

Doepa 250 EC

Reg. No.: L 10060 Act/Wet No. 36 of/van 1947



An emulsifiable concentrate, systemic fungicide for the control of the diseases mentioned on potatoes, tomatoes, citrus and soybeans.

ACTIVE INGREDIENT

Difenoconazole (triazole) 250 g/l

FRAC FUNGICIDE GROUP CODE:

3



WARNING

HAZARD STATEMENTS: Combustible liquid | May be fatal if swallowed and enters airways | Causes skin irritation | Causes serious eye irritation | May damage fertility or the unborn child | May cause reproductive / development damage from repeated oral exposure | May cause organ damage through prolonged or repeated oral exposure at high doses | Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS: Obtain special instructions before use | Do not handle until all safety precautions have been read and understood | Keep away from flames and hot surfaces | Wash hands thoroughly after handling | Do not eat, drink or smoke when using this product.

Registration holder: Green Island Investments (Pty) Ltd.

Co. Reg. No.: 2013/043963/07

P.O. Box 1822, Heidelberg 1438, South Africa

Tel: 078 737 9236

24 HR EMERGENCY NUMBERS

Griffon Poison Information Centre: +27 82 446 8946

24 Hr Transport / Spill emergency no:

(Hazcall24) +27 86 044 4411 (Typhoon Plant Protection)

Distributed by: Typhoon Plant Protection (Pty) Ltd.

Co. Reg. No.: 1998/006156/07, C/O Farm Vlakfontein

Corner of the R23 Benoni Road & R550, Nigel Road

Brakpan District, Heidelberg 1438, Gauteng, South Africa

Tel: 078 737 9236

Net Volume:

ℓ

Expiry Date:

Batch No:

Date of Manufacture:

U.N. No. 3082

**Typhoon**
PLANT PROTECTION

READ LABEL IN DETAIL BEFORE OPENING THE CONTAINER. FOR FULL PARTICULARS, SEE ENCLOSED LEAFLET.
KEEP OUT OF REACH OF CHILDREN AND ANIMALS.



WARNINGS:**Withholding periods:**

Allow the following number of days between last treatment and harvest or use as food or feed:	
Apples and Pears:	14 days
Beans, Maize & Potatoes:	14 days
Soybeans:	18 days
Tomatoes :	7 days

IMPORTANT:

The recommended withholding period between last application and harvest meets local residue requirements, but may not meet export requirements.

HAZARD STATEMENTS:

- Combustible liquid.
 - Harmful if swallowed.
 - Causes serious eye irritation.
 - May damage the unborn child.
 - May be fatal if swallowed and enters airways.
-
- May cause eye damage.
 - Harmful when swallowed inhaled or absorbed through the skin. Can cause sensitisation of skin.
 - Toxic to fish and other aquatic organisms.
 - **Do not** graze or use treated maize as fodder.
 - **FLAMMABLE** – **Do not** store or open container near open flame.
 - Store in a cool place.
 - Store away from food, feed, fertilizer and other agricultural products.
 - Keep out of reach of children, uninformed persons and animals.
 - When tank mixtures with selective grass herbicides are made, slight leaf mottling/scorch may occur but new growth should not be affected.
 - **Re-entry: Do not** enter treated area until spray deposit has dried unless wearing protective clothing.
 - **DOEPA 250 EC** has been tested on the most important commercial cultivars without any phyto toxic effects. More susceptible cultivars may be released in future which need to be tested; for this apply **DOEPA 250 EC** to a limited test area before commercial applications are made.

Aerial application:

Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings.

Do not apply over water bodies and ensure that spray drift will not contaminate areas not under treatment.

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 soil, climatic and storage conditions; quality of dilution water, incompatibility with other substances not indicated on the label and the occurrence of resistance of the disease to the remedy concerned as well as by the method, time and accuracy of application. The registration holder further does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal 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 event of any uncertainty.

