

Read the label before opening the container.

For full particulars, see enclosed leaflet.

KEEP OUT OF REACH OF CHILDREN AND ANIMALS

DIFENCE

South Africa Reg. No: L7922 Act No. 36 of 1947

FRAC FUNGICIDE GROUP CODE: 3

An emulsified concentrate systemic fungicide for the control of diseases on crops as indicated.

ACTIVE INGREDIENT:

Difenoconazole (triazole).....250g/ℓ

Product Information: 072 678 8226
In case of poisoning: 082 446 8946

HAZARD STATEMENTS

- Combustible liquid
- May be fatal if swallowed and enters airways
- Causes skin irritation
- Causes serious eye damage
- May cause respiratory irritation
- May cause drowsiness or dizziness
- May cause damage to organs through prolonged or repeated exposure
- Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENTS

- Do not eat, drink, or smoke when using this product.
- Dispose of content/container to suitable landfill in accordance with local regulations.



DANGER

enviro
bio-chem

Registration holder: Erintrade CC t/a RT Chemicals

Co. Reg. No: CK2001/036403/23

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Web: www.envirobiochem.co.za

Expiry Date:

Batch No:

Date of Manufacture:

UN No. 3082

WARNINGS:

- Allow the following number of days between last application and harvest or feeding:

Apples and Pears	14 days
Beans	14 days
Canola	30 days
Citrus	90 days
Grapes	28 days
Groundnuts (fodder):	21 days
Maize:	14 days (Do not graze or use treated maize as fodder.)
Potatoes:	14 days
Soybeans	18 days
Tree Nuts	45 days

(Almonds, Cashew, Chestnut, Hazelnut, Macadamia, Pecan, Pistachio, Walnut)

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- Causes skin irritation
- Causes serious eye damage
- May cause respiratory irritation
- May cause drowsiness or dizziness
- May cause damage to organs through prolonged or repeated exposure
- Very toxic to aquatic life with long lasting effects
- Keep out of reach of children, uninformed persons and animals.
- Store in the original container under lock and key, tightly closed and away from sun and damp in a well ventilated cool area. Avoid storage temperatures below 10°C and above 35°C.
- Store away from food and feed.
- Toxic to fish.
- Prevent contamination of dams, rivers and any water body.
- **FLAMMABLE:** Keep away from heat and flame.
- Re-entry: Do not enter the treated field until the 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 warning. Do not spray over or allow drift to contaminate water of adjacent areas.

Although this fungicide 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 effected by factors such as abnormal soil, climatic and storage conditions; quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of the pest against the remedy concerned as well as by the method, time and accuracy of the application. The registration holder furthermore 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:

- Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
- Keep container tightly closed
- Avoid breathing mist, vapours and spray.
- Wash hands, forearms, and face thoroughly after handling
- Do not eat, drink, or smoke when using this product.

- Use only outdoors in a well-ventilated area.
- Avoid release to the environment.
- Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
- In case of accidental contact with eyes, wash with clean water for at least 15 minutes.
- After use and in case of accidental skin contact, wash thoroughly with soap and water.
- Take off contaminated clothing and wash it before reuse.
- Prevent contamination of food, feedstuff, eating utensils and drinking water.
- Prevent drift of spray mist onto other crops, grazing, rivers, dams or areas not under treatment.
- Triple rinse empty container in the following manner: 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 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 content of the spray tank. Empty containers should be taken for local recycling or waste disposal. Do not re-use empty containers.

RELEVANT SUBSTANCES:

Difenoconazole 26%

Cyclohexanone <10%

Calcium dodecylbenzene sulfonate <5%

Xylene <70%

FIRST AID TREATMENT:

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

RESISTANCE WARNING:

For resistance management **DIFENCE** is a group code 3 fungicide. Any fungus population may contain individuals naturally resistant to **DIFENCE** and other group code 3 fungicides. The resistant individuals can eventually dominate the fungus population if these fungicides are used repeatedly. **DIFENCE** or any other group code 3 fungicide may not control these resistant fungi.

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.
- 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 reduced when crops are under any form of stress such as drought or nutrient stress conditions. It is therefore not advisable to apply **DIFENCE** during such periods. If in doubt, consult a representative of Enviro Bio-Chem. Spray programmes with **DIFENCE** should be preventative unless mentioned otherwise.

