

An emulsifiable concentrate contact and stomach insecticide for the control of insects in crops as indicated.

'n Emulgeerbare konsentraat kontak- en maaginsekdoder vir die beheer van insekte in gewasse soos aangedui.

Distributed by:

Makhro Home And Garden (Pty) Ltd

Reg. Nr. 2014 / 283523 / 07

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MAKHRO HOME AND GARDEN (PTY) LTD

SERVUS

Reg. Nr. L7271 – Act / Wet 36 of / van 1947

N-AR 0781

INSECTICIDE GROUP CODE 3A INSEKDODERGROEPKODE

ACTIVE INGREDIENT / AKTIEWE BESTANDDEEL

Deltamethrin (pyrethroid)

25 g / l

Deltametrien (piretroied)

Registration Holder: ADAMA SA (PTY) LTD

Co. Reg. No. 1992/001741/07 / PO Box 498, Brackenfell 7561



HARMFUL
SKADELIK



Yellow band

Geel band

SERVUS 25 EC

L7271 – Act 36 of 1947 / N-AR 0781

INSECTICIDE GROUP CODE 3A

Active Ingredient: Deltamethrin (pyrethroid) 25 g / l

Registration Holder: ADAMA South Africa (Pty) Ltd (1992/001741/07)



Office No: 021 981 4011

21 Viben Street, Brackenfell

Technical advise: 082 562 5330

Medical Emergency: 0861 555 777

WARNINGS:

Withholding periods: (Minimum number of days between the last application and harvest)

Apples and pears.....	7 days
Beans.....	7 days
Cruciferae.....	3 days
Grain sorghum.....	28 days
Grain sorghum (grazing)	3 days
Grapes.....	28 days
Lettuce.....	3 days
Lucerne (grazing).....	3 days
Maize.....	14 days
Mangoes.....	28 days
Onions.....	2 days
Paprika.....	7 days
Peas.....	3 days
Peaches and nectarines.....	21 days
Plums.....	21 days
Potatoes.....	2 days
Tomatoes.....	2 days
Wheat.....	21 days

- Handle with care.
- Harmful by contact, swallowing or inhalation.
- Irritating to skin and eyes.
- Toxic to fish and wild life.
- **Flammable:** Do not store or apply near open flames.
- Store in a cool, dry place away from food and feed.
- Keep out of reach of children, uninformed persons and animals.
- **Re-entry period:** Do not enter treated field within 1 day after application unless wearing protective clothing.
- In case of poisoning call a doctor and make this label available to him/her.
- **Aerial application:** Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. Do not apply over water or adjacent areas that is not under treatment or allow the spray mist to drift over these areas.
- **Warning against resistance:** Resistance of American bollworm (*Helicoverpa armigera*) to synthetic pyrethroids has been confirmed.
- Cotton: Synthetic pyrethroids must ONLY be applied to cotton during the period 1 January to 28 February.
- **All other crops:** DO NOT apply more than two applications per growing season. If a pyrethroid gives poor performance DO NOT re-spray with any synthetic pyrethroid, even at a corrective dosage rate. Use a product from a different chemical group.

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 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, 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 the event of any uncertainty.

PRECAUTIONS:

- Do not eat, drink or smoke while the product is handled or before hands and face are washed.
- Avoid contamination of food, feed, drinking water and eating utensils.
- Do not inhale fumes or spray mist. Avoid contact with the eyes and skin.
- Wear rubber gloves and face shield when handling the concentrate and during application. If it comes into contact with the eyes, rinse immediately with water. If skin is contacted, wash off immediately. If it is spilled on clothes, take it off and wash immediately.
- 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 container three times with a volume of water of at least 10 % of that of the container. Add the rinsing's to the contents of the spray tank before destroying the empty container.
- Prevent spray drift onto other crops, grazing, rivers, dams and areas not under treatment.
- Clean applicator thoroughly after use. Dispose of wash water where it will not contaminate other crops, grazing, rivers or dams.
- If applied through a center pivot system, care should be taken that there is no back flow through the system that will contaminate the water source.
- Take off work clothes and wash it. Wash yourself.

Symptoms of human poisoning:

Skin contact may cause irritation.