PRECAUTIONS:

PRECAUTIONARY STATEMENTS:

- Obtain special instructions before use.
 - **Do not** handle until all safety precautions have been read and understood.
 - Keep away from flames and hot surfaces. No smoking.
 - Wash hands thoroughly after handling.
 - **Do not** eat, drink or smoke when using this product.
-
- **Do not** inhale fumes or spray mist.
 - Avoid skin and eye contact by wearing protective clothing when mixing the product. Should eye contact occur, flush with plenty of water and get medical attention if necessary.
 - Wash with soap and water after use and accidental skin contact as well as contaminated clothing.
 - Wash contaminated clothing after use.
 - **Do not** eat, drink or smoke while mixing or applying the product or before washing hands and face.
 - Avoid drift of spray mist onto other crops, grazing, rivers, dams and areas not under treatment.
 - Clean applicator after use. Dispose of rinsate where it will not contaminate crops, grazing, rivers, dams and boreholes.
 - Rinse empty 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 empty container by perforation and flattening.
 - **Do not** use the empty container for any other purpose.
 - Prevent contamination of food, feeds, drinking water and eating utensils.

Related ingredients:

Substance name (IUPAC)	CAS - No.	Concentration % By weight
Difenoconazole (Active Ingredient)	119446-68-3	25%
Solvent naphtha (petroleum), heavy arom.	64742-94-5	>50%
N-methyl-2-pyrrolidone	872-50-4	<10%

SYMPTOMS OF HUMAN POISONING:

May irritate the eyes and skin.

FIRST AID TREATMENT:

Remove from source of exposure. Wash affected area.

Eye and skin contact: Flush eyes with water for 15 minutes after eye contact.

Wash with soap and water after skin contact.

Should irritation of skin or eyes persist, consult a physician.

Inhalation: Remove to fresh air. Assist breathing if necessary. Get medical attention.

Ingestion: Wash out mouth. Give a spoon of activated charcoal in a glass of water. Get medical attention.

Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN:

Treat symptomatically.

RESISTANCE WARNING:

For resistance management, **DOEPA 250 EC** is a **group code 3 fungicide**. Any weed population may contain individuals naturally resistant to **DOEPA 250 EC** and other **group code 3 fungicides**. The resistant individuals can eventually dominate the disease population if these fungicides are used repeatedly. These resistant weeds may not be controlled by **DOEPA 250 EC** or any other **group code 3 fungicide**.

To delay fungicide resistance:

- Avoid exclusive repeated use of herbicides from the same fungicide group code. Alternate or tank mix with registered products from different fungicide group codes.
 - A spray programme of mixtures or alternations with remedies with a different mode of action may delay resistant strain build-up.
 - Integrate other control methods (chemical, cultural, biological) into disease control programmes.
- For specific information on resistance management, contact the registration holder of this product.

USE RESTRICTIONS

- The uptake and activity of systemic compounds can be reduced when crops are under severe drought and/or nutrient stress conditions. Therefore **do not** apply **DOEPA 250 EC** under such conditions.
- Spray programmes with **DOEPA 250 EC** should commence before disease/s become established.
- **Do not** apply **DOEPA 250 EC** to any crop or situation not mentioned in this instruction leaflet.
- Only apply **DOEPA 250 EC** using an accurate and safe application technique.
- If **DOEPA 250 EC** is used in a tank mix with other recommended products, consideration should be given to the restrictions of those respective products.

GENERAL PROPERTIES

- **DOEPA 250 EC** is a local systemic fungicide with limited acropetal movement.

DIRECTIONS FOR USE: Use only as directed

Mixing Instructions:

- Half-fill the spray tank with suitable water, then add the required amount of **DOEPA 250 EC** to the water in the tank while agitating.
- Fill the spray tank to the desired volume.
- **Do not** use brackish water.
- Should tank mixtures with other products be made, follow the respective manufacturers' label recommendations.
- Tank mixtures must be sprayed out immediately and not allowed to stand in the spray tank.
- Spraying equipment must be thoroughly flushed out at the end of the spraying operation.

Compatibility:

- The compatibility of **DOEPA 250 EC** with other products depends on the formulations of the respective products as well as the quality of the spray water to be used.
- As formulations change from time to time it is recommended that a physical compatibility test be done prior to the tank mixture being made. **DOEPA 250 EC** should be able to mix with **Abamectin, Cartab, Chlorothalonil, Mancozeb, Cyromazine** and **Metalaxyl/ Mancozeb**.

APPLICATION METHODS:

Ground Application:

- Ensure that the equipment is correctly calibrated and is checked regularly during application to ensure even and accurate application.
- **DOEPA 250 EC** can be applied with conventional tractor boom sprayers in 300 to 500 litres water per hectare.
- **Constant agitation throughout the spray operation is essential.**
- Only clean water should be used.

