Aerial application 900 ml	Apply as above in at least 30 L water/ha.
Halo spot (<i>Selenophoma donacis</i>) Net Blotch (<i>Pyrenophora teres</i>) (<i>Helminthosporium</i> spp.)	Ground application 750 ml	Apply in 300 L water/ha as soon as symptoms of the disease are noticed; especially from the flag leaf to ear emergence stage. If infection levels are high a second application may be necessary 21–28 days later.
	Aerial application 900 ml	Apply as above in at least 30 L water/ha.
Leaf spot (<i>Rhynchosporium secalis</i>)	Ground application 500 ml	Apply in 300 L water/ha when first symptoms are noticed or in the period between the seven leaf and flag leaf stages.
	Aerial application 500 ml	Apply as above in at least 30 L water/ha.
Leaf rust (<i>Puccinia hordei</i>)	Ground application 750 ml	Apply in 300 L water/ha as soon as symptoms are noticed. Repeat application 28 days later should symptoms re-appear.
	Aerial application 750 ml	Apply as above in at least 30 L water/ha.
Powdery mildew (<i>Erysiphe graminis</i>)	Ground application 750 ml	Apply in 300 L water/ha as soon as symptoms are noticed. Repeat application 28 days later should symptoms re-appear.
	Aerial application 900 ml	Apply as above in at least 30 L water/ha.
Beans (Dry and green beans) Rust (<i>Uromyces appendiculatus</i>)	Ground application 500 ml	Apply as a full cover spray in 500 L water / ha as a preventive spray or as soon as the first symptoms are noticed. Repeat application every 10–12 days especially if weather conditions favour the development of the disease.

CROP AND TARGET	DOSAGE/HA (or as indicated)	REMARKS
	Aerial application 600 ml	Apply as above in at least 30 L water/ha.
Citrus Navels, Clementines and Minneola tangelos Navel-end rot (black core rot) <i>(Alternaria citri)</i>	80 ml/100 L water	Apply two applications starting at 50 % petal fall and follow up at 100% petal fall. Apply as a medium cover spray (about 20 L spray mixture per tree, depending on tree size). Note: Uneven flowering over an extended period of time will result in reduced efficacy. Due to the characteristics of the disease and the effect of unpredictable weather conditions, control may be variable and may not meet the standard required for export fruit.
Groundnuts Early leafspot <i>(Cercospora arachidicola)</i> Late leafspot <i>(Cercosporidium personatum)</i> Web blotch <i>(Phoma arachidicola)</i> Rust <i>(Puccinia arachidis)</i>	Ground application Dry land: 400 ml Irrigation: 600 ml Aerial application Dry land: 500 ml Irrigation: 750 ml	Apply as a preventive treatment or as soon as the first symptoms are noticed. Apply in 400–500 L water/ha and direct the spray onto the row. It is recommended that a suitable wetter/sticker should be added to the spray-mixture to ensure thorough wetting of all plant parts. Repeat application every 10–14 days but do not exceed 4 sprays per season. Apply as above in at least 30 L, but preferably 40 L water/ha.
Mangoes Powdery mildew <i>(Oidium mangiferae)</i>	20 ml/100 L water	Apply as soon as first symptoms are noticed. Repeat every 10–14 days up to 100% petal drop. Infection usually starts when 50% of the flowers are open. Apply as a full cover spray and ensure that the flower panicles are fully covered. Note: Uneven flowering over an extended period of time will result in reduced efficacy. Due to the characteristics of the disease and the effect of unpredictable weather conditions, control may be variable and may not meet the standard required for export fruit.