Eye contact may cause redness and tears.

FIRST AID TREATMENT:

Inhalation: Remove patient to fresh air and keep him warm and at rest. If breathing is difficult, give oxygen. If breathing has stopped, apply artificial respiration. Get medical attention.

Ingestion: Induce vomiting. Never give anything by mouth to an unconscious person. Wash out mouth with water. Get medical attention.

Skin contact: Remove contaminated clothing. Wash with plenty of water and soap. Consult a doctor in the event of any complaints.

Eye contact: Wash out with plenty of water for at least 15 minutes. Consult a medical practitioner immediately.

Note to physician:

There is no specific antidote. Treat symptomatically and give supportive therapy. If ingested perform gastric lavage and administer activated charcoal.

RESISTANCE WARNING:

For the purpose of resistance management, **SERVUS** is classified as a group code 3 A insecticide. Any insect population may contain individuals naturally resistant to **SERVUS** and other group code 3 A insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by **SERVUS** or any other group code 3 A 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 the control methods (chemical, cultural, biological) into insect control programmes.
- **Do not exceed three applications per season.**

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

DIRECTIONS FOR USE:

Use only as indicated.

Compatibility:

The compatibility of **SERVUS** with other insecticides and fungicides is unknown. However, it is advisable to do a compatibility test prior to application.

Water pH:

The pH of the water used for spraying must be between 5 and 8. It is recommended that a suitable buffer solution is used to ensure that the water pH is between 5 and 8.

APPLICATION

Ground application:

SERVUS can be applied by any medium or high volume spray apparatus provided it is equipped with an efficient agitation mechanism and is able to distribute the spray mixture evenly over the target area. The spray apparatus must be calibrated correctly prior to application.

Equipment:

- Use suitable atomizing equipment (hydraulic nozzles or rotary atomizers) that will produce the desired droplet size and coverage of the target area and will ensure the minimum loss of product through drift.
- The operator must use a nozzle set-up that will produce a droplet spectrum with the lowest possible relative span.
- All nozzles and atomizers should be positioned within the inner 75 % of the wingspan to prevent droplets from entering the wing tip vortices.

Application parameters:

- A minimum volume of 300 ml spray mixture / 100 m² is recommended. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy nor be held responsible for any adverse effects if this product is applied aerially at a lower volume rate than recommended.
- A droplet coverage of 30 - 40 droplets / cm² must be recovered at the target.
- A droplet spectrum with a VMD of 250 - 280 micron is recommended. Ensure that the production of fine droplets, with a VMD less than 150 micron, is restricted to a minimum.
- The height of the spray boom should be maintained at between 3 and 4 m above the target.
- Do not spray when the aircraft is in a climb, at the top of a turn or during a dive or when banking.
- Apply before the crop growth becomes too dense, which will interfere with overall plant coverage.

Meteorological conditions:

- The difference between the wet and dry bulb readings as determined by a whirling hygrometer, must not exceed 8 °C.
- Do not spray under turbulent, unstable conditions nor during the heat of the day when rising thermals and down draughts occur.
- Do not spray under temperature inversion conditions (spraying in or above the inversion layer).
- Do not spray when the wind speed exceeds 15 km / h.

General:

- Ensure that fields are accurately marked and 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.
- Prepared spray mixture must not be left in the spray tank for any length of time e.g. overnight.

APPLICATION RATES:

