

BENEVIA[®] 100 OD

SOUTH AFRICA Registration Number/Registrasie Nommer L10390, Act No. 36 of 1947/Wet 36 van 1947
BOTSWANA Registration Number/Registrasie Nommer W130931
NAMIBIA Registration Number/Registrasie Nommer N-AR1859

READ THE LABEL BEFORE USE
KEEP OUT OF REACH OF CHILDREN AND ANIMALS

GROUP/GROEP	28	INSECTICIDES	INSEKDODERS
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An oil dispersion formulation insecticide used for the control of a range of chewing and sucking insect pests in crops as listed.	'n Olie dispersie formulasie insekdoder vir die beheer van 'n verskeidenheid van kouende en suigende insekplae in gewasse soos aangedui.
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HAZARD STATEMENTS:

May cause an allergic skin reaction.
Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

Prevention:

Avoid breathing mist or vapors.
Wash skin thoroughly after handling.
Avoid release to the environment.
Wear protective gloves.

Response:

If skin irritation or rash occurs: Get medical advice/ attention.
Collect spillage.

WARNING

Active ingredient

cyantraniliprole
(anthranilic diamide) – 100 g/L

Aktiewe bestanddeel

cyantraniliprool
(antraniliese diamied) – 100 g/L

Net Volume

250ml, 1L

Netto Volume

REGISTRATION HOLDER/REGISTRASIEHOUER

FMC Chemicals (Pty) Ltd
Company Registration Number: 1988/001451/07
West End Office Park
Building C
Cnr West Ave & Hall Street
Centurion, 0014
Telephone number: +27 (76) 875 4432
www.ag.fmc.com/za/en

Batch Number

Date of Manufacture

Expiry Date

Printed on Container

Printed on Container

**3 Years from Date of
Manufacture**

Lot Nommer

Datum van Vervaardiging

Vervaldatum

UN Number/VN Nommer

3082

**For any emergency or poisoning contact: Griffon Poison Information
Centre (24 hrs)
Vir enige noodgeval of vergiftiging kontak Griffon vergiftiging
Inligtingsentrum (24 hr)**

+27-(0)-82-446-8946

WARNINGS:

HAZARD STATEMENTS:

May cause an allergic skin reaction.
Very toxic to aquatic life with long lasting effects.

WITHHOLDING PERIODS:

- The following minimum number of days (withholding periods) between last application and harvest must be adhered to:

Potatoes	7 days
Tomatoes	1 day
Tobacco	14 days
- Handle with care.
- This product is not likely to be hazardous by inhalation
- Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
- This product is toxic to aquatic invertebrates.
- This product is toxic to bees exposed to direct treatment on blooming crops or weeds. No application should happen at flowering in order to protect bees. Avoid spray drift on to off-field bee-attractive habitats and beehives.
- Keep out of the reach of children, uninformed persons and animals.
- Store in the closed labelled original container at temperatures not exceeding 25°C away from food and feed. Do not subject to temperatures of 54°C or higher for periods much longer than 2 weeks or below 0°C.
- Use of this material in a manner or at a time other than in accordance with the directions may cause excessive residues.
- **RE-ENTRY:** Do not enter treated area until spray deposit has dried.

The withholding period or pre-harvest interval (PHI), i.e. number of days between last application and harvest, meets local maximum residue limits (MRL's), but may not necessarily meet all those for export crops. Before applying **BENEVIA® 100 OD** consult your local FMC representative, as well as the latest Hortgro lists with MRL information and recommended PHI as published on the Hortgro web site for updated detail on produce intended for export. Maximum Residue Levels (MRLs) and Import Tolerances (ITs) for crops treated with [product] may not be established in some countries.

DISCLAIMER:

Although this product 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 pest 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 and the environment or harm to man or animal or for lack of performance of the product 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 immediately in the event of any uncertainty.

PRECAUTIONS:

PRECAUTIONARY STATEMENTS:

Prevention:

- Avoid breathing mist or vapors.
- Wash skin thoroughly after handling.
- Avoid release to the environment.
- Wear protective gloves.

