

BEFORE USING THIS PRODUCT READ THE LABEL CAREFULLY!

Insecticide



BONFIRE 400 EC

Reg. No. L 7646 Act/Wet No. 36 of/van 1947
N-AR 1100

3: 7/6/2012-June 2017

An emulsifiable concentrate nematicide and insecticide for the control of pests on agricultural crops as indicated.

'n Emulgeerbare konsentraat aalwurm- en insekdoder vir die beheer van plae op landbougewasse soos aangedui.

ACTIVE INGREDIENT / AKTIEWE BESTANDDEEL

fenamiphos (organophosphate) 400 g/l fenamifos (organofosfaat)

IRAC INSECTICIDE GROUP CODE **1B** IRAC INSEKDODER GROEPKODE



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

UN Number: 3017

Willow Set & Print 011 394-4486

GERUUKSAANWYSSINGS 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:



TOXIC
GIFTIG



BONFIRE 400 EC

Reg. No. L 7646 Act/Wet No. 36 of/van 1947

IRAC INSECTICIDE GROUP CODE / IRAC INSEKODER GROEP KODE: 1B

ACTIVE INGREDIENT / AKTIEWE BESTANDDEEL:

fenamiphos (organophosphate) / fenamifos (organofosfaat) 400g/l

Registration holder / Registrasiehouer:

VILLA CROP PROTECTION (PTY) LTD.

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

PO Box / Posbus 10413,

ASTON MANOR, 1630, Tel. (011) 396 2233.

VERY TOXIC



UITERS GIFTIG

WARNINGS**Withholding periods:**

Allow the following number of days between the last application and harvest of the crops listed below:	
Groundnuts (fodder)	63 days
Pineapples	8 weeks
Onions	80 days
Grapes & Peaches	100 days
Potatoes	6 weeks
Citrus (bearing trees)	150 days
Peas (harvest)	90 days
Peas (grazing)	120 days
Tobacco	42 days
<u>ADDITIONAL</u>	
ONLY USE AS A PRE-TRANSPLANT TREATMENT IN TOMATOES	

GOLFCOURSES

DO NOT USE THE GREENS FOR 48 HOURS AFTER APPLICATION. DO NOT USE WHERE TURF MAY BE GRAZED OR FED TO ANIMALS. PREVENT ANY RUNOFF AND FORMATION OF POOLS AND PUDDLES OF SPRAY MIXTURE.

NOTE

THE RECOMMENDED WITHHOLDING PERIOD BETWEEN THE LAST APPLICATION AND HARVEST MEETS LOCAL RESIDUE REQUIREMENTS, BUT MAY NOT MEET EXPORT REQUIREMENTS. IF THE TREATED CROP IS INTENDED FOR THE EXPORT MARKET, CONSULT THE RELEVANT EXPORTING BODY BEFORE APPLICATION OF THE PRODUCT, REGARDING PRE-HARVEST INTERVAL REQUIREMENTS.

- Handle with extreme care.
- Toxic when in contact with skin.
- Very toxic by inhalation and if swallowed.
- Harmful: may cause lung damage if swallowed.
- Mild eye and skin irritant.
- Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
- **Potato Foliage Symptoms:** Refer warning in "**DIRECTIONS FOR USE**" below.
- Store under lock and key in a cool, dry and well-ventilated place.
- Store away from food, feeds, seed, fertilizers and other agricultural remedies.
- Keep locked up, out of reach of children, uninformed persons and animals.
- Re-entry: Do not enter treated area within 2 days after treatment unless wearing protective clothing.
- **In case of poisoning call a doctor and make this label available to him/her.**

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 pests 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.

CONTINUAL USE OF BONFIRE 400 EC IN CERTAIN SOILS MAY LEAD TO AN INCREASE IN THE RATE OF BIO-DEGRADATION OF FENAMIPHOS RESULTING IN REDUCED EFFICACY.

PRECAUTIONS

- Do not inhale the spray mist or fumes.
- Avoid contact with skin and eyes.
- Wear full protective clothing, suitable respirator, rubber gloves and boots when handling the product, preparing the spray mixture and during application.
- Wash with soap and water after use and after accidental skin contact.
- Wash contaminated clothing after use.
- **Do not eat, drink or smoke whilst mixing or applying the product, or before washing hands and face and change of clothing.**
- Prevent drift of spray mist onto other crops, grazing, rivers, dams or areas not under treatment or to nearby water sources.
- Do not apply when bees are very active on the crops.
- Thoroughly clean the 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 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, feed, drinking water and eating utensils.

