

BEFORE USING THIS PRODUCT READ THE LABEL CAREFULLY!

Fungicide



D-ZOLE 250EC

Reg. No. L 7923 Act/Wet No. 36 of/van 1947

3: 10/3/2016- Aug2019

An emulsifiable concentrate fungicide with systemic action for the control of diseases on crops as listed.

'n Emulgeerbare konsentraat swamdoder met sistemiese werking vir die beheer van siektes op gewasse soos aangedui.

ACTIVE INGREDIENT / AKTIEWE BESTANDEEL

difenoconazole (triazole) **250 g/l** difenokonasool (triasool)

FRAC FUNGICIDE GROUP CODE **3** FRAC SWAMDODER GROEPKODE

e

villa 

Registration holder / Registrasiehouer:

Universal Crop Protection (Pty) Ltd.

Co. Reg. No. / Mpy. Reg. Nr. 1983/008184/07

PO Box / Posbus 801, Kempton Park, 1620

Tel: 011 396 2233

Website / Webblad: www.villacrop.co.za

UN Number: 3082

Willow Set & Print 011 394-4486



CAUTION
VERSIGTIG



GEbruiksaanwysings INGESLUIT

VERWYS NA BESONDERHEDE
GEDRUK OP HOUER/SAK

Date formulated:

Formuleringsdatum:

DIRECTIONS FOR USE ENCLOSED

REFER TO DETAILS PRINTED
ON CONTAINER/BAG

Batch number:

Lotnummer:

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UNIVERSAL CROP PROTECTION (PTY) LTD.

Co. Reg. No. 1983/008184/07 Mpy. Reg. Nr.

P.O. Box / Posbus 801, KEMPTON PARK, 1620, Tel. (011) 396 2233

CAUTION / VERSIGTIG**WARNINGS****Withholding periods:**

Minimum time between last application and harvest or feeding:	
Apples and Pears	21 days
Citrus	90 days
Beans	14 days
Grapes	28 days
Groundnuts (fodder)	21 days
Maize (do not graze or use treated maize as fodder)	14 days
Soybeans	18 days
Potatoes	14 days
Tomatoes	7 days

NOTE

ABOVE-MENTIONED WITHHOLDING PERIODS REFER TO COMPLIANCE WITH LOCAL MAXIMUM RESIDUE LIMITS (MRL'S). HOWEVER, IT IS IMPORTANT TO NOTE THAT IMPORT TOLERANCES OF OTHER COUNTRIES MIGHT POSSIBLY BE EXCEEDED. IF THE TREATED CROP WILL BE EXPORTED, FIRST CONSULT THE RELEVANT IMPORTER OR EXPORTING BODY REGARDING THE USE OF THIS PRODUCT, MRL'S AND RECOMMENDED WITHHOLDING PERIODS.

- Handle with care.
- Harmful if swallowed, inhaled or when absorbed through the skin.
- Risk of serious damage to eyes.
- Mild skin irritant.
- Toxic to fish and aquatic organisms.
- Avoid storage temperatures below 10 °C and above 35 °C.
- Store in the original container in a cool, dry, well-ventilated place away from food, seed and feedstuffs, fertilizers and other agricultural remedies.
- Keep out of reach of children, uninformed persons and animals.
- Re-entry: Do not enter treated area 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 or allow drift to contaminate adjacent areas or water sources.

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 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

- Avoid inhalation of the spray mist.
- Avoid eye and skin contact.
- Wear a face shield and rubber gloves when handling the product, preparing the spray mixture and during application.
- Wash with soap and water immediately after use and accidental skin contact.
- Wash contaminated clothing after use.
- In case of eye contamination, rinse the eyes thoroughly with plenty of clean, water for at least 20 minutes, holding the eyelid(s) open. If irritation persists obtain medical assistance immediately.
- Do not eat, drink or smoke whilst mixing and applying the product or before washing hands and face and change of clothing.
- Prevent drift onto other crops, grazing, rivers, dams, boreholes and areas not under treatment or to nearby water sources.
- Thoroughly clean spraying equipment directly after use and dispose of wash water where it will not contaminate food, grazing, boreholes, rivers or dams.
- **TRIPLE RINSE** empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining 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 a third of the volume of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.
- Destroy the container by perforation and flattening and dispose of it in a safe way.
- **Do not** re-use the empty container for any other purpose.
- Prevent contamination of food, feeds, drinking water and eating utensils.

