

BEFORE USING THIS PRODUCT READ THE LABEL CAREFULLY!

SHAKE THE BOTTLE WELL BEFORE USE

Fungicide



ARIA 188 SC

Reg. No. L 7943 Act/Wet No. 36 of/van 1947

3: 19/3/2014 – May 2017

*A suspension concentrate systemic fungicide mixture for the control of Grey leaf spot and Northern leaf blight in maize and sweetcorn, Early leaf spot, Late leaf spot, Web blotch, Rust and Grey mould in groundnuts, Early blight in tomatoes and potatoes and Leaf spot in chicory, as well as Northern leaf blight on sorghum.*

*'n Suspendie konsentraat sistemiese swamdodermengsel vir die beheer van Grysblaarvlek en Noordelike blaarskroei op mielies en suikermielies, Vroeë- en Laatblaarvlek, Spatselvlek, Bruinroes en Grysskimmel op grondbone, Vroeë roes op tamaties en aartappels en Blaarvlek op sigorei, sowel as Noordelike blaarskroei op sorghum.*

**ACTIVE INGREDIENTS / AKTIEWE BESTANDELE**

carbendazim (benzimidazole) **125 g/l** karbendasim (bensimidasool)  
difenoconazole (triazole) **62.5 g/l** difenokonasool (triasool)

FRAC FUNGICIDE GROUP CODE **1** FRAC SWAMDODER GROEPEKODE

FRAC FUNGICIDE GROUP CODE **3** FRAC SWAMDODER GROEPEKODE

5 l

**villa**

Registration holder / Registrasiehouer:

Villa Crop Protection (Pty) Ltd.

Co. Reg. No. / Mpy. Reg. Nr. 1992/002474/07

PO Box / Posbus 10413, Aston Manor, 1630

Tel: 011 396 2233

Website / Webblad: [www.villacrop.co.za](http://www.villacrop.co.za)

UN Number: 3082

Willow Set & Print 011 394-4486



CAUTION  
VERSIGTIG



GERUUKSAANWYSYNGS INGESLUIT

VERWYS NA BESONDERHEDE  
GEDRUK OP HOUER/SAK

Date formulated:

Formuleringsdatum:

DIRECTIONS FOR USE ENCLOSED

REFER TO DETAILS PRINTED  
ON CONTAINER/BAG

Batch number:

Lotnommer:

**ARIA 188 SC**

Reg. No. L 7943 Act/Wet No. 36 of/van 1947

FRAC FUNGICIDE GROUP CODE / FRAC SWAMDODER GROEPKODE: 3

FRAC FUNGICIDE GROUP CODE / FRAC SWAMDODER GROEPKODE: 1

**ACTIVE INGREDIENTS / AKTIEWE BESTANDELE:**

carbendazim (benzimidazole) / karbendasim (bensimidasool) .....125 g/l  
 difenoconazole (triazole) / difenokonasool (triasool) .....62.5 g/l

Registration holder / Registrasiehouer:

**VILLA CROP PROTECTION (PTY) LTD.**

Co. Reg. No. 1983/002474/07 Mpy. Reg. Nr.

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

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

Allow the following number of days between the last application and harvest of the crops listed below:	
Chicory	85 days
Groundnuts (fodder)	21 days
Maize	14 days
Potatoes	14 days
Sorghum & Sweetcorn	28 days
Tomatoes	7 days

- Do not graze treated maize and sorghum fields or use treated maize and sorghum as fodder.
- Harmful if swallowed, inhaled or absorbed through the skin.
- Toxic to aquatic organisms.
- Prevent water contamination.
- Harmful to animals.
- Store in the original, tightly closed containers away from sun and damp, in a well-ventilated area. Avoid temperatures below -5° C and above 25° C.
- Store away from food and feeds.
- 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 or allow drift to contaminate water or adjacent 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 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 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**

