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SERVUS

Reg. no. L7271 Act/Wet 36 of/van 1947
N-AR 0781

An emulsifiable concentrate contact and 'n Emulgeerbare konsentraat kontak- en stomach insecticide for the control of insects in maaginsekdoder vir die beheer van insekte in gewasse soos aangedui.

IRAC INSECTICIDE GROUP CODE 3 A IRAC INSEKDODER GROEPKODE

ACTIVE INGREDIENT/AKTIEWE BESTANDDEEL

deltamethrin (pyrethroid) 25 g/L deltametriën (piretroïed)

NET VOLUME/NETTO VOLUME

..... L

REGISTRATION HOLDER/REGISTRASIEHOUER

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**SERVUS is a trademark of a company of the ADAMA GROUP.
SERVUS is 'n handelsmerk van 'n maatskappy van die ADAMA GROEP.**

CONTACT IN EMERGENCY/KONTAK IN NOOD

Griffon Poison Information Centre: +27 82 446 8946
Tygerberg Poison Information Centre: +27 861 555 777

Batch number
Date of Manufacture

Lotnommer
Datum van Vervaardiging

UN no: 3082





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WARNINGS

Withholding periods (minimum number of days between last application and harvest or grazing):

Apples, pears	7 days
Beans	7 days
Cotton (grazing)	28 days
Cruciferae	3 days
Grain sorghum	28 days
Grain sorghum (grazing)	3 days
Grapes	28 days
Lettuce	3 days
Lucerne (grazing)	3 days
Lupins (grazing)	3 days
Maize	14 days
Maize (grazing)	3 days
Mangoes	28 days
Onions	2 days
Paprika	7 days
Peas	3 days
Peaches, nectarines	21 days
Plums	21 days
Potatoes	2 days
Tomatoes	2 days
Wheat	21 days
Wheat (grazing)	3 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 respray 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 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, 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 rinsings 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.
- Remove and wash work clothes. 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 other 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 are 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.

Aerial application

Aerial application may only be done by a registered aerial application operator using a registered and correctly calibrated aircraft according to the instructions of SANS Code 10118 (Aerial Application of Agricultural Remedies). It is important to 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:

Equipment

- Use suitable atomising equipment (hydraulic nozzles or rotary atomisers) 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 atomisers should be positioned within the inner 75 % of the wingspan to prevent droplets from entering the wingtip vortices.

Application parameters

- A minimum volume of 30 L spray mixture/ha 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 downdrafts 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.



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APPLICATION RATES

CROP ANS PEST	DOSAGE	REMARKS
<p>All crops</p> <p>Cutworms (<i>Agrotis</i> spp.)</p>	<p>0.4–0.5 ml/100 m row</p> <p>125–165 ml/ha</p> <p>165 ml/ha</p>	<p>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.</p> <p>Row application: Apply in 3 L water/100 m row in a strip of 30 cm wide over the row on moist soil.</p> <p>Overall application: Apply in 200–300 L water/ha on moist soil.</p> <p>Aerial application: Apply in 30 L water/ha on moist soil.</p>
<p>Apples and pears</p> <p>Codling moth (<i>Cydia pomonella</i>)</p> <p>American bollworm (<i>Helicoverpa armigera</i>)</p> <p>Banded fruit weevil (<i>Phlyctinus callosus</i>)</p> <p>Antestia bug (<i>Antestiopsis orbitalis</i>)</p>	<p>High volume: 10 ml/100 L water (250 – 350 ml/ha)</p> <p>Low volume: 250 – 350 ml/ha</p> <p>High volume: 12 ml/100 L water (300 – 420 ml/ha)</p> <p>Low volume: 300 – 420 ml/ha</p> <p>High volume: 25 ml/100 L water</p> <p>High volume: 12 ml/100 L water</p>	<p>Commence application at 75 % petal drop. Apply at 2 500–3 500 L spray mixture/ha as a full cover spray. Repeat application at 14–18 day intervals.</p> <p>Apply as above, but use ¼–⅓ of the water volume used for high volume application.</p> <p>Commence application at 75 % petal drop and apply as a medium cover spray.</p> <p>Apply as above, but use ¼–⅓ of the water volume used for high volume application.</p> <p>See warnings against resistance above.</p> <p>Commence application at 75 % petal drop as a full cover spray at 2500–3500 L spray mixture/ha. Repeat 3 to 4 weeks later. If necessary a spray can be done in mid January.</p> <p>Ensure that the trunk and scaffolding branches are thoroughly wetted.</p> <p>Apply as a medium cover spray wetting leaves and flower clusters. Antestia will be controlled by sprays for Codling moth and Weevils.</p>