General Properties:

DIFENCE is a local systemic fungicide with limited acropetal movement. When applied in a protective spray programme **DIFENCE** effectively controls brown rust (*Uromyces appendiculatus*) in beans, early leaf spot (*Cercospora arachidicola*), late leaf spot (*Cercosporidium personatum*), web blotch (*Phoma arachidicola*) and rust (*Puccinia arachidis*) in groundnuts; early blight (*Alternaria solani*) in potatoes; and grey leaf spot (*Cercospora zeae-maydis*) and northern leaf blight (*Helminthosporium turcicum*) in maize; navel-end-rot/black core rot (*A. citri*) and brown spot (*A. alternata*) in citrus; apple scab (*Venturia inaequalis*) in apples; pear scab (*V.pirina*) in pears, powdery mildew (*Oidium tuckerii*) in grapes; husk spot (*Pseudocercospora macadamiae*) in tree nuts; leaf and pod spots (*Alternaria spp.*) and stem canker (*Phoma lingam*) in canola; soybean rust (*Phakopsora pachyrhizi*) in soybeans.

DIRECTIONS FOR USE: Use only as directed.

Compatibility:

The compatibility of DIFENCE with other products may be influenced by the formulation of the products involved as well as the quality of the water. A physical compatibility test should always be carried out prior to application. DIFENCE is compatible with commonly used fungicides, insecticides and foliar feeds normally used on the various crops for which DIFENCE is registered. In potatoes, DIFENCE can be tank mixed with ABAMEC PLUS (Reg. No: L5888), captab, chlorothalonil, mancozeb, cyromazine, SELEFOS (Reg. No: L6950) and CONTROLLER (Reg. No: L6783).

Mixing Instructions:

Replace cap after pouring.

Add the required amount of DIFENCE to the water in the spray tank. Stir constantly while mixing. When a wettable powder is sprayed as a tank mix with DIFENCE, the wettable powder should be mixed first and well agitated after which the DIFENCE is added and the spray tank filled to its final volume.

Ensure thorough agitation of the mixture in the spray tank during mixing and spraying.

Mixtures must be sprayed out immediately and not allowed to stand in the spray tank.

APPLICATION TECHNIQUES:

Ground application:

Apply in 300 to 500ℓ water per hectare.

DIFENCE may be applied using conventional high volume spray equipment. Nozzles should be fitted with hollow cone tips giving medium to fine droplets. Calibrate apparatus before application to ensure that the correct dosage rate per hectare is applied. The distribution of the spray mixture should be uniform throughout the target area.

Aerial Application:

Aerial application of DIFENCE may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SABS 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 30ℓ/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 aurally 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 microns is recommended. Limit the production of fine droplets less than 150 microns (high drift and evaporation potential) to a minimum.
- **Flying height:** Maintain the height of the spray boom at 3 to 4 metres above the target. Do not spray when aircraft dives, is in a climb 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 15km/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:
 - reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
 - 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 RECOMMENDATIONS:

DISEASE/CROP	DOSAGE	REMARKS
<p>APPLES & PEARS</p> <p>Scab (<i>Venturia inaequalis</i>)</p>	<p>HIGH VOLUME 6mℓ DIFENCE plus 100mℓ Captab 500 SC or Mancozeb (75 WG at a rate of 75g) /100ℓ water</p>	<p>Apply DIFENCE in a programmed spray schedule as a full cover spray to point of run-off or in a concentrated form (4x).</p> <p>DEVELOPMENT STAGE From green tip and throughout the pre-blossom period: Apply DIFENCE at 7 day intervals.</p> <p>During post-blossom period: Apply DIFENCE at 10 – 14 day intervals.</p> <p>Captab or Mancozeb may be substituted with other suitable broad spectrum contact fungicides.</p> <p>DIFENCE 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.</p> <p>When a protective contact fungicide spray programme is followed, DIFENCE should be applied as a curative treatment within four (4) days of the start of an infection period. In such situations use 10mℓ DIFENCE plus 100mℓ Captab 500 SC or 75g Mancozeb (75 WG) per 100ℓ water.</p> <p>Curative applications are only recommended when adequate and reliable disease prediction systems are followed.</p> <p>HIGH VOLUME The water volume to be applied per hectare must be calculated according to the Tree Row Volume (TRV) formula*.</p> $\ell/\text{ha} = \frac{\text{Tree height} \times \text{Tree diameter} \times 937}{\text{Row width}}$ <p>* Unrath C.R. 2002. Spray volume, canopy density and other factors involved in thinner efficacy. HortScience 37 (3). P. 481 – 483.</p> <p>This is the water volume required when the trees are in full leaf.</p> <p>Use the water volume required per hectare to calculate the amount of DIFENCE required per hectare.</p>