Response:

- If skin irritation or rash occurs: Get medical advice/ attention.
- Collect spillage.

- Do not inhale spray mist.
- Do not enter treated areas until the sprayed solution has dried.
- Persons in contact with the insecticide should wear protective clothing, (long-sleeved shirts and long pants, shoes with socks and gloves).
- Wash yourself after application of the product.
- Wash contaminated clothing after working with the product.
- In case of eye contact wash immediately with plenty of water.
- In case of ingestion call a physician or poison centre.
- Do not eat, drink or smoke whilst applying or mixing, or before washing hands and face.
- Prevent contamination of feed, food, eating utensils and drinking water.
- **DO NOT APPLY DIRECTLY TO AND PREVENT DRIFT ONTO OTHER EDIBLE CROPS THAN INDICATED ON THE LABEL, GRAZING, RIVERS, DAMS OR OTHER AREAS WHERE SURFACE WATER IS PRESENT AND AREAS NOT UNDER TREATMENT.**
- Clean applicator after use and dispose of wash water where it will not contaminate crops, grazing, food or water.
- **TRIPLE RINSE** the empty container as follows: Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.

FIRST AID MEASURES:

General advice:

- Never give anything by mouth to an unconscious person.

Inhalation:

- No specific intervention is indicated as the compound is not likely to be hazardous.
- If inhaled, remove to fresh air.
- Consult a physician after significant exposure.

Skin contact:

- Take off all contaminated clothing immediately.
- Wash off immediately with soap and plenty of water.
- Wash contaminated clothing before re-use.
- In the case of skin irritation or allergic reactions see a physician.

Eye contact:

- If easy to do, remove contact lens, if worn.
- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- If eye irritation persists, consult a specialist.

Ingestion:

- No specific intervention is indicated as the compound is not likely to be hazardous.
- Not a probable route of exposure.
- However, in case of accidental ingestion, call a physician.
- DO NOT induce vomiting unless directed to do so by a physician or poison control centre.
- If victim is conscious: Rinse mouth with water.

Most important symptoms and effects, both acute and delayed:

Symptoms:

- No cases of human intoxication are known and the symptoms of experimental intoxication are not known.

Skin contact may provoke the following symptoms:

- Sensitising effects

Indication of any immediate medical attention and special treatment needed:

Treatment:

- Treat symptomatically.

RESISTANCE WARNING:

When insecticides with the same mode of action are used repeatedly over several years in the same field, naturally occurring less sensitive strains may survive, propagate and become dominant in that field. An insect is considered resistant to an insecticide if it survives a correctly applied treatment at the recommended dose and timing under normal weather conditions and a validation test with a suitable bioassay confirms the lack of activity. When resistance occurs, recommended rates fail to suppress the pest population below economic thresholds. Development of resistance can be avoided or delayed by alternating or mixing products having different modes of action. For additional information on insect resistance monitoring, visit the Insecticide Resistance Action Committee (IRAC) on the web at (<http://www.irc-online.org>).

BENEVIA® 100 OD is an IRAC Group 28 Insecticide (ryanodine receptor modulator - diamide).

Repeated and exclusive use of **BENEVIA® 100 OD**, may lead to the build-up of resistant strains of insects in some crops. Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, this product may be used as part of resistant management strategies established for the use area. These strategies may include incorporation of cultural and biological control practices, alternation of mode-of-action classes of insecticides on succeeding generations and targeting the most susceptible life stage. Consult your local or area agricultural authorities for details, and follow the recommended IRAC guidance for use of ryanodine receptor modulator – diamide insecticides (<http://www.irc-online.org>).

Best practices for resistance management of Group 28 insecticides include:

- Avoid using the same mode of action (same IRAC group number) on consecutive generations of insect pests.
- **Make no more than 2 applications of BENEVIA® 100 OD, or any other product containing a Group 28 insecticide within a “treatment window”.** The following application to the target pest(s) in the next “treatment window” must be with an effective product with a different mode of action (non-Group 28 insecticide).