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CROP AND PEST	DOSAGE	REMARKS
<p>Beans and peas American bollworm (<i>Helicoverpa armigera</i>)</p>	<p>Ground application: 250 ml/ha Aerial application: 250 ml/ha</p>	<p>Scout fields at 7-day intervals from start of flowering using 25 plants/15 ha. Commence application when the first larvae is noticed or when 10 % of the plants are infested with a mean of 1–2 larvae/plant. Apply in 200–500 L water/ha for ground application and in 30 L water/ha for aerial 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.</p>
<p>Cotton American bollworm (<i>Helicoverpa armigera</i>) Red bollworm (<i>Diparopsis castanea</i>) Spiny bollworm (<i>Earias spp.</i>) Stainers (<i>Dysdercus spp.</i>)</p>	<p>Ground application: Overall: 250 ml/ha Row application: 2.5 ml/100 m row length Aerial application: 300 ml/ha</p>	<p>SERVUS can only be applied to cotton 12 weeks after emergence. Scout 24 plants/15 ha and commence application for American bollworm when 12 eggs/24 plants or 5 larvae/24 plants are reached or exceeded during the weekly scouting inspections. For Red bollworm application should commence when egg count reaches 6/24 plants and Spiny bollworm when the number of larvae reach 4/24 plants. Apply as a full cover spray and ensure thorough coverage of all plant parts. To achieve this it might be necessary to spray with drop arms and direct one nozzle in between the two rows, one nozzle directly over the top of each row and one nozzle on the outside of each of the two rows. For aerial application apply in 30 L water/ha. See warnings against resistance above.</p>
<p>Cruciferae Diamond back moth (<i>Plutella xylostella</i>)</p>	<p>Ground application: 20 ml/100 L water</p>	<p>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 500 L spray mixture/ha 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.</p>



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CROP AND PEST	DOSAGE	REMARKS
Grain sorghum American bollworm <i>(Helicoverpa armigera)</i>	Ground application: 2.5 ml/100 m row length (250 ml/ha) Aerial application: 250 ml/ha	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. Apply in 30 L water/ha. See warnings against resistance above.
Grapes American bollworm <i>(Helicoverpa armigera)</i> Weevils <i>(Eremnus spp. and Phlyctinus callosus)</i>	High volume: 12 ml/100 L water High volume: 25 ml/100 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. 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: 250 ml/ha	Commence application as soon as pest is noticed and repeat if necessary. See warnings against resistance above.
Lucerne Lucerne caterpillar <i>(Colias electo)</i>	Ground application: 75 ml/ha	Commence application as soon as damage is noticed. Repeat application if necessary.
Lupins	Aerial application:	Scout fields every 7 days as soon as flower buds are formed. Commence application as



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CROP AND PEST	DOSAGE	REMARKS
American bollworm <i>(Helicoverpa armigera)</i>	200 ml/ha	soon as larvae are noticed. For best results larvae should not exceed 10 mm in length. Repeat if necessary. See warnings against resistance above.
Maize Chilo stalkborer <i>(Chilo partellus)</i> Stalkborer <i>(Busseola fusca)</i>	Ground application: 2.5 ml/100 m row length Chemigation: 250 ml/ha Ground application: 2.0 ml/100 row length Aerial application: 200 ml/ha	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- to 10-day intervals up to tasseling. 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. Apply as above in 30 L water/ha.
Maize and sweetcorn American bollworm <i>(Helicoverpa armigera)</i>	Aerial application: 250 ml/ha	Start scouting for eggs at beard appearance. Commence application as soon as eggs are present. Repeat application if necessary. Apply in 30 L water/ha. See warnings against resistance above.
Mangoes Mango weevil <i>(Stemochetus mangiferae)</i>	High volume: 40 ml/100 L water	Apply as a medium cover application. Commence application when fruitlets are about 10 mm in diameter and repeat application when fruitlets are 30–40 mm in diameter (4–5 weeks later). Scale numbers might increase after the use of SERVUS .