- Wear suitable gloves and face protection when handling the concentrate.
- Avoid inhalation of the spray mist.
- Avoid contact with skin, eyes or clothing.
- Wash with soap and water after use and after 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. Obtain medical assistance immediately.
- Do not eat, drink or smoke whilst mixing or applying the product or before washing hands and face and change of clothing.
- Prevent drift onto other crops, grazing, rivers, dams or areas not under treatment or nearby water sources.
- Clean applicator after use. Dispose of rinsate where it will not contaminate crops, grazing, rivers, dams and boreholes.
- **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 that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.
- Destroy the empty container by perforation and flattening and dispose of it in a safe way.
- **Never** re-use the empty container for any other purpose.
- Prevent contamination of food, feeds, drinking water and eating utensils.

### **RESISTANCE WARNING**

**ARIA 188 SC** is a group code 1 and 3 fungicide. Any fungus population may contain individuals naturally resistant to **ARIA 188 SC** and other group code 1 and 3 fungicides. The resistant individuals can eventually dominate the fungus population if these fungicides are used repeatedly and exclusively in programmes. These resistant fungi may not be controlled by **ARIA 188 SC** or any other group code 1 and 3 fungicides.

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,
- refer to individual product labels when alternating products or when using tank mixtures with products in fungicide groups 7, 27, 28, 29, 30 and M,
- 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 severe water stress and/or nutrient deficiencies. It is therefore not advisable to apply **ARIA 188 SC** during such periods of stress. If in doubt, consult a representative of **Villa Crop Protection (Pty) Ltd.** or the distributor.
- Spray programmes with **ARIA 188 SC** should be initiated before the disease(s) become established.

### **GENERAL PROPERTIES**

**ARIA 188 SC** is a systemic fungicide containing two components: **Difenoconazole**, a DMI fungicide with strong translaminar and limited acropetal movement, and **Carbendazim**, a MBC fungicide with acropetal movement. When applied in a protective spray programme **ARIA 188 SC** effectively controls **Grey leaf spot** (*Cercospora zea-maydis*) and **Northern leaf blight** (*Helminthosporium turcicum*) in maize and sweetcorn, **Early leaf spot** (*Cercospora arachidicola*), **Late leaf spot** (*Cercosporidium personatum*), **Web blotch** (*Phoma arachidicola*), **Rust** (*Puccinia arachidis*), **Grey mould** (*Botrytis cinerea*) in groundnuts, **Early blight** (*Alternaria solani*) in tomatoes and potatoes and **Leaf spot** (*Cercospora cichorii*) in chicory and **Northern leaf blight** (*Exserohilum turcicum*) on sorghum.

### **DIRECTIONS FOR USE: Use only as directed.**

#### **Compatibility:**

**ARIA 188 SC** is compatible with **Mycoblock 250 SC** and **Villa 51**.

The compatibility of **ARIA 188 SC** with other products may be influenced by the formulation of the products involved, as well as the quality of the water. Since the formulation of other products may change without the knowledge of **Villa Crop Protection (Pty) Ltd.** and the quality of water may vary from farm to farm, a physical compatibility test should always be carried out prior to application. **Do not** mix with products containing copper.

**Mixing instructions:**

- Replace the cap after use.
- Add the required amount of **ARIA 188 SC** to the water in the spray tank. Stir constantly while mixing. When a wettable powder is sprayed as a tank mix with **ARIA 188 SC**, the wettable powder should be mixed first and well agitated, after which **ARIA 188 SC** is added and the spray tank filled to its final volume.
- Ensure thorough agitation of the mixture in the tank during mixing and spraying.
- Spray mixtures must be sprayed out immediately and not allowed to stand in the spray tank.

**APPLICATION TECHNIQUES****Ground application:**

**ARIA 188 SC** may be applied using conventional high volume spray equipment. Nozzles should be fitted with hollow cone tips, giving medium to fine droplets. Calibrate the apparatus before application, to ensure that the correct dosage per hectare is applied. The distribution of the spray mixture should be uniform, throughout the target area.