A “Treatment Window” is the period of residual activity provided by a single or sequence of product applications with the same mode of action within an approximate 30 day period (15 - 40 days depending on local developmental time from egg to adult). Ideally the “Treatment Window” should approximate the length of a generation of the target pest.

- Avoid using less than the labelled rates of **BENEVIA® 100 OD**, when applied alone or in tank mixtures.
- Target the most susceptible insect life stages, Monitor insect populations for product effectiveness. If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control.
- If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause,

immediately consult your local company representative or agricultural advisor for the best alternate method of control for your area.

For additional information on insect resistance monitoring, visit the Insecticide Resistance Action Committee (IRAC) website (<http://www.irac-online.org>).

INTEGRATED PEST MANAGEMENT

FMC supports the use of Integrated Pest Management (IPM) programs to control pests. This product can be used as part of an IPM program, which include biological, cultural, and genetic practices, aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes-of-action, and treating when target pest populations reach locally determined action thresholds.

BENEFICIAL AND OTHER NON-TARGET INSECTS:

Cyantraniliprole is a product that is highly effective in the control of insects and may cause adverse effects to some non-target organisms and some aquatic invertebrates. To avoid harm, caution must be used in areas where desirable non-target species may be present.

This product is toxic to bees exposed to direct treatment on blooming crops or weeds. According to the standards of Good Agricultural Practices, CYAZYPYR® should not be applied when honeybees are actively foraging.

This product is toxic to silkworms. Do not allow product to drift to silk worm production areas or mulberry orchards. To avoid harm, caution must be used in areas where desirable non-target species may be present.

To comply with Good Agricultural Practices: Do not apply near or directly to water. Do not allow product to drift.

Read and follow the label in its entirety for directions for use and additional precautionary information. Understand and implement Good Agricultural Practices when using this product. Consult your local Extension Agent, Crop Consultant or FMC representative for additional information on Good Agricultural Practices.

DIRECTIONS FOR USE:

USE ONLY AS DIRECTED

GENERAL INFORMATION:

BENEVIA® 100 OD is an insecticide used for the control of chewing and sucking insect pests in a range of crops. Activity on pest insect larvae is primarily by ingestion, but also by contact. The product also shows ovicidal, ovi-larvicidal and adulticide efficacy, depending upon the pest species. Exposure of the pest species typically results in rapid feeding cessation within a few hours of exposure, however the time to death may take 3 to 6 days, depending upon the species.

Monitor insect populations and apply **BENEVIA® 100 OD** according to the label instructions when locally determined economic thresholds are reached. Follow the label recommendations precisely for dosage rates, spray intervals and the optimum timing for application,

BENEVIA® 10 OD can be used on all varieties of the crops that are labelled.

USE OF ADJUVANTS:

The use of Trend 90 or H & R Crop Oil as prescribed under **DIRECTION FOR USE** table can offer enhanced pest control when added to **BENEVIA® 100 OD**. Follow the directions on the manufacturer's label.

MIXING INSTRUCTIONS:

SHAKE THE BOTTLE (CONTAINER) THOROUGHLY BEFORE USE

Prior to application, start with clean, well-maintained application equipment. **BENEVIA® 100 OD** mixes easily with water and should be added directly to the spray tank during filling. Fill spray tank 1/4 to 1/2 full of water. Add **BENEVIA® 100 OD** directly to spray tank. Mix thoroughly to fully disperse the insecticide, continue agitation until spraying is complete.

The ideal pH for the **BENEVIA® 100 OD** spray mixture must be pH 7 or less. It is not recommended to store the spray mixture overnight in the spray tank.

COMPATIBILITY:

BENEVIA® 100 OD should not be mixed with other agrochemicals unless such chemicals are listed on this label.

SPRAY DRIFT MANAGEMENT:

Special care must be taken to avoid spray drifts outside the target area, or onto ponds, waterways or ditches. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavourable environmental conditions. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that a drift is not occurring.

SPRAY TANK CLEANOUT:

Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.