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CROP AND PEST	DOSAGE	REMARKS
<p>Onions</p> <p>Thrips (<i>Thrips tabaci</i>)</p>	<p>Ground application:</p> <p>High volume: 40 ml/100 L water</p> <p>Low volume: 100–200 ml/ha</p>	<p>Depending on plant size apply at 250 – 500 L spray mixture / ha. Commence application as soon as pest is noticed. Repeat at 10 – 14 day intervals if necessary. The addition of a suitable wetter is recommended.</p> <p>Use the lower rate on small onions and higher rate on large plants.</p> <p>Do not use in spring onions.</p>
<p>Paprika</p> <p>American bollworm (<i>Helicoverpa armigera</i>)</p>	<p>Ground application: 250 ml/ha</p>	<p>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.</p> <p>See warnings against resistance above.</p>
<p>Stone fruit (Peaches, nectarines, plums)</p> <p>Banded fruit weevil (<i>Phlyctinus callosus</i>)</p> <p>Mediterranean fruit fly (<i>Ceratitis capitata</i>)</p>	<p>High volume: 25 ml/100 L water (625–875 ml/ha)</p>	<p>Apply as a full cover spray at 2 500–3500 L spray mixture/ha commencing when infestation is noticed (mid-November to end December) and repeat 3–4 weeks later. If required, 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.</p>
<p>American bollworm (<i>Helicoverpa armigera</i>)</p>	<p>High volume: 12 ml/100 L water (300–420 ml/ha)</p> <p>Low volume: 300–420 ml/ha</p>	<p>Apply at 2500–3500 L spray mixture/ha as a full cover spray commencing at 75 % petal drop. If necessary repeat 18–21 days later.</p> <p>Apply as above in ¼–⅓ of the water volume used for high volume application.</p> <p>See warnings against resistance above.</p>
<p>Potatoes</p> <p>Tuber moth (<i>Phthorimaea operculella</i>)</p>	<p>Ground application: 300 ml/ha</p>	<p>Apply in 250–500 L water/ha 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)</p> <p>Ridge at least twice during the growing season.</p>
<p>Tomatoes</p> <p>American bollworm</p>	<p>High volume:</p>	<p>Commence application as soon as plants start flowering or at first signs of an infestation.</p>



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CROP ANS PEST	DOSAGE	REMARKS
(<i>Helicoverpa armigera</i>)	12.5 ml/100 L water	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.
Wheat American bollworm (<i>Helicoverpa armigera</i>)	Aerial application: 250 ml/ha	Commence application before 10 % of the ears are infested. For optimum results the larvae should not exceed 10 mm in length. Repeat application if necessary. Apply in 30 L water/ha. See warnings against resistance above.

AZINPHOS 200 SC (Reg. no. L5588) is a trademark and **RIMON® 10 EC** (Reg. no. L6285) a registered trademark of a company of the ADAMA GROUP.



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WAARSKUWINGS

Onthoudingsperiodes: Minimum aantal dae tussen laaste toediening en oes of voer:

Aartappels	2 dae
Appels en pere	7 dae
Blaarslaai	3 dae
Bone	7 dae
Druive	28 dae
Ertjies	3 dae
Graansorghum	28 dae
Graansorghum (beweiding)	3 dae
Katoen (beweiding)	28 dae
Koolgewasse	3 dae
Koring	21 dae
Koring (beweiding)	3 dae
Lupiëne (beweiding)	3 dae
Lusern (beweiding)	3 dae
Mango's	28 dae
Mielies	14 dae
Mielies (beweiding)	3 dae
Paprika	7 dae
Perskes, Nektariens en Pruime	21 dae
Tamaties	2 dae
Uie	2 dae

- Hanteer versigtig.
- Skadelik deur kontak, inname of inaseming.
- Verorsaak vel- en oogirritasie.
- Giftig vir visse en natuurlewe.
- **Vlambaar:** Moet nie stoor of toedien naby oop vlamme nie.
- Berg in 'n koel, droë plek weg van voedsel en voer.
- Hou buite bereik van kinders, oningeligte persone en diere.
- **Herbetredingsperiode:** Moet nie behandelde land binnegaan binne 1 dag na toediening nie tensy beskermende klere gedra word.
- In geval van vergiftiging ontbied 'n geneesheer en toon hierdie etiket aan hom/haar.
- **Lugtoediening:** Stel alle inwoners in die onmiddellike omgewing van die gebied wat bespuit gaan word in kennis en reik die nodige waarskuwings uit. Moet nie oor water of aanliggende gebiede wat nie behandel word toedien of toelaat dat die spuitnewel oor die gebiede dryf nie.



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- **Waarskuwing teen bestandheid:** Weerstand van Amerikaanse bolwurm (*Helicoverpa armigera*) teen sintetiese piretroïedes is bevestig.

Katoen: Sintetiese piretroïedes MOET SLEGS gedurende die periode 1 Januarie tot 28 Februarie op katoen toegedien word.

Alle ander gewasse: MOENIE meer as twee toedienings per groeiseisoen toedien nie. As 'n piretroïedbespuiting swak beheer gee MOENIE met enige sintetiese piretroïed, selfs teen 'n korrektiewe dosis, herspuit nie. Gebruik 'n produk uit 'n ander chemiegroep.