SYMPTOMS OF POISONING

Symptoms of **Fenamiphos** (a choline-esterase inhibitor) intoxication can include: headache, fatigue, faintness, giddiness, excessive sweating, nausea, abdominal pains, vomiting, diarrhoea, tightness of chest, anxiety, blurred vision, muscle twitching, respiratory distress and coma.

FIRST AID TREATMENT

- If poisoning is suspected: Remove the patient from the source of poisoning to a well-ventilated area and keep him/her calm and at rest. Immediately call a physician.
- Skin contact: Remove contaminated clothing and wash the contaminated areas with plenty of soap and cold water for at least 15 to 20 minutes. Do not rub the skin.
- Eye contact: Immediately flush contaminated eyes for 15 to 20 minutes with clean cold water, while occasionally lifting upper and lower lids. Obtain medical advice if irritation persists.
- Inhalation: Administer artificial respiration and oxygen, if necessary. Do not apply direct mouth-to-mouth respiration.
- Ingestion: Have victim rinse mouth thoroughly with clean water. **Do not induce vomiting, due to the aromatic solvent. Obtain medical advice immediately.** If the person is conscious, give large quantities of water to drink. Never give anything by mouth to an unconscious person. Treat respiratory difficulty with artificial respiration and oxygen. Qualified medical personnel must perform administration of oxygen and lavage.
- **TAKE THE PATIENT TO THE NEAREST PHYSICIAN IMMEDIATELY.**

NOTE TO PHYSICIAN

This product contains **Fenamiphos**, an organophosphate insecticide.

The symptoms of cholinesterase inhibition include: miosis, lacrimation, bradycardia, low blood pressure, salivation, bronchial hypersecretion, nausea, vomiting, diarrhoea, sweating, muscular fasciculation, myoclonus, respiratory paralysis, somnolence, hypothermia, convulsions.

Although atropine and 2-PAM are antidotal for most organophosphate insecticides, they may provide only slight therapeutic benefit in cases of **Fenamiphos** poisoning. An aqueous suspension of activated charcoal can be administered to absorb remaining toxicant. Morphine, phenothiazines, reserpine, theophylline and similar drugs are contra-indicated and not to be used. Avoid aminoglycosides and succinylcholine, which have a blocking effect on the neuromuscular junction.

RESISTANCE WARNING

BONFIRE 400 EC is a group code 1B insecticide. Any insect population may contain individuals naturally resistant to **BONFIRE 400 EC** and other group code 1B insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by **BONFIRE 400 EC** or any other group code 1B insecticide.

To delay insecticide resistance:

- avoid exclusive repeated use of insecticides from the same insecticide group code. Alternate or tank mix with products from different insecticide group codes,
- integrate other control methods (chemical, cultural, biological) into insect control programmes.

For specific information on resistance management contact the registration holder of this product.

USE RESTRICTIONS**Potatoes:**

- Foliar application:
Good coverage of the plants is essential. The plants should be in a state of healthy growth and not subject to stem and foliage damage by factors such as Blight, Tubermoth and hail. Similarly, the plants should be free from weed competition. Healthy seed tubers, of uniform maturity, should be planted in order to ensure simultaneous emergence which is important.
- Under certain conditions **BONFIRE 400 EC** will cause deformed leaves; Necrotic spots may also occur. The leaf symptoms differ from those caused by virus diseases and will not be mistaken by Plant Pest Control Inspectors. Seed potato producers should inform inspectors when using **BONFIRE 400 EC**.
- Foliar and soil application:
Irrespective of treatment rate, the persistency and nematicidal activity of **BONFIRE 400 EC** is strongly influenced by factors beyond the manufacturer's control, such as monocropping, rotation with nematode susceptible crops, soil type and the amount of irrigation or rainfall and some nematode damage must be expected. When heavy nematode infestations are present, producers should not expect an absolutely clean crop and severe losses can occur. Dry conditions after application may lead to decreased efficacy. If abnormal cultural practices are followed, e.g. continuous planting of nematode susceptible crops on the same land, or where high nematode levels are present, the use of **BONFIRE 400 EC** alone is not recommended and in the case of seed and chipping potatoes, **BONFIRE 400 EC** is not recommended, even in combination with other nematicides.
- The practice of storing potatoes in the ground may result in a late nematode infestation. Potatoes should be lifted as soon as the full crop potential is reached.