DISEASE/CROP	DOSAGE	REMARKS								
<p>APPLES & PEARS</p> <p>Scab (<i>Venturia inaequalis</i>)</p>		<p>The following water requirements per hectare are recommended according to the different growth stages of the tree:</p> <table> <thead> <tr> <th>GROWTH STAGE</th> <th>%HV – WATER REQUIREMENT/HA</th> </tr> </thead> <tbody> <tr> <td>From green tip to ± 30 % blossom</td> <td>60%</td> </tr> <tr> <td>From ± full blossom to ± mid-November</td> <td>80%</td> </tr> <tr> <td>From ± beginning December</td> <td>100%</td> </tr> </tbody> </table>	GROWTH STAGE	%HV – WATER REQUIREMENT/HA	From green tip to ± 30 % blossom	60%	From ± full blossom to ± mid-November	80%	From ± beginning December	100%
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<p>LOW VOLUME (4X) When DIFENCE is applied as a low volume spray, ensure that the correct amount of product is applied per hectare.</p>										
<p>BEANS</p> <p>Brown rust (<i>Uromyces appendiculatus</i>)</p>	<p>GROUND APPLICATION 250mℓ/ha every 10 – 14 days OR 325mℓ/ha every 18 – 21 days (dry beans)</p> <p>AERIAL APPLICATION 300mℓ/ha every 10 – 14 days (dry beans)</p> <p>Add 100mℓ/ha Polyether – polymethylsiloxane – copolymer 1000g/ℓ</p>	<p>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.</p>								
<p>CANOLA</p> <p>Leaf and pod spots (<i>Alternaria spp.</i>)</p> <p>Stem canker (<i>Phoma lingam</i>)</p>	<p>GROUND APPLICATION 500mℓ/ha</p>	<p>Apply in a protective spray programme.</p> <p>For leaf and pod spot control, commence application at the end of flowering or at the first signs of disease.</p> <p>For stem canker control, apply after the 4 expanded true leaf stage when disease symptoms first occur. Repeat if foliar disease symptoms develop again. DO NOT apply more than two (2) sprays per season.</p>								

DISEASE/CROP	DOSAGE	REMARKS
<p>CITRUS</p> <p>Navals, Clementine and Mandarin</p> <p>Naval-end-rot/Black core rot (<i>Alternaria citri</i>)</p> <p>Mandarin: Brown spot (<i>Alternaria alternata</i>)</p>	<p>GROUND APPLICATION 40 – 60mℓ/100ℓ water</p> <p>PLUS</p> <p>200g/100ℓ water Mancozeb 80 WP</p>	<p>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).</p> <p>Apply as a medium cover spray (\pm 20 ℓ spray volume per tree, depending on tree size).</p> <p>Use the higher rate on orchards having a history of <i>Alternaria</i>.</p> <p>Do not apply additional applications after 100 % petal fall.</p> <p>Do not apply more than 3 ℓ/ha DIFENCE per season.</p> <p>The two DIFENCE applications are part of a season-long control strategy for <i>Alternaria alternata</i> (brown spot) control.</p>
<p>SOYBEANS</p> <p>Soybean rust (<i>Phakopsora pachyrhizi</i>)</p>	<p>GROUND APPLICATION 325mℓ/ha</p>	<p>Apply at first signs of disease and repeat 14 – 21 days later. If weather conditions favour disease development (temperatures of 15 – 28 °C and high humidity) use 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.</p> <p>Ensure thorough coverage of the whole plant.</p>
<p>MAIZE & SWEETCORN</p> <p>Grey Leaf Spot (<i>Cercospora zeae-maydis</i>) & Northern Leaf Blight (<i>Helminthosporium turcicum</i>)</p>	<p><u>Aerial Application:</u> 300mℓ/ha</p>	<p><u>Grey leaf spot:</u> Commence spraying when disease is present on the lower leaves and before symptoms show on the three leaves immediately below the cob and before symptoms exceed 2% of leaf area. Repeat applications may be necessary 14 to 21 days later.</p> <p><u>Northern leaf blight:</u> Commence spraying at first signs of disease and before 2% of leaf area is infected with the disease. Repeat sprays should be made 14 to 21 days later.</p>
<p>GROUNDNUTS</p> <p>Early Leaf Spot (<i>Cercospora arachidicola</i>), Late Leaf Spot (<i>Cercosporidium personatum</i>), Web Blotch (<i>Phoma arachidicola</i>) & Rust (<i>Puccinia arachidis</i>)</p>	<p><u>Ground Application - Dryland:</u> 300mℓ & 200mℓ/ha</p> <p>Apply 300mℓ/ha for the first application, and repeat every 10 to 14 days using 200mℓ/ha OR 325mℓ/ha every 18 to 21 days</p> <p><u>Irrigation:</u> 300mℓ/ha every 10 to 14 days OR 400mℓ/ha every 18 to 21 days.</p>	<p>Commence application at the first signs of disease. All spray programmes should continue until the plants start senescence naturally.</p> <p>Add 0.15 % BOOSTER OIL; 150mℓ/100ℓ water (Reg. No: L6148) to the DIFENCE spray mix.</p> <p>Apply in a protective spray programme. Commence applications at the start of flowering (10 to 12 weeks after planting) or earlier, if the disease(s) starts to develop.</p>