Alhoewel hierdie middel omvattend onder 'n groot verskeidenheid toestande getoets is, waarborg die registrasiehouer nie dat dit onder alle toestande doeltreffend sal wees nie aangesien die werking en effek daarvan beïnvloed kan word deur faktore soos abnormale grond, klimaats- en bergingstoestande, kwaliteit van verdunningswater, verenigbaarheid met ander stowwe wat nie op die etiket aangedui is nie en die voorkoms van weerstand van die plaag teen die betrokke middel sowel as die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie verantwoordelikheid vir skade aan gewasse, plantegroei, die omgewing of vir nadelige effek op mens of dier of vir 'n gebrek aan prestasie van die betrokke middel as gevolg van die versuim van die gebruiker om etiketaanwysings na te kom of as gevolg van die ontstaan van toestande wat nie kragtens die registrasie voorsien kon word nie. Raadpleeg die verskaffer in geval van enige onsekerheid.

VOORSORGMAATREËLS

- Moenie eet, drink of rook terwyl hierdie produk hanteer word of voor hande en gesig gewas is nie.
- Vermoed besoedeling van voedsel, voer, drinkwater en eetgerei.
- Moenie die dampe of spuitnewel inasem nie. Vermoed kontak met oë en vel.
- Dra rubberhandskoene en 'n gesigskerm wanneer die konsentraat hanteer word en tydens toediening. Indien die middel in u oë kom, spoel dadelik uit met water. Indien dit op u vel kom was onmiddellik af. Indien dit op u klere mors, trek dadelik uit en was dit.
- Keer die leë houer om oor die spuit- of mengtenk en laat toe om te dreineer vir ten minste 30 sekondes nadat die vloeitot 'n gedrup verminder het. Spoel die houer daarna drie keer uit met 'n volume water gelykstaande aan 10 % van die inhoud van die houer. Gooi die spoelwater in die spuittenk voordat die houer vernietig word.
- Vermoed dat die spuitnewel oorwaai na ander gewasse, weiding, riviere, damme en gebiede wat nie behandel moet word nie.
- Maak toediener deeglik skoon na gebruik. Gooi waswater waar dit nie ander gewasse, weiding, riviere of damme sal besoedel nie.
- Indien deur 'n spilpunt toegedien word verseker dat daar geen terugvloei deur die sisteem is wat die waterbron kan besoedel nie.
- Trek werksklere uit en was dit. Was uself.

Simptome van menslike vergiftiging

Kontak met die vel mag irritasie veroorsaak. Indien dit in die oë kom mag dit die oë rooi maak en trane veroorsaak.

Noodhulpbehandeling

Inaseming: Neem pasiënt na vars lug en hou hom warm en rustig. Indien moeilik asemhaal gee suurstof. Indien asemhaling staak, gee kunsmatige respirasie. Raadpleeg 'n geneesheer.

Inname: Veroorsaak braking. Moet nooit iets per mond aan 'n bewustelose persoon gee nie. Was mond uit met water. Raadpleeg 'n geneesheer.

Velkontak: Verwyder besoedelde klere. Was af met groot hoeveelhede water en seep. Raadpleeg 'n geneesheer indien nodig.

Oogkontak: Was uit met baie water vir ten minste 15 minute. Raadpleeg 'n geneesheer onmiddellik.

Nota aan geneesheer

Daar is geen spesifieke teenmiddel nie. Behandel simptome en gee ondersteunendeterapie.

Indien ingeneem, doen 'n maagspoeling en dien geaktiveerde houtskool toe.

WEERSTANDSWAARSKUWING

Vir die doel van weerstandsbestuur is **SERVUS** geklassifiseer as 'n groepkode 3 A insekdoder. Enige populasie van 'n spesifieke insek mag individue insluit wat 'n natuurlike weerstand teen **SERVUS** of enige ander groepkode 3 A insekdoders het. Indien hierdie insekdoders herhaaldelik aangewend word, kan die weerstandbiedende individue uiteindelik die insekpopulasie oorheers. Hierdie weerstandbiedende insekte sal waarskynlik nie deur **SERVUS** of enige ander groepkode 3 A insekdoder beheer word nie.

Om weerstand teen insekdoders te vertraag:

- Vermyn die eksklusiewe herhaaldelike gebruik van insekdoders met dieselfde groepkode. Wissel af met, of gebruik tenkmengsels van produkte in verskillende insekdodergroepcodes.
- Integreer ander beheermaatreëls (chemies, verbouing, biologies) in insekdoderprogramme.

Vir spesifieke inligting oor weerstandsbestuur kontak die registrasiehouer van hierdie produk.