CROP AND TARGET	DOSAGE/HA (or as indicated)	REMARKS
Oats Crown rust <i>(Puccinia coronata)</i>	Ground application 500 ml	Apply in at least 300 L water/ha as soon as symptoms are noticed.
	Aerial application 500 ml	Apply as above in at least 30 L water/ha.
Onions Purple blotch <i>(Alternaria porri)</i>	150 ml/100 L water	Apply at 500 L spray mixture/ha as soon as the first symptoms are noticed. Repeat every 7–14 days depending on the severity of the infection. Do not exceed a total of 4 applications per season. A suitable wetter/sticker must be used to ensure thorough coverage of the leaves and to minimize excessive run-off. Do not apply in spring onions.
Peas Powdery mildew <i>(Erysiphe pisi)</i>	Ground application 50 ml/100 L water	Apply as soon as the first symptoms of the disease are noticed and repeat every 10–14 days. Use a suitable wetter to ensure an even distribution and penetration of ORIOUS® 250 EW . Apply at least 500 L spray mixture/ha. Do not exceed 3 applications per season.
	Aerial application 300 ml	Apply as above in at least 30 L, but preferably 40 L water/ha.
Potatoes Early blight <i>(Alternaria solani)</i>	Ground application: 75 ml/100 L water	Apply ORIOUS® 250 EW as a preventive treatment when weather conditions are favorable for the development of the disease (warm, humid conditions). Apply at least 500 L spray mixture/ha. Do not apply less than 375 ml ORIOUS® 250 EW /ha. Repeat application every 7–10 days, but do not exceed 4 applications/season.
	Aerial application 500–750 ml	Apply as above in at least 30 L but preferably 40 L water/ha. Use the higher dosage rate from flowering stage onwards when the foliage is denser or when weather conditions are favorable for the development of the disease.
Tomatoes Early blight <i>(Alternaria solani)</i>	75 ml/100 L water	Depending on plant height and density of foliage, apply 5–12 L spray mixture/100 m row length as soon as the first symptoms are noticed. Ensure thorough coverage of the foliage. Depending on weather conditions,

CROP AND TARGET	DOSAGE/HA (or as indicated)	REMARKS
		the treatment must be repeated every 7–10 days. A total of 4 applications/land/season must not be exceeded. ORIOUS® 250 EW must preferably be alternated with a non-DMI fungicide. It is important to note that ORIOUS® 250 EW only controls early blight in tomatoes .
Wheat Eye spot (<i>Pseudocercospora herpotrichoides</i>)	Ground application 750 ml	Apply in 300 L water/ha at first to second node stage or before a 5% infection level is reached. Repeat application 21 days after initial application especially if initial application was made in the first node stage.
	Aerial application 750 ml	Apply as above in at least 30 L water/ha.
Powdery mildew (<i>Erysiphe graminis</i>)	Ground application 750 ml	Powdery mildew should not be treated later than the flag leaf stage.
	Aerial application 750 ml	Apply as above in at least 30 L water/ha.
Leaf rust (<i>Puccinia recondita</i>) Glume blotch (<i>Septoria nodorum</i>)	Ground application 750 ml	Apply in at least 300 L water/ha as soon as the first symptoms are noticed up to the flag leaf stage (leaf rust). Glume blotch should be treated from the second node stage to ear emergence. It may be necessary to repeat the application 21 days later especially if the first application was done early.
	Aerial application 900 ml	Apply as above in at least 30 L water/ha.
Speckled leaf blotch (<i>Septoria tritici</i>) Yellow rust (Stripe rust) (<i>Puccinia striiformis</i>)	Ground application 750 ml	Apply in at least 300 L water/ha as soon as the first symptoms are noticed but not later than the flag leaf stage.
	Aerial application 750 ml	Apply as above and repeat application if symptoms re-appear or weather conditions favor disease development. Apply as above in at least 30 L water/ha.



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CROP AND TARGET	DOSAGE/HA (or as indicated)	REMARKS
Stem rust (<i>Puccinia graminis</i>)	Ground application 825 ml	Apply in not less than 300 L water/ha as soon as the first symptoms are noticed. Ensure that all plant parts are thoroughly covered including the stem. Do not apply later than the flag leaf stage. Repeat application if necessary.