RESISTANCE WARNING

D-ZOLE 250EC is a group code 3 fungicide. Any fungus population may contain individuals naturally resistant to **D-ZOLE 250EC** and any other group code 3 fungicides. The resistant individuals can eventually dominate the fungus population if these fungicides are used repeatedly. These resistant fungi may not be controlled by **D-ZOLE 250EC** or any other group code 3 fungicide.

To delay fungicide resistance:

- avoid exclusive repeated use of fungicides 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 fungicide group code M, refer to applicable individual product labels,
- 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 may be adversely affected when crops experience water related stress and/or fertility stress conditions. It is therefore not advised to apply **D-ZOLE 250EC** during periods of stress. If in doubt, consult Universal Crop Protection (Pty) Ltd. or a distributor.
- Spray programmes with **D-ZOLE 250EC** should be preventative unless mentioned otherwise.
- **As an anti-resistance strategy, it is not recommended to apply D-ZOLE 250EC (or related fungicides) exclusively for prolonged periods during the season.**

DIRECTIONS FOR USE: Only use as indicated.**General properties:**

- **D-ZOLE 250EC** is a local systemic fungicide with limited acropetal movement.
- If applied in a protective spray programme **D-ZOLE 250EC** effectively controls the following diseases: **Brown rust** (*Uromyces appendiculatus*) in beans, **Early leafspot** (*Cercospora arachidicola*), **Late leafspot** (*Cercosporidium personatum*), **Web blotch** (*Phoma arachidicola*) and **Rust** (*Puccinia arachidis*) in groundnuts, **Early blight** (*Alternaria solani*) in potatoes and tomatoes, **Grey leafspot** (*Cercospora zea-maydis*) and **Northern leaf blight** (*Helminthosporium turcicum*) in maize and sweetcorn, **Apple scab** (*Venturia inaequalis*) in apples, **Pear scab** (*V. pirina*) in pears, **Powdery mildew** (*Oidium tuckerii*) in grapes, **Soybean rust** (*Phakopsora pachyrhizi*) on soybeans and **Navel-end-rot / Black core rot** (*Alternaria citri*) and **Brown spot** (*A. alternata*) in citrus.

Compatibility:

- **D-ZOLE 250EC** is compatible with the following fungicides, **Mycoblock 250 SC**, **Detect 400 SC**, **Cozeb 800 WP** and **Captab 500 SC** as indicated in the label recommendations. The compatibility of **D-ZOLE 250EC** in tank mixtures with other products has not been confirmed and can be influenced by the formulations involved, as well as the water quality.
- The compatibility of **D-ZOLE 250EC** with other products may vary. A physical compatibility test must always be performed before such tank mixture is sprayed.
- When **D-ZOLE 250EC** is used in conjunction with any other agricultural remedy, all **WARNINGS**, **PRECAUTIONS** and **DIRECTIONS FOR USE** mentioned on that label, must be adhered to.

Mixing instructions:

- Half fill the spray tank with clean water.
- Shake the **D-ZOLE 250EC** container well before use.
- Add the required quantity of **D-ZOLE 250EC** to the water in the spray tank.
- Agitate well to obtain a homogeneous emulsion.
- Fill the spray tank with water to the required level while maintaining agitation, to ensure thorough mixing.
- Maintain agitation while spraying.
- If a wettable powder is to be sprayed in a mixture with the **D-ZOLE 250EC**:
 - a) pre-cream the wettable powder with clean water,
 - b) add the pre-creamed wettable powder into the spray tank, while ensuring agitation,
 - c) then add the **D-ZOLE 250EC** and
 - d) fill the spray tank with water to the required level.
- Prepared spray mixture must not be left in the spray tank for any length of time, e.g. overnight.