GEBRUIKSAANWYSINGS

Gebruik slegs soos aangedui.

VERENIGBAARHEID

Die verenigbaarheid van **SERVUS** met ander insek- en swamdoders is onbekend. Daar word dus aanbeveel dat 'n fisiese mengbaarheidstoets gedoen word voor bespuiting.

Water pH

Die pH van die water wat vir bespuiting gebruik gaan word, moet tussen 5 en 8 wees. Daar word aanbeveel dat van 'n geskikte bufferoplossing gebruik gemaak word wat die spuitmengsel se pH tussen 5 en 8 sal stabiliseer.

TOEDIENING

Grondtoediening

SERVUS kan met enige medium- of hoëvolume spuitapparaat toegedien word, mits dit toegerus is met 'n doeltreffende roermeganisme en in staat is om die spuitmengsel eweredig oor die teikenoppervlak te versprei. Die spuitapparaat moet korrek gekalibreer word voor toediening.

Lugtoediening

Lugtoediening mag slegs deur 'n geregistreerde lugbespuitingsoperateur met 'n geregistreerde en korrek gekalibreerde vliegtuig volgens instruksies van SABS Kode 10118 ("Aerial Application of Agricultural Remedies") gedoen word. Dit is belangrik om te verseker dat die spuitmengsel eweredig oor die teikenarea versprei word en dat die verlies aan spuitmengsel tydens toediening tot die minimum beperk word. Die volgende kriteria moet nagekom word:

Toerusting

- Gebruik geskikte atomiseringsapparaat (hidroliese of roterende spuitkoppe) wat die vereiste druppelgrootte en bedekking van die teiken sal produseer, maar wat die minste verlies van produk deur wegdrywing sal verseker.
- Die operateur moet 'n spuitkop spuitstelsel gebruik wat 'n druppelspektrum met die kleinste moontlike relatiewe span sal produseer.
- Al die spuitkoppe en atomiseerders moet in die binneste 75 % van die vlerkspan geplaas word om die beweging van druppels in die vlerkvorteks in te beperk.

Toedieningsvereistes

- 'n Minimum volume van 30 L spuitmengsel/ha word aanbeveel. Aangesien hierdie produk nie teen 'n verlaagde spuitvolume getoets is nie, kan die registrasiehouer nie effektiwiteit waarborg of verantwoordelik gehou word vir enige nadelige effek indien hierdie produk teen 'n laer volume as hierbo aanbeveel, uit die lug toegedien word nie.
- 'n Druppelbedekking van 30–40 druppels/cm² moet op die teikenarea herwin word.
- 'n Druppelspektrum met 'n VMD van 250–280 mikron word aanbeveel. Verseker dat die produksie van fyn druppels, die wat kleiner as 150 mikron is, tot 'n minimum beperk word.
- Die hoogte van die spuitbalk moet tussen 3 en 4 m bo die teiken gehandhaaf word.

- Moet nie spuit wanneer die vliegtuig aan die bopunt van 'n draai is of tydens 'n duik of terwyl dit uitklim of draai nie.
- Dien toe voordat die gewas te ruig word aangesien die druppelbedekking op die plante verminder sal word.

Meteorologiese toestande

- Die verskil tussen die nat- en droëbollesing, soos met 'n swaaihigrometer bepaal, moet nie 8 °C oorskry nie.
- Moenie toedien tydens turbulente en onstabiele weerstoestande of gedurende die hitte van die dag wanneer stygende en dalende konveksie windbeweging plaasvind nie.
- Moenie toedien onder temperatuur inversie toestande (deur bo of binne die inversielaag te spuit) nie.
- Moenie spuit indien die windspoed 15 km/h oorskry nie.

Algemeen

- Verseker dat die lande akkuraat gemerk is en dat die spuitoperator presies weet watter lande gespuit moet word.
- Verkry versekering van die spuitoperator dat aan bogenoemde vereistes voldoen sal word.
- **Moenie meer as drie toedienings per seisoen maak nie.**

Aangemaakte spuitoplossing moenie onnodig oorstaan nie, veral nie oornag nie.