Tobacco:

- To avoid possible crop damage **BONFIRE 400 EC** foliar sprays should only be applied as a directed spray under cool conditions onto healthy actively growing tobacco plants that are not under water stress.

Pineapples:

- **Do not** apply flower-inducing chemicals within three (3) months of the last **BONFIRE 400 EC** foliar application.
- Very wet or dry conditions may affect the **BONFIRE 400 EC** treatment adversely.
- Slight chlorotic symptoms may appear after treatment, but disappear with time.

Peaches and Nectarines:

- Young trees (especially trees younger than twelve (12) months) may be affected adversely if sprayed with **BONFIRE 400 EC**.

All Crops

- **BONFIRE 400 EC HAS NOT BEEN TESTED FOR ITS EFFECT ON *Globodera rostochiensis* AND *Meloidogyne chitwoodi*. ITS USE IS THEREFORE NOT RECOMMENDED FOR THE CONTROL OF THESE NEMATODE SPECIES.**

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

- The compatibility of **BONFIRE 400 EC** may be influenced by several factors. As factors influencing compatibility may vary, a physical compatibility test must always be performed before such tank mixture is sprayed.
- When **BONFIRE 400 EC** 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.
- Add the required amount of **BONFIRE 400 EC** to the water while agitating.
- Fill the spray tank with water to the required level, while maintaining agitation, to ensure thorough mixing.
- Maintain agitation during application.
- Prepared spray mixture should not be left in the spray tank for any length of time, e.g. overnight.
- Apply preferably during cool, windless conditions, when rapid drying conditions exist.

Application:

BONFIRE 400 EC can be applied with conventional ground spraying equipment. It is important to ensure that the spray equipment is calibrated prior to application and is in good working order, to ensure that the correct dosage is distributed evenly over the target area.

Tomatoes:

- Calibrate the sprayer with clean water before application to determine the volume of water required to cover the actual width of band treatment.
- Mix the prescribed dosage in the volume of water determined above.

Citrus:

- For plant densities of more than 300 trees per hectare the maximum application rate per tree becomes proportionately less so as not to exceed the maximum application rate of 30 litres **BONFIRE 400 EC** per hectare **OR** 100 ml per basin. Refer table below:

Table 1: Application rate in ml **BONFIRE 400 EC** per m² basin area.

Trees per hectare	Basin area				
	4 m²	6 m²	8 m²	10 m²	12 m²
200	10	10	10	10	8
250	10	10	10	10	8
300	10	10	10	8	8
350	10	10	10	7	7
400	10	10	9	6	6
450	10	10	8	5	5
500	10	10	7	5	5
550	10	9	6	4	4

APPLICATION RATES

Crop / Pest	Dosage rate	Remarks
<p><u>Deciduous fruit trees</u> <u>Apples and Pears</u> ONLY</p> <p>Nematodes (excluding <i>Meloidogyne</i> <i>chitwoodi</i> & <i>M. fallax</i>)</p>	<p>2.5 ml / m² in 2 ℓ water</p>	<p><u>IMPORTANT</u> For treatment of young non-bearing trees ONLY. The soil should be clean, moist and free of weeds. Apply in spring within six (6) weeks after establishment of the young trees. Repeat application in March/April.</p> <p>Apply the mixture to an area of 1 m² around each tree. Repeat these two (2) treatments during the second year. Incorporate after application by irrigating with 13 mm water, followed by a further 13 mm irrigation, 10 days later.</p> <p>If the trees are planted 2 m, or less, apart, the mixture can be applied continuously on a 1 m drip area over the row of trees.</p> <p>STOP all further treatments the season prior to the first harvest.</p> <p><u>NOTE</u> Leaf damage may occur when low quality trees or trees under stress conditions are treated.</p>
<p><u>Deciduous fruit trees</u> <u>Peaches & Nectarines</u> ONLY</p> <p>Nematodes (excluding <i>Meloidogyne</i> <i>chitwoodi</i> & <i>M. fallax</i>)</p>	<p>2.5 ml / m² in 2 ℓ water</p>	<p><u>IMPORTANT</u> For use in established fruit producing orchards. Do not apply to trees that are under stress due to pests, diseases or adverse environmental conditions. Test BONFIRE 400 EC first on the trees, especially in the case of newer “soft” Nectarine cultivars. The soil should be clean, moist and free of weeds. Apply in spring at first expected root flush. Repeat application in March/April (after-harvest).</p> <p>Apply the mixture to an area of 1 m² around each tree. Repeat these two (2) treatments during the second season. Thereafter if necessary a post-harvest treatment may be done annually at a rate of 2.5 ml per m² to the drip area. Incorporate after application by irrigating with 13 mm water, followed by a further 13 mm irrigation 10 days later. If the trees are planted 2 m, or less, apart, the mixture can be applied continuously on a 1 m drip area over the tree row.</p> <p><u>NOTE</u> Leaf damage may occur when low quality trees are treated.</p>
<p><u>NOTE</u> Leaf damage may occur when low quality trees are treated.</p>		