APPLICATION**Ground application:**

- **D-ZOLE 250EC** can be applied with conventional high volume spray equipment.
- It is important that the sprayer be calibrated prior to application to ensure that the correct delivery rate and even distribution of the spray mixture is obtained.
- Apply in 300 to 500 litres water per hectare.
- It is recommended that the nozzles should be fitted with hollow cone tips giving medium to fine droplets.

Aerial application:

Aerial application of **D-ZOLE 250EC** 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 litres per hectare 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 to 35 droplets per cm² must be recovered at the target area.
- Droplet size: A droplet spectrum with a VMD of 280 to 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 to 4 meters 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 to 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 per hour.
- 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),
- 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 & Disease	Dosage rate	Remarks
Apples and Pears Scab (<i>Venturia</i> spp)	Apply D-ZOLE 250EC in a programmed spray schedule as a full cover spray to point of run-off or in a concentrated form (4x).	
Development stage	High volume dosage rate / 100 ℓ water	Spray interval
From green tip and throughout the pre-blossom period	6 ml D-ZOLE 250EC PLUS 100 ml Captab 500 SC OR 100 ml Cozeb 800 WP at a rate of 80 g / 100 ℓ water	7 days
During post-blossom period	6 ml D-ZOLE 250EC PLUS 100 ml Captab 500 SC OR 100 ml Cozeb 800 WP at a rate of 80 g / 100 ℓ water	10 to 14 days
GENERAL REMARKS		
<ul style="list-style-type: none"> Consult the Detect 400 SC, Captab 500 SC and Cozeb 800 WP labels for USE RESTRICTIONS, WARNINGS (including RESISTANCE WARNINGS and WITHHOLDING PERIODS), PRECAUTIONS and DIRECTIONS FOR USE. D-ZOLE 250EC is recommended in a protective spray programme in areas where and during periods when conditions are favorable 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, D-ZOLE 250EC should be applied as a curative treatment within two (2) days of the start of an infection period. In such situations use 10 ml D-ZOLE 250EC PLUS Captab 500 SC OR Cozeb 800 WP at the above indicated rates per 100 litres water OR with 56 ml Detect 400 SC per 100 litres water. Curative applications are only recommended when adequate and reliable disease prediction systems are followed. 		
NOTES REGARDING APPLICATION ON APPLES AND PEARS		
High volume application (HV):		
<ul style="list-style-type: none"> The water volume to be applied per hectare must be calculated according to the Tree Row Volume (TRV) formula: $\text{HV } \ell/\text{ha} = \frac{\text{Tree height} \times \text{Tree diameter} \times 937}{\text{Row width}}$ 		
<ol style="list-style-type: none"> 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 D-ZOLE 250EC required per hectare. The following water requirements per hectare are recommended according to the different growth stages of the tree: 		
Growth stage	% Water volume per hectare with regard to high volume (HV calculated above)	
From green tip to ± 30 % blossom	60 %	
From ± full blossom to ± mid-November	80 %	
From ± beginning December	100 %	
<ul style="list-style-type: none"> Low Volume (4x): When D-ZOLE 250EC is applied as a low volume spray, ensure that the correct amount of product is applied per hectare. 		