TOEDIENINGSHOEVEELHEDE

GEWAS EN PLAAG	DOSIS	OPMERKINGS
Aartappels Aartappelmot (<i>Phthorimaea operculella</i>)	Grondtoediening: 300 ml/ha	Afhangende van plantgrootte dien toe in 250–500 L water/ha. Begin toediening by week 4 of vroeër as 'n infestasië waargeneem word. Herhaal toediening elke 10–14 dae en wissel af met ander produkte wat 'n ander werkingswyse het, bv. RIMON® 10 EC (Reg. no. L6285) en AZINPHOS 200 SC (Reg. no. L5588). Erd ten minste twee keer op gedurende die groeiseisoen.
Alle gewasse Snywurms (<i>Agrotis spp.</i>)	0.4–0.5 ml/100 m ry	Dien toe as 'n vooropkom of vroeë na-opkom toediening op KLAM grond. Die saadbed moet fyn en sonder kluite wees en geen oormatige plantreste moet voorkom nie. In gevalle waar die gewas reeds opgekom het, dien toe wanneer plante 5 % skade toon. Rytoediening: Dien toe in 3 L water/100 m rylengte in 'n 30 cm breë strook oor die ry op klam grond.



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GEWAS EN PLAAG	DOSIS	OPMERKINGS
	125–165 ml/ha 165 ml/ha	Algehele toediening: Dien toe in 200–300 L water/ha op klam grond. Lugtoediening: Dien toe in 30 L water/ha op klam grond.
Appels en pere Kodlingmot (<i>Cydia pomonella</i>) Amerikaanse bolwurm (<i>Helicoverpa armigera</i>)	Hoëvolume: 10 ml/100 L water (250–350 ml/ha) Laevolume: 250–350 ml/ha Hoëvolume: 12 ml/100 L water (300–420 ml/ha) Laevolume: 300–420 ml/ha	Begin met toediening by 75 % blomblaarval. Dien toe as 'n volle dektoediening teen 2500–3500 L spuitmengsel/ha. Herhaal toediening met 14- tot 18-dae tussenposes. Dien toe soos hierbo, maar gebruik $\frac{1}{4}$ – $\frac{1}{8}$ van die watervolume wat vir hoëvolume toedienings gebruik word. Begin toediening by 75 % blomblaarval as 'n medium dektoediening. Dien toe soos hierbo maar gebruik $\frac{1}{4}$ – $\frac{1}{8}$ van die watervolume wat vir hoëvolume toedienings gebruik word. Sien waarskuwings teen weerstand bo.
Gebande vrugtekalanders (<i>Phlyctinus callosus</i>) Antestia (<i>Antestiopsis orbitalis</i>)	Hoëvolume: 25 ml/100 L water Hoëvolume: 12 ml/100 L water	Begin toediening by 75 % blomblaarval as 'n volle dektoediening teen 2500–3500 L spuitmengsel/ha. Herhaal 3 tot 4 weke later. Indien nodig kan 'n bespuiting middel Januarie gedoen word. Verseker dat die stam en raamtakke deeglik benat word. Dien toe as 'n medium dektoediening en verseker dat blare en blomtrosse benat word. Antestia sal ook beheer word deur die toedienings vir kodlingmot en kalanders.
Bone en erte Amerikaanse bolwurm (<i>Helicoverpa armigera</i>)	Grondtoediening: 250 ml/ha Lugtoediening: 250 ml/ha	Verken lande met 7 dae tussenposes vanaf die begin blomstadium en gebruik 25 plante/15 ha. Dien toe sodra die eerste larwes waargeneem word of wanneer 10 % van die plante geïnfesteer is met 'n gemiddeld van 1 tot 2 larwes per plant. Dien toe in 200–500 L water/ha vir grondtoediening en 30 L water/ha vir lugtoediening. Vir maksimum beheer moet die bolwurmlarwes nie groter as 10 mm in lengte wees nie. Herhaal toediening indien nodig. Sien waarskuwings teen weerstand bo.