DISEASE/CROP	DOSAGE	REMARKS
<p>GROUNDNUTS</p> <p>Early Leaf Spot (<i>Cercospora arachidicola</i>), Late Leaf Spot (<i>Cercosporidium personatum</i>), Web Blotch (<i>Phoma arachidicola</i>) & Rust (<i>Puccinia arachidis</i>)</p>	<p><u>Aerial Application:</u> 350mℓ/ha</p>	<p>Aerial application are recommended as an emergency measure when conditions are unfavourable for good application. Apply every 14 to 21 days on dryland crops and every 10 to 14 days on irrigated crops.</p>
<p>TREE NUTS (Almonds, Cashew, Chestnut, Hazelnut, Macadamia, Pecan, Pistachio and Walnut)</p> <p>Husk spot (<i>Pseudocercospora spp.</i>)</p>	<p>GROUND APPLICATION 50mℓ/100ℓ water</p>	<p>Use in protectant program containing fungicides with different modes of action. Commence fungicide applications at nut set with applications at three to four (3 – 4) week intervals. Apply a maximum of two (2) applications of DIFENCE per season. Ensure thorough spray coverage. Apply with a suitable adjuvant.</p>
<p>POTATOES</p> <p>Early Blight (<i>Alternaria solani</i>)</p>	<p><u>Ground & Aerial Application:</u> 175mℓ/ha every 7 days OR 250mℓ/ha every 10 days OR 350mℓ/ha every 14 days</p>	<p>Add 0.15 % BOOSTER OIL; 150mℓ/100ℓ water (Reg. No: L6148) to the DIFENCE spray mix.</p> <p>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 senesce (end of flower drop).</p>
<p>REMARKS: Alternate every 7 days between DIFENCE and a suitable broad spectrum fungicide (e.g. mancozeb, chlorothalonil or copper). Commence applications during the flowering stages (about 8 weeks after transplant) or earlier if the disease starts to develop. Continue with DIFENCE into the picking stages (16 to 20 weeks after transplanting) applying a maximum of 8 DIFENCE applications per season. During the pre-flowering stages and after the DIFENCE treatments are discontinued, apply a suitable broad spectrum fungicide.</p> <p>Ensure complete coverage of the entire plant mass with spray mixture at all times.</p> <p>DIFENCE does not control late blight (<i>Phytophthora infestans</i>).</p>		

DISEASE/CROP	DOSAGE	REMARKS
<p>TABLE AND WINE GRAPES</p> <p>Powdery mildew (<i>Oidium tuckerii</i>)</p>	<p>GROUND APPLICATION 12mℓ/100ℓ water every 14 days</p>	<p>Apply in a spray programme as a full cover spray to the point of run-off.</p> <p>Commence spraying when the first shoots are 100 – 250mm long and repeat the treatment at intervals as indicated.</p> <p>DO NOT APPLY MORE THAN FOUR (4) TREATMENTS PER SEASON. THE LAST APPLICATION SHOULD BE NO LATER THAN BUNCH CLOSURE (Berry touch completed).</p> <p><u>Ensure thorough coverage at all times.</u></p> <p>For wine grapes increase the spray volume progressively, from 250ℓ/ha to reach 1 000ℓ/ha at pea berry stage and repeat at this rate throughout the rest of the season.</p> <p>For table grapes the spray volume should be increased progressively from 500ℓ/ha to 1 200ℓ/ha.</p> <p>DO NOT EXCEED THE SPRAY INTERVAL.</p> <p>IT IS RECOMMENDED TO SUPPLEMENT THE DIFENCE SPRAY PROGRAMME WITH SULFUR 800 G/KG TWO TO THREE (2 – 3) TIMES DURING THE SEASON.</p>

The following registrations under Act No. 36 of 1947 are acknowledged:

Abamec Plus: contains abamectin; Reg. No: L5888, RT Chemicals CC.

Booster Oil: spreader and sticker; Reg. No: L6148, RT Chemicals CC.

Controller: contains cymoxanil and mancozeb; Reg. No: L6783, RT Chemicals CC.

Selefos: contains profenophos; Reg. No: L6950, RT Chemicals CC.