Crop & Disease	Dosage rate	Remarks
Beans Brown rust (<i>U. appendiculatus</i>)	Add a Villa approved oil adjuvant to D-ZOLE 250EC . Apply in a protective spray programme, commencing 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 continue until plants start to senescence.	
	250 ml / ha OR 325 ml / ha	Ground application: Apply the lower dosage every 10 to 14 days or the higher dosage every 18 to 21 days in the case of dry beans.
	300 ml / ha	Aerial application: Apply every 10 to 14 days (dry beans).
Citrus (Navels, Clementine and Mandarin) Navel-end-rot / Black core rot (<i>A. citri</i>)	40 to 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). Apply as a medium cover spray (± 20 litres spray volume per tree, depending on tree size).
Mandarin Brown Spot (<i>A. alternata</i>)	40 to 60 ml / 100 ℓ water PLUS 200 g / 100 ℓ water Cozeb 800 WP	Use the higher rate on orchards having a history of <i>Alternaria</i> diseases.
NOTE		
<ul style="list-style-type: none"> Do not apply after 100 % petal fall. Do not apply more than 3.0 litres per hectare D-ZOLE 250EC per season. The two D-ZOLE 250EC applications are part of a season-long control strategy for <i>Alternaria alternata</i> (Brown spot) control. 		
Groundnuts Early leafspot; (<i>C. arachidicola</i>) Late leafspot; (<i>C. personatum</i>) Web blotch & (<i>P. arachidicola</i>) Rust (<i>P. arachidis</i>)	200 ml and 300ml / ha OR 325 ml / ha	Ground application: - Dry land Add a Villa approved oil adjuvant to D-ZOLE 250EC . Commence application at the first signs of disease. Use 300 ml per hectare for the first application and repeat every 10 to 14 days using 200 ml per hectare. Alternatively, apply the 325 ml per hectare dosage rate every 18 to 21 days.
	300 ml / ha OR 400 ml / ha	Ground application: – Irrigation Apply in a protective spray programme, commencing at the start of flowering (10 to 12 weeks after planting) or earlier, when the disease(s) starts to develop. Apply the lower dosage every 10 to 14 days or the higher dosage every 18 to 21 days.
	350 ml / ha	Aerial application: Aerial application is an emergency measure when conditions are unfavourable for ground application. Apply every 2 to 3 weeks on dryland crops and every 10 to 14 days on irrigated crops. All spray programmes should continue until the plants start to senescence naturally.

Crop & Disease	Dosage rate	Remarks
<p>Maize and Sweetcorn Grey leaf spot (<i>Cercospora zeae-maydis</i>)</p> <p>Northern leaf blight (<i>Exserohilum turcicum</i> = <i>Helminthosporium turcicum</i>)</p>	<p>Broadcast Application (Ground & Aerial): Apply D-ZOLE 250EC as part of a spray programme with Mycoblock 250 SC as follows (refer to the Mycoblock 250 SC label):</p> <ul style="list-style-type: none"> Northern leaf blight - apply the first application during the 8- to 10-leaf stage (growth stage 35) of the maize plants. Grey leaf spot - commence with treatment before 3 % of the total leaf surface area exhibit disease symptoms, or if symptoms are observed on the bottom 3 to 5 leaves. A follow-up spray might not be required in the case of <u>short season hybrids</u>, when the first spray was applied after pollination, as it may be sufficient to control the disease. Apply a maximum of two (2) Mycoblock 250 SC applications in the same season. If multiple applications are required to control the disease, the season's last application should be made using a registered fungicide from another chemical group, other than strobilurin (e.g. D-ZOLE 250EC). 	
	<p>400 ml / ha Mycoblock 250 SC</p> <p>FOLLOWED BY</p> <p>300 ml / ha D-ZOLE 250EC PLUS a suitable oil adjuvant</p>	<p>If the first treatment was applied within 21 days before pollination, or in the case of <u>medium to long-season hybrids</u>, apply a follow-up treatment with D-ZOLE 250EC 3 to 5 weeks later.</p>
	<p>2 applications of Mycoblock 250 SC at 300 ml / ha</p> <p>FOLLOWED BY</p> <p>300 ml / ha D-ZOLE 250EC PLUS a suitable oil adjuvant</p>	<p>Sometimes a third application may be required in cases where the first application was made very early. In such a case use Mycoblock 250 SC for the first two applications at 4 to 5 week intervals. Apply the last application 3 to 5 weeks after the second application using D-ZOLE 250EC.</p>
	<p>Row Application:</p> <ul style="list-style-type: none"> In situations where maize is planted at wider row spacing's than 1 meter, e.g. in the Free State and western parts of RSA, row application may be used. For row applications, adjust dosage rates and spray volumes accordingly. The sprayer must be equipped with a tandem fitting of two hollow cone nozzles, mounted on the boom, directed on to each row. Apply in a sufficient volume of water to ensure good coverage of the plants. 	