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GEWAS EN PLAAG	DOSIS	OPMERKINGS
Druive Amerikaanse bolwurm (<i>Helicoverpa armigera</i>) Kalanders (<i>Eremnus spp.</i> en <i>Phlyctinus calossus</i>)	Hoëvolume: 12 ml/100 L water Hoëvolume: 25 ml/100 L water	Begin toediening sodra plaag opgemerk word. Dien toe as 'n medium deктоediening. Verseker dat die blare en trosse deeglik benat word. Die bolwurmlarwes moet nie 10 mm in lengte oorskry nie. Herhaal toediening indien nodig. Sien waarskuwings teen weerstand bo. Dien die eerste toediening toe in middel Oktober en herhaal indien nodig. Dien toe as 'n volle deктоediening en verseker deeglike bedekking van die stam sowel as ander plantdele.
Graansorghum Amerikaanse bolwurm (<i>Helicoverpa armigera</i>)	Grondtoediening: 2.5 ml/100 m rylengte (250 ml/ha) Lugtoediening: 250 ml/ha	Dien toe as 'n gerigte bespuiting op die are sodra die plaag opgemerk word. Maak seker dat alle dele van die aar goed benat word. Vir die beste resultate moet die larwes nie 10 mm in lengte oorskry nie. Dien toe in 3 L water/100 m rylengte in 'n 50 cm breë strook oor die ry. Dien toe in 30 L water/ha. Sien waarskuwings teen weerstand bo.
Katoen Amerikaanse bolwurm (<i>Helicoverpa armigera</i>) Rooibolwurm (<i>Diparopsis castanea</i>) Stekelbolwurm (<i>Earias spp.</i>) en Vlekbesies (<i>Dysdercus spp.</i>)	Grondtoediening: Algehele: 250 ml/ha Rytoediening: 2.5 ml/100 m rylengte Lugtoediening: 300 ml/ha	SERVUS kan slegs op katoen 12 weke na opkom toegedien word. Verken 24 plante/15 ha en begin toediening vir Amerikaanse bolwurm sodra weeklikse verkennings 12 eiers/24 plante of 5 larwes/24 plante bereik of oorskry. Vir rooibolwurm moet toediening begin sodra die eiertelling 6/24 plante en vir stekelbolwurm sodra 4 larwes/24 plante bereik is. Dien toe as 'n volle deктоediening en verseker dat alle plantdele deeglik benat word. Om dit te bereik, mag dit nodig wees om met valarms te spuit en rig een spuitpunt tussen die twee rye, een spuitpunt direk bo-oor elke ry en een spuitpunt aan die buitekante van elk van die twee rye. Vir lugbespuiting dien toe in 30 L water/ha. Sien waarskuwings teen weerstand bo.
Koolgewasse Ruitrugmot	Grondtoediening:	Aanvang van toediening hang af van die bestemming van die gewas. Indien



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GEWAS EN PLAAG	DOSIS	OPMERKINGS
(<i>Plutella xylostella</i>)	20 ml/100 L water	koolgewasse bestem is vir die lokale mark, moet bespuiting begin sodra 'n gemiddeld van 0.3 larwes/plant op 20 klein plantjies aangetref word of 0.2 larwes/plant op 20 groter plante gedurende verkenning. Indien dit bestem is om gevries te word, word aanbeveel dat plante elke 14 dae bespuit word. Dien toe teen 500 L spuitmengsel/ha en verseker goeie benatting van plante. Die gebruik van 'n geskikte benatter word aanbeveel. In die geval van groter plante soos byvoorbeeld Brusselse spruite, word die gebruik van valarms aanbeveel. Herhaal toediening 14 dae later indien nodig.
Koring Amerikaanse bolwurm (<i>Helicoverpa armigera</i>)	Lugtoediening: 250 ml/ha	Begin toediening voor 10 % van die are geïnfesteer is. Vir optimum beheer moet die larwes nie 10 mm in lengte oorskry nie. Herhaal toediening indien nodig. Dien toe in 30 L water/ha. Sien waarskuwings teen weerstand bo.
Lupiëne Amerikaanse bolwurm (<i>Helicoverpa armigera</i>)	Lugtoediening: 200 ml/ha	Verken lande elke 7 dae sodra blomknoppe gevorm is en dien toe sodra die eerste larwes opgemerk word. Vir beste resultate moet larwes nie groter as 10 mm in lengte wees nie. Herhaal toediening indien nodig. Sien waarskuwings teen weerstand bo.
Lusern Lusernruspe (<i>Colias electo</i>)	Grondtoediening: 75 ml/ha	Begin toediening sodra skade waargeneem word. Herhaal toediening indien nodig.
Mango's Mangosnuitkewer (<i>Stemochetus mangiferae</i>)	Hoëvolume: 40 ml/100 L water	Dien toe as 'n medium dekttoediening sodra vruggies 'n grootte van 10 mm in deursnee bereik. Herhaal toediening wanneer die vruggies 30–40 mm in deursnee is (4 tot 5 weke na eerste bespuiting). Hierdie bespuitings mag aanleiding gee tot 'n toename in dopluisgetalle.
Mielies Chilo stronkboorder (<i>Chilo partellus</i>)	Grondtoediening: 2.5 ml/100 m rylengte	Dien toe in 3 L water/100 m rylengte. Toediening kan geskied as 'n voorkomende behandeling 14 dae nadat plante opgekom het of as 'n korrektiewe behandeling sodra 10 % van die plante skadesimptome toon. Toediening moet gerig word in die kelke in en na die omliggende blare van plante. Herhaal toediening met 14 dae tussenposes tot met pluimvorming.