CROP / PEST	DOSAGE	REMARKS
ALL CROPS Cutworms (<i>Agrotis spp.</i>)	0,4 – 0,5 mℓ / 100 m row 1,25 – 1,65 mℓ / 100 m ²	Apply as a pre-emergent or early post-emergent application on MOIST soil. The seedbed must be in fine tilth and free of excessive clods and plant rests. In the case of crops which have already emerged, apply when 5% of plants show damage. Row application: Apply in 3 ℓ water / 100 m row in a strip of 30 cm wide over the row on moist soil. Overall application: Apply in 2 - 3 ℓ water / 100 m ² on moist soil
APPLES AND PEARS Codling moth (<i>Cydia pomonella</i>)	High volume: 1 mℓ / 10 ℓ water (2,5 – 3,5 mℓ / 100 m ²) Low volume: 2,5 – 3,5 mℓ / 100 m ²	Commence application at 75% petal drop. Apply at 25 - 35 ℓ spray mixture / 100 m ² as a full cover spray. Repeat application at 14 - 18 day intervals. Apply as above, but use ¼ - ½ of the water volume used for high volume application.
American bollworm (<i>Helicoverpa armigera</i>)	High volume: 1,2 mℓ / 10 ℓ water (3,0 – 4,2 mℓ / 100 m ²) Low volume: 3,0 – 4,2 mℓ / 100 m ²	Commence application at 75% petal drop and apply as a medium cover spray. Apply as above, but use ¼ - ½ of the water volume used for high volume application. See warnings against resistance above
Banded fruit Weevil (<i>Phlyctinus callosus</i>)	High volume: 2,5 mℓ / 10 ℓ water	Commence application at 75% petal drop as a full cover spray at 25 - 35 ℓ spray mixture / 100 m ² . Repeat 3 - 4 weeks later. If necessary a spray can be done in mid-January. Ensure that the trunk and scaffolding branches are thoroughly wetted.
<i>Antestia bug</i> (<i>Antestiopsis orbitalis</i>)	High volume: 1,2 mℓ / 10 ℓ water	Apply as a medium cover spray wetting leaves and trusses. <i>Antestia</i> will be controlled by sprays for Codling moth and Weevils.
BEANS and PEAS American bollworm (<i>Helicoverpa armigera</i>)	Ground application: 2,5 mℓ / 100 m ²	Scout fields at 7 day intervals from start of flowering using 25 plants / 15 ha. Commence application when the pest is noticed or when 10% of the plants are infested with a mean of 1 - 2 larvae / plant. Apply in 2 – 5 ℓ water / 100 m ² for ground application. For optimum control the bollworm larvae should not be more than 10 mm in length at time of application. Repeat if necessary. See warnings against resistance above.
CRUCIFERAE Diamond back moth (<i>Plutella xylostella</i>)	Ground application: 2 mℓ / 10 ℓ water	Commencement of spraying depends on the final destination of the crop. If it is destined for the local market, application should commence if an average of 0,3 larvae / plant on 20 small plants and 0,2 larvae / plant on 20 larger plants are reached during scouting. If it is destined to be frozen it is recommended that plants are sprayed every 14 days. Apply at 5 ℓ spray mixture / 100 m ² and ensure thorough coverage of the plants. The addition of a suitable wetter is recommended. In the case of bigger plants like Brussels sprouts, the use of drop arms is recommended. If necessary repeat application 14 days later.
GRAIN SORGHUM American bollworm (<i>Helicoverpa armigera</i>)	Ground application: 2,5 mℓ / 100 m row length (2,5 mℓ / 100 m ²)	Commence application as soon as pest is noticed. Direct spray to the panicles of the plants and ensure full coverage of the panicles. For best results larvae should not exceed 10 mm in length. Apply in 3 ℓ water / 100 m row length in a strip of 50 cm wide over the row.
GRAPES American bollworm (<i>Helicoverpa armigera</i>)	High volume: 1,2 mℓ / 10 ℓ water	Commence application when pest is noticed and apply as a medium cover spray. Ensure thorough coverage of leaves and bunches. Larvae should not exceed 10 mm in length. Repeat application if necessary. See warnings against resistance above.
Weevils (<i>Eremnus spp.</i> and <i>Phlyctinus callosus</i>)	High volume: 2,5 mℓ / 10 ℓ water	Apply first application mid-October and repeat when necessary. Apply as a full cover spray and ensure thorough coverage of the trunk as well as other parts of the plant.
LETTUCE American bollworm (<i>Helicoverpa armigera</i>) Cutworm (<i>Agrotis spp.</i>)	Ground application: 2,5 mℓ / 100 m ²	Commence application as soon as pest is noticed and repeat if necessary. See warnings against resistance above.
LUCERNE Lucerne caterpillar (<i>Colias electa</i>)	Ground application: 0,75 mℓ / 100 m ²	Commence application as soon as damage is noticed. Repeat application if necessary.