Drain spray equipment. Thoroughly rinse sprayer and flush hoses, boom, and nozzles with clean water. Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local chemicals waste regulations.

RESTRICTIONS:

Do not apply to crops under stress.

APPLICATION

Apply **BENEVIA® 100 OD** as a high volume full cover application with conventional spray equipment which is correctly calibrated to provide thorough coverage of the target crop and correct dosage rate per hectare. In tomatoes **BENEVIA® 100 OD** can be applied either as a high volume full cover application or reduced mistblower application in a minimum of 500 litres spray mixture per hectare.

CROP/PEST	APPLICATION RATE	RECOMMENDATIONS/REMARKS
<p>POTATOES</p> <p>Potato tuber moth (<i>Phthorimaea operculella</i>)</p>	<p>200 ml/ha</p>	<p>PREVENTIVE/EARLY CORRECTIVE APPLICATION</p> <ul style="list-style-type: none"> • Apply BENEVIA® 100 OD in 300–600 l of water per hectare. Good coverage of all foliage is essential. • Apply as soon as the first symptoms of infestation (mines) appear on the leaves or when the presence of moths is observed. The presence of these moths in and around the foliage is normally a good indication that an infestation will take place. • Timing of a subsequent application should be based on regular scouting of potato fields. • A suitable adjuvant applied at the recommended rates should be added to improve coverage. • BENEVIA® 100 OD may be applied in a 7–14 day interval spray programme of two consecutive applications under conditions of continuous re-infestation. Use the shorter interval early in the growth season when plants are growing actively. • A maximum of 2 consecutive applications of BENEVIA® 100 OD should be made to the crop. Further application(s) must be with an effective product with a different mode of action (non-Group 28 insecticide). • See Best practices for resistance management of Group 28 insecticides in the RESISTANCE WARNING section on this label.
<p>POTATOES (continued)</p> <p>Potato leaf miner (<i>Liriomyza huidobrensis</i>)</p>	<p>200 ml/ha</p>	<p>PREVENTIVE/EARLY CORRECTIVE APPLICATION</p> <ul style="list-style-type: none"> • Apply BENEVIA® 100 OD in 300–600 l of water per hectare. Good coverage of all foliage is essential. • Commence BENEVIA® 100 OD applications when the first puncture marks (first signs of infestation) are observed on the leaves. • A suitable adjuvant applied at the recommended rates should be added to improve coverage. • A second application of BENEVIA® 100 OD should be made 7 - 14 days later (Use shorter spray interval under conditions of high infestation pressure or early in the growth season when plants are growing actively). • A maximum of 2 consecutive applications of BENEVIA® 100 OD should be made to the crop. Further application(s) must be with an effective product with a different mode of action (non-Group 28 insecticide). • See Best practices for resistance management of Group 28 insecticides in the RESISTANCE WARNING section on this label.

CROP/PEST	APPLICATION RATE	RECOMMENDATIONS/REMARKS
<p>TOBACCO</p> <p>White Fly <i>Bemisia tabaci</i>, <i>Trialeurodes vaporariorum</i>)</p>	<p>600 ml/ha</p>	<p>PREVENTIVE/EARLY CORRECTIVE APPLICATION</p> <ul style="list-style-type: none"> • Apply BENEVIA® 100 OD in 250–300 l of water per hectare. Good coverage of all foliage is essential. • Commence BENEVIA® 100 OD applications when the first signs of infestation are observed on the leaves. • A second application of BENEVIA® 100 OD should be made 7 days later. • A maximum of 2 consecutive applications of BENEVIA® 100 OD should be made to the crop. Further application(s) must be with an effective product with a different mode of action (non-Group 28 insecticide). • See Best practices for resistance management of Group 28 insecticides in the RESISTANCE WARNING section on this label.
<p>TOMATOES</p> <p>Whiteflies Sweet potato whitefly (<i>Bemesia tabaci</i>) and Greenhouse whitefly (<i>Trialeurodes vaporariorum</i>)</p>	<p>50 ml/hl Spray mixture OR (500 ml/ha for concentrated mistblower applications)</p>	<p>PREVENTIVE/EARLY CORRECTIVE APPLICATION</p> <ul style="list-style-type: none"> • Apply BENEVIA® 100 OD in 500 - 2000 l of water per hectare ensuring good coverage of all foliage. • For reduced spray volume concentrated applications with mistblower apply BENEVIA® 100 OD at a dosage rate of 500 ml/ha in a minimum spray volume of 500 l spray mixture per hectare. • Apply BENEVIA® 100 OD when the first whitefly adults or nymphs are observed. • A suitable adjuvant at the recommended rates should be added to improve coverage. • A second application should be made 7 days later. • A maximum of 2 consecutive applications of BENEVIA® 100 OD should be made to the crop. Further application(s) must be with an effective product with a different mode of action (non-Group 28 insecticide). • See Best practices for resistance management of Group 28 insecticides in the RESISTANCE WARNING section on this label.