**Aerial application:**

Aerial application of **ARIA 188 SC** 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 20 to 40 litres per hectare is recommended, depending on atomiser used (refer below under **APPLICATION RATES**). 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 cm<sup>2</sup> 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 in a climb, at the top or during a dive, or when banking.
- Use suitable atomising equipment (hydraulic nozzles or rotary atomizers) 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:
  - 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 RATES**

<b>Crop and Disease</b>	<b>Dosage rate</b>	<b>Remarks</b>
<b>Groundnuts</b> Early leaf spot ( <i>C. arachidicola</i> ), Late leaf spot ( <i>C. personatum</i> ), Web blotch ( <i>P. arachidicola</i> ), Rust ( <i>P. arachidis</i> ) & Grey mould ( <i>B. cinerea</i> )	1 to 1.2 ℓ / ha  <b>PLUS</b>  a suitable wetter / penetrating adjuvant	<b>Ground and Aerial application:</b> Apply in a protective programme at 2-week intervals. Apply the first spray during the flowering stage, or earlier if diseases start to develop. Use sufficient water, to ensure complete coverage. Apply the higher dosage rate when <i>Phoma</i> and/or <i>Botrytis</i> disease pressure is very high. <ul style="list-style-type: none"> <li>• Aerial application is <b>only</b> recommended for emergency situations, when conditions are not favourable for ground application.</li> <li>• <b>Only</b> ground application is recommended for the control of Grey mould.</li> </ul>
<b>Potatoes</b> Early blight ( <i>A. solani</i> )	1.2 ℓ / ha  <b>PLUS</b>  a suitable wetter / penetrating adjuvant	<b>Ground and Aerial application:</b> Apply in a protective programme at 2-week 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).
<b>Tomatoes</b> Early blight ( <i>A. solani</i> )	140 ml / 100 ℓ water	<b>High volume:</b> Apply at 500 to 2000 litres spray mixture per hectare.
	1400 ml / ha	<b>Low volume:</b> Mistblower application.
<b>NOTES</b> <ul style="list-style-type: none"> <li>• For low Early blight pressure areas and where other diseases are not a problem: Apply <b>ARIA 188 SC</b> at 14-day intervals.</li> <li>• For moderate to heavy Early blight pressure areas and/or where other diseases need to be controlled:               <ul style="list-style-type: none"> <li>- Alternate every 7 days between <b>ARIA 188 SC</b> and a suitable broad-spectrum fungicide (e.g. <b>Mancozeb, Chlorothalonil</b> or <b>Copper</b>).</li> <li>- Commence applications during the flowering stages (about 8 weeks after transplant) or earlier if the disease starts to develop. Continue with <b>ARIA 188 SC</b> into the picking stages (16 to 20 weeks after transplant), applying a <b>maximum</b> of eight (8) <b>ARIA 188 SC</b> applications per season.</li> <li>- During the pre-flowering stages and after the <b>ARIA 188 SC</b> treatments are discontinued; apply a suitable broad-spectrum fungicide.</li> </ul> </li> <li>• Ensure complete coverage of the entire plant mass with spray mixture, at all times.</li> <li>• <b>ARIA 188 SC</b> does <b>not</b> control Late blight (<i>Phytophthora infestans</i>).</li> </ul>		
<b>Chicory</b> Leaf spot ( <i>C.cichorii</i> )	1 to 1.2 ℓ / ha	<b>Ground application:</b> Apply in a protective programme at 2 to 3 week intervals. Apply the first treatment when the first lesions are observed on the leaves. Use sufficient water, to ensure complete coverage. If long wet periods prevail (e.g. rain and heavy fog or dew), use the higher dosage rate with shorter intervals.