Aerial Application:

Aerial application may only be done by a registered aerial application operator using a registered and correctly calibrated aircraft according to the instructions of SANS 0118 (Aerial Application of Agricultural Remedies).

It is important to 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:

- Use suitable **atomising equipment** (hydraulic nozzles or rotary atomisers) that will produce the desired **droplet size and coverage** of the target area and will ensure the minimum loss of product through drift.
- The operator must use a nozzle set-up that will produce a droplet spectrum with the lowest possible **relative span**.
- All nozzles and **atomisers** should be positioned within the inner 75% of the wingspan to prevent droplets from entering the **wingtip vortices**.
- A minimum **volume** of 30 to 40 litres spray mixture per hectare is recommended. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy nor be held responsible for any adverse effects if this product is applied aurally at a lower volume rate than recommended.
- A droplet coverage of 50 to 70 droplets per cm² must be recovered at the target.
- A droplet spectrum with a VMD of 250 microns is recommended. Ensure that the production of fine droplets, with a VMD less than 150 microns, is restricted to a minimum.
- The height of the spray boom should be maintained at between 3 and 4 metres above the target.
- **Do not** spray when the aircraft is in a climb, at the top of a turn or during a dive or when banking.
- Apply before the crop growth becomes too dense, which will interfere with overall plant coverage.

- The difference between the wet and dry bulb readings as determined by a whirling hygrometer, must not exceed 8°C.
- **Do not** spray under **turbulent**, unstable conditions nor during the heat of the day when rising thermals and downdraughts occur.
- **Do not** spray under temperature **inversion** conditions (spraying in or above the inversion layer).
- **Do not** spray when the **wind speed** exceeds 15 km per hour.

General:

- Ensure that fields are accurately marked and 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.

RECOMMENDATIONS ON CROPS AND DISEASE:

APPLICATION DOSAGE RATES:

CROP AND DISEASE:	APPLICATION RATE:	REMARKS:
CITRUS: Navels, Clementine & Mandarin Navel-end-rot/ Black core rot (<i>A. citri</i>)	40 - 60 mL/100 ℓ water	Apply twice. The first application at 50 % petal drop and the second at 100 % petal drop (when all the petals on the trees in the orchard have dropped).
Mandarin Brown Spot (<i>A. alternata</i>)	40 - 60 mL/100 ℓ water PLUS 200 g/100 ℓ water Mancozeb 80 WP	Apply as a medium cover spray (± 20 litres spray volume per tree, depending on tree size). Use the higher rate on orchards having a history of <i>Alternaria</i> .
CITRUS NOTES:		
• Do not apply additional applications after 100 % petal fall. • Do not apply more than 3 ℓ/ha DOEPA 250 EC per season. • The two DOEPA 250 EC applications are part of a season-long control strategy for <i>Alternaria alternata</i> (brown spot) control.		

(Continued on next page)

APPLICATION DOSAGE RATES: (Continued)

CROP AND DISEASE:	APPLICATION RATE:	REMARKS:
SOYA BEANS Soya bean rust <i>(Phakopsora pachyrhiz)</i>	325 ml/ha	Apply in a preventive programme or when first disease symptoms are noticed. Repeat application 14 to 21 days later. If weather conditions are conducive to disease development (15 to 28°C and high humidity) then use the shorter spray interval. Should the disease develop during flowering or early pod fill, it may be necessary to reapply. It is recommended to add a suitable wetter/spreader to ensure adequate coverage of the crop foliage. Apply in sufficient water to ensure thorough coverage.
POTATOES Early blight <i>(Alternaria solani)</i>	GROUND AND AERIAL APPLICATION 350 - 500 ml/ha + 100 ml/ha wetter	Apply in a protective spray programme at 7 to 14 day intervals. Commence applications immediately before flowering, or earlier if the disease starts to develop, and continue until the plants start to senesce (end of flower drop). Alternatively commence applications when conditions favour the development of the disease. Add 100 ml/ha Polyether- polymethylsiloxane - copolymer or another suitable wetter/spreader at registered rate to ensure adequate coverage of the crop foliage. Do not apply more than two (2) consecutive sprays with DOEPA 250 EC alone before alternating with fungicides with a different mode of action.
TOMATOES Early blight <i>(Alternaria solani)</i>	HIGH VOLUME APPLICATION: 35 ml/100 l water 500 to 2 000 l spray mixture/ha LOW VOLUME APPLICATION: 350 ml/ha	Ensure thorough coverage of the plants. Apply at the first signs of infection or when conditions favour the development of the disease. Do not apply more than 5 times per season. Alternate with fungicides having a different mode of action. Always apply in a "preventive programme." Alternate with DOEPA 250 EC every 7 to 10 days with a suitable broad-spectrum fungicide (e.g., Mancozeb , Chlorthalonil or copper.)