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GEWAS EN PLAAG	DOSIS	OPMERKINGS
Stronkboorder (<i>Busseola fusca</i>)	Spilpuntoediening: 250 ml/ha Grondtoediening: 2.0 ml/100 m rylengte Lugtoediening: 200 ml/ha	Dien slegs toe deur 'n spilpunt wat toegerus is met 'n toedieningsstelsel. Begin toediening indien daar genoegsame blaaroppervlakte is m.a.w. vanaf die 6-blaarstadium tot in 'n meer gevorderde stadium. Herhaal toediening met 7- tot 10-dae tussenposes tot met pluimstoot. Dien direk in die kelk toe in 3 L water/100 m rylengte. Begin met toediening sodra eiers op 5 % van die plante gevind word of as 10 % van die plante die tipiese haelskootletsels toon. Vir die beste beheer moet die larwes nie groter as 5 mm in lengte wees nie. 'n Tweede toediening mag nodig wees 14 dae later. Dien toe soos hierbo in 30 L water/ha.
Mielies en suikermielies Amerikaanse bolwurm (<i>Helicoverpa armigera</i>)	Lugtoediening: 250 ml/ha	Verken vir bolwurmeiers sodra die baard verskyn. Begin toediening sodra die eerste eiers opgemerk word. Herhaal toediening indien nodig. Dien toe in 30 L water / ha. Sien waarskuwings teen weerstand bo.
Paprika Amerikaanse bolwurm (<i>Helicoverpa armigera</i>)	Grondtoediening: 250 ml/ha	Begin met verkenning sodra die eerste blomknoppe verskyn. Begin toediening sodra die eerste tekens van bolwurmlarwes waargeneem word. Verseker dat die blomme en vrugte goed bedek word. Sien waarskuwings teen weerstand bo.
Steenvrugte (Perskes, nektariens, pruime Gebande vrugtekalander (<i>Phlyctinus callosus</i>) Mediterreense vrugtevlug (<i>Ceratitis capitata</i>) Amerikaanse bolwurm (<i>Helicoverpa armigera</i>)	Hoëvolume: 25 ml / 100 L water (625–875 ml/ha) Hoëvolume: 12 ml/100 L water (300 – 420 ml/ha)	Dien toe as 'n volle dekhoediening teen 2500–3500 L spuitmengsel/ha sodra infestasië waargeneem word (middel November tot einde Desember). Herhaal toediening 3 tot 4 weke later. Vir die doel van weerstandsbestuur moet egter nie meer as drie toedienings per seisoen maak nie. Indien nodig kan 'n derde bespuiting in middel Januarie toegedien word. Verseker 'n deeglike bedekking van die stamme en raamtakke. Dien toe as 'n volle dekhoediening teen 2500–3500 L spuitmengsel/ha by 75 % blomblaarval. Indien nodig, herhaal bespuiting 18 tot 21 dae later.



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GEWAS EN PLAAG	DOSIS	OPMERKINGS
	Laevolume: 300 – 420 ml/ha	Dien toe soos hierbo in ¼–½ van die watervolume wat vir die hoëvolumebespuiting gebruik is. Sien waarskuwings teen weerstand bo.
Blaarslaai Amerikaanse bolwurm (<i>Helicoverpa armigera</i>) Snywurm (<i>Agrotis spp.</i>)	Grondtoediening: 250 ml/ha	Begin toediening sodra plaag opgemerk word en herhaal indien nodig. Sien waarskuwings teen weerstand bo.
Tamaties Amerikaanse bolwurm (<i>Helicoverpa armigera</i>)	Hoëvolume: 12.5 ml/100 L water	Begin toediening sodra plante begin blom of by eerste tekens van 'n infestasië. Dien toe as 'n volle dektoediening. Gebruik 2 L spuitmengsel/ 10 cm planthoogte/100 m ry. Om optimale beheer te verkry moet die larwes nie groter as 10 mm in lengte wees nie. Indien nodig kan toediening elke 7 tot 10 dae herhaal word. Sien waarskuwings teen weerstand bo.
Uie Blaaspootjie (<i>Thrips tabaci</i>)	Grondtoediening: Hoëvolume: 40 ml/100 L water Laevolume: 100–200 ml/ha	Afhangende van plantgrootte, dien toe teen 250–500 L spuitmengsel per ha. Begin toediening sodra die plaag waargeneem word. Herhaal met 10- tot 14-dae tussenposes indien nodig. Daar word aanbeveel dat 'n geskikte benatter gebruik word. Dien die laer dosis toe op klein plantjies en die hoër dosis op groot plante. Moet nie in spruituie toedien nie.

AZINPHOS 200 SC (Reg. nr. L5588) is 'n handelsmerk en **RIMON® 10 EC** (Reg. nr. L6285) is die geregistreerde handelsmerk van 'n maatskappy van die ADAMA Groep.