Crop and Disease	Dosage rate	Remarks
<p><b>Maize and Sweetcorn</b> Grey leaf spot (<i>C. zea-maydis</i>) &amp; Northern leaf blight (<i>E. turcicum</i>)</p>	<p>1 to 1.2 ℓ / ha</p> <p><b>PLUS</b></p> <p>a suitable wetter / penetrating adjuvant</p>	<p><b>Ground and Aerial application:</b> <b>APPLY ARIA 188 SC AS PART OF AN INTEGRATED DISEASE MANAGEMENT PROGRAMME IN CONJUNCTION WITH MYCOBLOCK 250 SC IN ORDER TO ACHIEVE CONSISTENT AND RELIABLE DISEASE CONTROL. PREVENTIVE FUNGICIDE APPLICATIONS ARE CRITICALLY IMPORTANT.</b></p> <p>Apply the first application of <b>Mycoblock 250 SC</b> at the <b>5 to 6 leaf stage, before any disease symptoms are noticed.</b> Apply <b>ARIA 188 SC</b> 3 weeks later. Under continued high disease pressure conditions, a second application with <b>ARIA 188 SC</b> is recommended, 3 to 4 weeks later.</p> <p>In certain areas/conditions, where low disease presence is expected, apply a single application of <b>Mycoblock 250 SC</b> <b>always in combination with ARIA 188 SC</b> at the 5 to 6 leaf stage. If extended disease control is required, revert back to the above mentioned, follow-up application of <b>Mycoblock 250 SC</b>.</p> <p>Refer to the <b>Mycoblock 250 SC</b> label for detail instructions, <b>WARNINGS, USE RESTRICTIONS</b> and <b>DIRECTIONS FOR USE.</b></p> <p><u>Ground application:</u> Apply as a full cover spray in 300 to 400 litres water per hectare.</p> <p><u>Hand-held Spinning disk applicator:</u> Apply 50 to 70 litres water per hectare.</p> <p><u>Aerial application:</u> Hydraulic nozzles - not less than 40 litres per hectare water volume. Rotary atomiser (e.g. Micronair) - from 20 litres per hectare water volume.</p> <p>Also refer to “<b>APPLICATION TECHNIQUES</b>” above as well as the <b>NOTES</b> below.</p>
<p><b>Sorghum</b> Northern leaf blight (<i>E. turcicum</i>)</p>	<p>1.2 ℓ / ha</p> <p><b>PLUS</b></p> <p><b>Villa 51</b> surfactant (18 ml / 100 ℓ water)</p>	<p>Apply the first <b>ARIA 188 SC</b> application at the <b>5 to 6 leaf stage, before any disease symptoms are noticed.</b> Apply a follow-up application 2 to 3 weeks later.</p> <p><u>Application:</u> Refer to the application instructions as listed for “<b>Maize and Sweetcorn</b>”.</p> <p>Also refer to “<b>APPLICATION TECHNIQUES</b>” above as well as the <b>NOTES</b> below.</p>

**NOTES**

- Northern leaf blight is referred to as *Helminthosporium turcicum*. The name was however changed to *Exserohilum turcicum*, but the teleomorph name, *Setosphaeria turcica*, is currently used. All refer to the same fungal species and disease.
- Cereal diseases are best controlled if fungicide applications are performed preventively. Applications should therefore be performed before infection takes place or when disease incidence is low. The best recommendation would be to spray at the first appearance of disease symptoms.
- The above times of application may not be ideal under all circumstances for cereal diseases, but will be the most effective for the majority of seasons.

- Fungicides should not be applied when plants are under severe drought stress or when high infection is present.

The following product mentioned in this label may be replaced with an equivalent product:

- **VILLA 51** (L 8050 / W 130454 / N-AR 1090) = **WEN 51** (L 8315).

**VILLA 51** and/en **WEN 51** are registered products of / is geregistreeerde produkte van  
**VILLA CROP PROTECTION (PTY) LTD.**

**MYCOBLOCK 250 SC** is a registered product of / is 'n geregistreeerde produk van  
**UNIVERSAL CROP PROTECTION (PTY) LTD.**