(Continued on next page)

APPLICATION DOSAGE RATES: (Continued)

CROP AND DISEASE:		REMARKS:
APPLES & PEARS Scab (<i>Venturia inaequalis</i>)		Apply DOEPA 250 EC in a programmed spray schedule as a full cover spray to point of run-off or in a concentrated form (4x).
DEVELOPMENT STAGE	SPRAY INTERVAL	HIGH VOLUME DOSAGE RATE /100 ℓ WATER
From green tip and throughout the pre-blossom period:	7 days	6 ml DOEPA 250 EC plus 100 ml Captab 500 SC or Mancozeb (75 WG at rate of 75 g)
During post- blossom period:	10 - 14 days	6 ml DOEPA 250 EC plus 100 ml Captab 500 SC or Mancozeb (75 WG at rate of 75 g)
NOTES:		
• Captab or Mancozeb may be substituted with other suitable broad spectrum contact fungicides. • DOEPA 250 EC is recommended in a protective spray programme in areas where and during periods when conditions are favourable for the development of scab. During December it is recommended to change to a protective contact fungicide spray programme. • When a protective contact fungicide spray programme is followed, DOEPA 250 EC should be applied as a curative treatment within 4 days of the start of an infection period. In such situations use 10 ml DOEPA 250 EC plus 100 ml Captab 500 SC or 75 g Mancozeb (75 WG) per 100 ℓ water. • Curative applications are only recommended when adequate and reliable disease prediction systems are followed.		
High Volume:		
The water volume to be applied per hectare must be calculated according to the Tree Row Volume (TRV) formula: $\ell/\text{ha} = \frac{\text{Tree height} \times \text{Tree diameter} \times 937}{\text{Row width}}$		
This is the water volume required when the trees are in full leaf.		
Use the water volume required per hectare to calculate the amount of DOEPA 250 EC required per hectare.		
The following water requirements per hectare are recommended according to the different growth stages of the tree:		
DEVELOPMENT STAGE	% HV - WATER REQUIREMENT/HA:	
From green tip to ± 30 % blossom:	60 %	
From ± full blossom to ± mid-November:	80 %	
From ± beginning December:	100 %	
Low Volume (4x):		
When DOEPA 250 EC is applied as a low volume spray ensure that the correct amount of product is applied per hectare.		

(Continued on next page)

APPLICATION DOSAGE RATES: (Continued)

CROP AND DISEASE:	APPLICATION RATE:	REMARKS:
BEANS Brown rust (<i>U. appendiculatus</i>)	GROUND APPLICATION: 250 ml/ha every 10 to 14 days OR 325 ml/ha every 18 to 21 days (dry beans) AERIAL APPLICATION: 300 ml/ha every 10 to 14 days (dry beans)	Apply in a protective spray programme. Commence applications at the start of flowering or sooner on highly susceptible cultivars, or at the first signs of disease. Treatments should be applied during periods of active plant growth and the programme should be continued until plants start to senesce. It is recommended to add a suitable wetter/spreader to ensure adequate coverage of the crop foliage. Apply in sufficient water to ensure thorough coverage.
MAIZE & SWEETCORN Grey leaf spot (<i>Cercospora zeae-maydis</i>) Northern leaf blight (<i>Exserohilum turcicum</i>)	AERIAL APPLICATION: 300 ml/ha	Grey Leaf Spot: The first application should be made when disease is present on basal leaves and before symptoms become visible on the three leaves immediately below the cob and before symptoms exceed 2% of the leaf area. Repeat 14 to 21 days later if necessary. Northern leaf blight: Commence spraying at first signs of disease and before 2% of leaf area are infected with disease. Repeat sprays should be made 14 to 21 days later.