Crop & Disease	Dosage rate	Remarks
Potatoes Early blight (<i>A. solani</i>)	175 ml / ha OR 250 ml / ha OR 350 ml / ha	Ground and Aerial application: Add a Villa approved oil adjuvant to D-ZOLE 250EC . Apply in a protective programme. Commence applications immediately before flowering (or earlier if the disease starts to develop) and continue until the plants start to senescence (end of flower drop). Apply the 175 ml per hectare dosage weekly, or the 250 ml per hectare dosage every 10 days, or the 350 ml per hectare dosage every 2 weeks.
Soybeans Soybean rust (<i>P. pachyrhizi</i>)	325 ml / ha	Apply at the first signs of disease and repeat 2 to 3 weeks later. If weather conditions favour disease development (temperatures of 15 to 28 °C and high humidity) use the shorter interval. If the disease appears during flowering or early pod-fill, more than one spray may be necessary. Should disease appear late in the growing season, a single application will be sufficient. Ensure thorough coverage of the whole plant.
Table and Wine Grapes Powdery mildew (<i>O. tuckerii</i>)	125 ml / ha	Apply every 14 days in a spray programme as a full cover spray to the point of run-off. Commence spraying when the first shoots are 100 to 250 mm long and repeat the treatment at intervals as indicated. Do not apply more than 4 treatments per season. The last application must not be later than bunch closure (berry touch completed). Always ensure thorough coverage.
NOTE		
<ul style="list-style-type: none"> For wine grapes increase the spray volume progressively, from 250 litres per hectare to reach 1000 litres per hectare at pea-berry stage and repeat at this rate throughout the rest of the season. For table grapes the spray volume should be increased progressively from 500 litres per hectare to 1200 litres per hectare Do not exceed the spray interval. 		
Tomatoes Early blight (<i>A. solani</i>)	35 ml / 100 l water	High volume: Apply at 500 to 2000 litres spray mixture per hectare.
	350 ml / ha	Low volume: Mistblower application.
NOTE		
<ul style="list-style-type: none"> For low Early blight pressure areas where other diseases are not a problem: <ul style="list-style-type: none"> Apply D-ZOLE 250EC at 14-day intervals. For moderate to heavy Early blight pressure areas and/or where other diseases need to be controlled: <ul style="list-style-type: none"> Alternate weekly between D-ZOLE 250EC and a suitable broad-spectrum fungicide (e.g., Mancozeb, Chlorothalonil or Copper). Commence applications from the flowering stages (about 8 weeks after transplant) or earlier if the disease already started developing. Continue with D-ZOLE 250EC into the picking stages (16 to 20 weeks after transplant) applying a maximum of eight (8) D-ZOLE 250EC applications per season. During the pre-flowering stages and after the D-ZOLE 250EC treatments are discontinued, apply a suitable broad-spectrum fungicide. Ensure complete coverage of the entire plant mass with spray mixture at all times. D-ZOLE 250EC does not control Late blight (<i>Phytophthora infestans</i>). 		

The following products mentioned in this label can be replaced with the following equivalent products:

- MYCOBLOCK 250 SC** (L 8591) = **STROBIN 250 SC** (L 8625) (**Azoxystrobin**),
- DETECT 400 SC** (L 9238) = **INSPECT 400 SC** (L 9182) = **EXPOSE 400 SC** (L 9511) (**Dithianon**)
and
- COZEB 800 WP** (L 7098) = **VILLA UNIZEB 800 WP** (L 8056 / N-AR 1091) = **NEWZEB 800 WP** (L 8167) (**Mancozeb**).

MYCOBLOCK 250 SC, COZEB 800 WP and/en DETECT 400 SC are registered products of / is
geregistreeerde produkte van
Universal Crop Protection (Pty) Ltd.

INSPECT 400 SC and/en VILLA UNIZEB 800 WP are registered products of / is geregistreeerde
produkte van
Villa Crop Protection (Pty) Ltd.

NEWZEB 800 WP, STROBIN 250 SC and/en EXPOSE 400 SC are registered products of / is geregistreeerde
produkte van
Cropasure (Pty) Ltd.