Crop / Pest	Dosage rate	Remarks
Citrus Young trees (non-bearing) Nematodes	10 ml / m ² basin area	Apply evenly to the soil surface in the tree basin area, after the trees have become established. Repeat annually in Spring. Irrigate immediately after application with at least 25 mm water.
Bearing trees Excluding lemons and kumquats	<u>Initial Treatment</u> 4 to 10 ml / m ² basin area. Application rate depends on number of trees per hectare and size of basin area. (Refer Table 1)	Apply evenly to the soil surface in the tree basin area during Spring. Irrigate immediately after application with at least 25 mm water.
	<u>Maintenance Treatment</u> 5 ml / m ² basin area	Apply the following season in Spring as indicated above. Thereafter repeat annually.
Do not exceed 30 litres BONFIRE 400 EC per hectare OR 100 ml per tree basin. Refer "DIRECTIONS FOR USE" above.		
Groundnuts Nematodes (<i>Ditylenchus destructor</i>)	4.0 to 8.0 l / ha	<u>Irrigated lands:</u> Apply immediately after planting as an overall treatment in approximately 300 litres water per hectare. Irrigate immediately after application. <u>Dry land:</u> Apply as an overall treatment in approximately 500 litres water per hectare and incorporate mechanically (e.g. by harrowing) to a depth of 7.5 cm before planting. Sufficient rainfall is necessary for optimal efficacy of BONFIRE 400 EC . Use the lower dosage on dry land or where the infestation pressure is known to be light.
Onions Nematodes	7.5 l / ha	<u>Bulb- and transplanted onions:</u> Apply evenly to the soil in a minimum of 250 litres water per hectare prior to planting or transplanting and incorporate mechanically (e.g. shallow disking). Application can also be performed immediately after planting or transplanting. Incorporate immediately after application by means of overhead irrigation.
Peas Initial suppression of nematodes	4.0 l / 250 l water / ha	Apply evenly to the soil surface immediately after planting before emergence and incorporate with sufficient irrigation. Only to be used when peas are planted early when soil temperatures are still at a level where Nematodes are active.
NOTE This treatment is intended to protect the young pea plant against attack for a limited period until soil temperatures fall so low that Nematode attack becomes minimal.		
Pineapples Nematodes	6.25 l in a minimum of 1000 l water / ha A total of 3 sprays per crop cycle are required	Apply by ground rig. <u>Use only on plant crop.</u> The first foliar spray should be applied at the first signs of root formation. Two subsequent sprays are applied at 3-month intervals. Spray nozzles should be mounted so as to direct the spray onto the plant rows, ensuring full coverage. Flower inducing chemicals should not be applied within 3 months of the last BONFIRE 400 EC foliar spray. Very dry or wet conditions can adversely influence the treatment. Slight chlorosis which disappears with time may occur after treatment.