CROP/PEST	APPLICATION RATE	RECOMMENDATIONS/REMARKS
<p>TOMATOES (Continued)</p> <p>American Leaf Miner (<i>Liriomyza trifolii</i>)</p>	<p>35 - 50 ml/hl Spray mixture OR (350 -500 ml/ha for concentrated mistblower applications)</p>	<p>PREVENTIVE/EARLY CORRECTIVE APPLICATION</p> <ul style="list-style-type: none"> • Apply BENEVIA® 100 OD in 500 - 2000 l of water per hectare ensuring good coverage of all foliage. • Use the higher rate of BENEVIA® 100 OD with corrective applications if infestation levels are high. The lower rate should be applied for the second consecutive application of BENEVIA® 100 OD. • For reduced spray volume concentrated applications with mistblower apply BENEVIA® 100 OD at a dosage rate of 500 ml/ha (350 ml/ha for second consecutive spray) in a minimum spray volume of 500 l spray mixture per hectare. • Commence BENEVIA® 100 OD applications when the first puncture marks (first signs of infestation) are observed on the leaves. • A suitable adjuvant at the recommended rates should be added to improve coverage. • A second application should be made 7 - 14 days later (Use shorter spray interval under conditions of high infestation pressure or early in the growth season when plants are growing actively). • A maximum of 2 consecutive applications of BENEVIA® 100 OD should be made to the crop. Further application(s) must be with an effective product with a different mode of action (non-Group 28 insecticide). • See Best practices for resistance management of Group 28 insecticides in the RESISTANCE WARNING section on this label.

<p>TOMATOES (Continued)</p> <p>Semi Looper larvae (<i>Chrysodeixis acuta</i>) and African bollworm larvae (<i>Helicoverpa armigera</i>)</p>	<p>35 ml/hl OR (350 ml/ha for concentrated mistblower applications)</p>	<p>EARLY CORRECTIVE APPLICATION</p> <ul style="list-style-type: none"> • Apply BENEVIA® 100 OD in 500 - 2000 l of water per hectare ensuring good coverage of all foliage. • For reduced spray volume concentrated applications with mistblower apply BENEVIA® 100 OD at a dosage rate of 350 ml/ha in a minimum spray volume of 500 l spray mixture per hectare. • A suitable adjuvant at the recommended rates should be added to improve coverage. • Regular scouting of tomato fields is essential to determine the timing of the first and subsequent application if necessary. • BENEVIA® 100 OD can be applied as a second consecutive application 7 to 14 days later under conditions of continuous re-infestation. • A maximum of 2 consecutive applications of BENEVIA® 100 OD should be made to the crop. Further application(s) must be with an effective product with a different mode of action (non-Group 28 insecticide). • See Best practices for resistance management of Group 28 insecticides in the RESISTANCE WARNING section on this label.
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ACKNOWLEDGMENT OF REGISTERED PRODUCTS:

- H&R Crop Oil (Registration Number L6802, Act 36 of 1947) is the registered product of H&R South Africa Sales (Pty) Ltd.
- Trend® 90 (Registration Number L8207, Act 36 of 1947) is the registered product of FMC Corporation and affiliates.