MAIZE Chilo stalkborer (<i>Chilo partellus</i>)	Ground application: 2,5 mℓ / 100 m row length Chemigation: 2,5 mℓ / 100 m ²	Apply in 3,0 ℓ water / 100 m row length. Application should commence as soon as 10% of the plants show damage or as a preventive programme starting at 14 days after crop emergence. The spray must be directed into the funnels and onto the adjoining leaves. Repeat application at 14 day intervals up to tasseling. Apply only through a center pivot that is fitted with a chemigation system. Commence application only when sufficient leaf surface is available i.e. from the 6-leaf stage onwards. Repeat application at 7 - 10 day intervals up to tasseling.
Stalkborer (<i>Busseola fusca</i>)	Ground application: 2,0 mℓ / 100 row length	Apply directly into the plant funnel in 3 ℓ water / 100 m row length. Commence application as soon as eggs are found on 5% of the plants or 10% of the plants show the typical shot holes. For best control larvae should not exceed 5 mm in length. A second application might be necessary 14 days later.
MANGOES Mango weevil (<i>Stemochetus mangiferae</i>)	High volume: 4 mℓ / 10 ℓ water	Apply as a medium cover application. Commence application when fruit lets are about 10 mm in diameter and repeat application when fruit lets are 30 – 40 mm in diameter (4 – 5 weeks later). Scale numbers might increase after the use of SERVUS.
ONIONS Thrips (<i>Thrips tabaci</i>)	Ground application: High volume: 4 mℓ / 10 ℓ water Low volume: 1 – 2 mℓ / 100 m ²	Depending on plant size apply at 2,5 – 5 ℓ spray mixture / 100 m ² . Commence application as soon as pest is noticed. Repeat at 10 – 14 day intervals if necessary. The addition of a suitable wetter is recommended. Use the lower rate on small onions and higher rate on large plants. Do not use in spring onions.
PAPRIKA American bollworm (<i>Helicoverpa armigera</i>)	Ground application: 2,5 mℓ / 100 m ²	Start scouting when the first flower buds appear. Commence application as soon as the first signs of bollworm is noticed. Ensure good coverage of flowers and fruit. See warnings against resistance above.
STONE FRUIT (PEACHES, NECTARINES, PLUMS) Banded fruit weevil (<i>P. callosus</i>) Mediterranean fruit fly (<i>Ceratitis capitata</i>)	High volume: 2,5 mℓ / 10 ℓ water (6,25 – 8,75 mℓ / 100 m ²)	Apply as a full cover spray at 25 – 35 ℓ spray mixture / 100 m ² commencing when infestation is noticed (mid November - end December) and repeat 3 – 4 weeks later. If necessary a third application can be done in mid-January. However, for the purpose of resistance management, do not exceed three applications per season. Ensure thorough wetting of trunks and scaffold branches.
American bollworm (<i>H. armigera</i>)	High volume: 1,2 mℓ / 10 ℓ water (3,0 – 4,2 mℓ / 100 m ²) Low volume: 3,0 – 4,0 mℓ / 100 m ²	Apply at 25 – 35 ℓ spray mixture / 100 m ² as a full cover spray commencing at 75% petal drop. If necessary repeat 18 – 21 days later. Apply as above in ¼ - ½ of the water volume used for high volume application. See warnings against resistance above.
POTATOES Tuber moth (<i>Phthorimaea operculella</i>)	Ground application: 3 mℓ / 100 m ²	Apply in 2,5 – 5 ℓ water / 100 m ² depending on plant size. Commence application at week 4 or earlier if an infestation should occur. Repeat every 10 – 14 days and alternate with other products with a different mode of action e.g. RIMON 10 EC (Reg. No. L6285) and AZINPHOS 200 SC (Reg. No. L5588) Ridge at least twice during the growing season.
TOMATOES American bollworm (<i>H. armigera</i>)	High volume: 1,25 mℓ / 10 ℓ water	Commence application as soon as plants start flowering or at first signs of an infestation. Apply as a full cover spray. Use 2 ℓ spray-mixture / 10 cm plant height / 100 m row. For optimum control larvae should not be bigger than 10 mm in length. Repeat application every 7 – 10 days if necessary. See warnings against resistance above.