<i>Crop / Pest</i>	<i>Dosage rate</i>	<i>Remarks</i>
Potatoes Nematodes		
All areas excluding the Northern Cape and North West Province.		
	<p>250 ml / 2.5 l water / 100 m plant furrow (25 l / ha for rows 1 metre apart)</p> <p>150 ml / 2.5 l water / 100 m plant furrow (15 l / ha for rows 1 metre apart)</p>	<p>Draw the planting furrows. Spray the BONFIRE 400 EC onto the total furrow area, plant potatoes then close furrows.</p> <p><u>USE THE LOWER RATE ONLY ON TABLE POTATOES IN THE EASTERN HIGHVELD OF GAUTENG/MPUMALANGA.</u></p> <p>Use only after a 4-year rotation with non-susceptible crops, on soils with a light infestation pressure and on July to August plantings. Apply as indicated above.</p>
Northern Cape and North West Province (Prieska, Hopetown, Douglas, P.K. le Roux Dam irrigation areas, Vaalharts irrigation area, Barkly West, Christiana, Vryburg, Coetzersdam and Tosca).		
Nematodes	<p><u>Before planting:</u> Soil fumigation</p> <p>FOLLOWED BY</p> <p>250 ml / 2.5 l water / 100 m plant furrow (25 l / ha for rows 1 metre apart)</p>	<p>Fumigate soil prior to planting with a registered soil fumigant.</p> <p>Draw the planting furrows. Spray the BONFIRE 400 EC onto the total furrow area, plant potatoes then close furrows.</p>
Western Cape Only.		
Nematodes and Aphids	<p><u>Before planting:</u> Soil fumigation</p> <p>FOLLOWED BY</p> <p><u>Tractor mounted spray</u> Apply 4 l in 500 l water / ha. A total of six (6) sprays are required</p>	<p>Fumigate soil prior to planting with a registered soil fumigant.</p> <p>The first three (3) sprays should be applied at weekly intervals commencing about 7 to 10 days after emergence of the plants. The fourth (4) and subsequent sprays are applied at 14-day intervals. Spray nozzles should be mounted so as to direct the spray to the plant rows ensuring full coverage.</p>

Crop / Pest	Rate of Application	Remarks
<u>Tomatoes</u> Root-knot nematodes	Apply 250 ml / 2.5 ℓ water / 100 linear m in a 30 cm band over the planting row	<u>Pre-plant soil treatment</u> Apply to the land prior to transplanting at any time from two weeks before until immediately before transplanting. Calibrate the applicator with clean water before the actual application, in order to determine the volume of water the applicator requires to cover the required distance of band treatment. Mix the dosage prescribed in the volume of water thus determined. After the BONFIRE 400 EC is applied; it should immediately be incorporated lightly into the top layer of soil either by mechanical means or by sprinkler irrigation. Under careful supervision, it could also be applied onto standing irrigation water diverted into planting basins. Avoid washing the material away with strong flooding while it is still on the soil surface.
<u>Tobacco</u> Root-knot nematodes and Tobacco spider mite	<u>Before transplanting:</u> Soil fumigation <u>After transplanting:</u> 3.0 ℓ in 500 ℓ water / ha	Fumigate soil prior to planting with a registered soil fumigant. 1. Apply as a directed foliar spray onto the leaves below the growing point (heart) of the plant 3 weeks after transplanting. 2. Repeat above application 5 to 6 weeks after transplanting. <u>WARNING: DO NOT APPLY DURING HOT, DRY CONDITIONS ON PLANTS THAT ARE UNDER WATER STRESS.</u> The above mentioned treatment will also control Tobacco spider mite if present at the time of application.
<u>Turfgrass</u> Nematodes	20 ℓ / ha	<u>ONLY for use on golf courses.</u> Apply as a broadcast application in ± 250 litres water per hectare in Spring or early summer onto established turf. Irrigate immediately (within 5 minutes) after application with a minimum of 15 mm water. Only use coarse sprays directed at the soil. Prevent formation of spray mist. Do not apply a higher dose rate than recommended as the effect of a higher rate on the turf is unknown.
<u>Vineyards</u> Nematodes	2.5 ml / m ² (250 ml / 2.5 ℓ water per 100 m row as a 1 m band over the row)	BONFIRE 400 EC must be applied as a 50 cm band on either side of the vine row on the bankie to a weed-free surface, either as a Spring application 14 days before expected bud burst, or as an Autumn application directly after harvest. BONFIRE 400 EC must be incorporated in the soil either by sufficient rain in order to wash the product into the soil or by irrigation. If at least 20 mm of rain has not fallen within 14 days of application, then incorporate by means of irrigation, applying 13 mm followed by further 13 mm water 10 days later.