



CYPERMETHRIN

Reg.No. L7014 Act No. 36 of 1947

Reg.Nr. L7014 Wet Nr. 36 van 1947

**READ ATTACHED LABEL BEFORE USE
KEEP OUT OF REACH OF CHILDREN AND ANIMALS**

**LEES DIE INGESLOTE ETIKET VOOR GEBRUIK
HOU BUITE BEREIK VAN KINDERS EN DIERE**

INSECTICIDE GROUP 3

INSEKODER GROEP 3

An emulsifiable concentrate contact and stomach insecticide for use on crops, ornamentals, flowers and turf as indicated.

'n Emulgeerbare konsentraat kontak-en maaginsekdoder vir gebruik op die gewasse, sierplante, blomme en grasperke soos aangedui.



Hazard Statements:

May be fatal if swallowed and enters airways (aspiration hazard). Causes serious eye damage and skin irritation. May cause respiratory irritation and drowsiness or dizziness. May cause damage to the nervous system through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects

Precautionary statements:

Avoid breathing fumes/spray mist. Do not eat, drink, or smoke when using this product. Wear PPE. Wash contaminated clothing before re-use. Avoid release to the environment. Wash hands, face, and any exposed skin thoroughly after handling. Do not touch eyes.

Signal word: DANGER

ACTIVE INGREDIENT

Cypermethrin (pyrethroid)

.....200 g/litre.....

AKTIEWE BESTANDDEEL

Sipermetrien (piretroïed)

Net Volume

1 L

Netto Volume

Registered by/Geregistreer deur:

BITRAD CONSULTING (PTY) LTD

41 Rudolph Str, Sunderland Ridge, Centurion. Tel: 012 666 7331

BATCH NUMBER
DATE MANUFACTURED

LOTNOMMER
DATUM VERVAARDIG

Expiry date



Vervaldatum

< 2 years/jaar

**UN No.
Emergency number**

**1993
082 446 8946**

**VN nr.
Noodnommer**

WARNINGS

- **Hazard Statements**

May be fatal if swallowed and enters airways (aspiration hazard).
Causes serious eye damage and skin irritation.
May cause respiratory irritation and drowsiness or dizziness.
May cause damage to the nervous system through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

- **ALLOW FOLLOWING NUMBER OF DAYS BETWEEN APPLICATION AND HARVESTING OR FEEDING /GRAZING (F).**

Macadamias.....	30 days
Grapes, Sorghum, Cotton (F).....	28 days
Table peaches.....	28 days
Apples, Pears, Maize, Sweetcorn, Lucerne (F).....	14 days
Beans, Soya beans, Peas, Groundnuts (F Hay).....	7 days
Tomatoes, Cruciferae	4 days
Canning peaches.....	3 days

- **RE-ENTRY:** Do not enter treated area until spray deposit has dried, unless wearing protective clothing.

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 weeds 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 label instructions or to the occurrence of conditions that could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS

- **Prevention**

Avoid breathing fumes/gas/mist/vapours or spray.
Wash hands and face thoroughly after handling. Do not touch eyes.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.

- **Response**

Get medical help on exposure. Specific treatment – see Section 4 in this SDS.
IF SWALLOWED: Get emergency medical help immediately. Do not induce vomiting
IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF ON SKIN: Wash with plenty of water under the safety shower. If irritation continues, get medical help
Take off contaminated clothing and wash it before re-use.
Collect spillage.

- **Storage**

Store behind lock and key in well ventilated place, away from food and feed

- **Disposal**

Triple rinse empty container in the following manner: Invert the empty container over the spray/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 equal to a minimum of 10 percent of that of the container. Add the rinsing to the contents of the spray tank
Dispose empty containers to an approved recycling facility in accordance with local and national regulations.

RELEVANT SUBSTANCES

Hazardous Component	Weight - %	GHS Classification
Solvent naphtha (petroleum), heavy aromatic	>60%	Aspiration Toxicity, Category 1. Aquatic Toxicity, Chronic Category 2. STOT SE, Category 3.
Cypermethrin	20 - 30%	Acute Toxicity, Oral, Category 4. Acute Toxicity, Inhalation, Category 4. STOT SE, Category 3. STOT RE, Category 2. Aquatic Toxicity, Acute, Category 1. Aquatic Toxicity, Chronic, Category 1.
4-(C10-14) Alkyl benzenesulfonic acid, calcium salt - Calcium dodecylbenzenesulphonate	10 - 20%	Acute Toxicity Oral, Category 4. Skin Corrosion/Irritation, Category 2. Serious Eye Damage/Irritation, Category 1. Aquatic Toxicity Chronic, Category 4.

FIRST AID:

Refer to Precaution Statements above.

Note to Physician:

No antidote is available. Treat symptomatically and supportively.

Note: Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning. In case of ingestion, carry out gastric lavage with care to prevent aspiration of solvent.

RESISTANCE WARNING:

For resistance management CYPERMETHRIN is group code 3 insecticide. Any insect population may contain individuals naturally resistant to CYPERMETHRIN and other group code 3 insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by CYPERMETHRIN or any other group code 3 insecticide.

- 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, growing practices, biological) into insect control programmes.

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

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 st 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 apply respray with any pyrethroid, even at a corrective dosage rate. Use a product from a different chemical group.

MODE OF ACTION:

Modulation of energy transporting sodium channels, preventing channel closing - resulting in hyperexcitation.

DIRECTIONS FOR USE:**USE ONLY AS DIRECTED.**

See "WARNINGS" on withholding periods i.e. period between last application and harvest of crop.

COMPATIBILITY:

- High pH spray mixtures may reduce the efficacy of CYPERMETHRIN. Thus do not mix CYPERMETHRIN with alkaline materials.
- CYPERMETHRIN is not compatible with spray oils, several adjuvants and some pesticides. The compatibility of CYPERMETHRIN with other products must be tested beforehand.

- CYPERMETHRIN is most stable at approximately pH4. If an acidifying agent is used to lower pH, it should be added first to the spray water. Molasses also acidifies the spray mixture and prevents evaporation of spray droplets. If molasses is added, a 10 % for ground application and 20 % for aerial application, is recommended.

AERIAL APPLICATION:

Aerial application of CYPERMETHRIN may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SANS 10118 (Aerial Application of Agricultural Pesticides). Ensure that the spray mixture is distributed evenly over the target area and that the loss of spray material during application is restricted to a minimum. It is therefore essential that the following criteria be met:

Volume:

A spray mixture volume of 30 litres per ha is recommended. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy, or be held responsible for any adverse effect if this product is applied aerially at a lower volume rate than recommended above.

Droplet coverage:

30 to 40 droplets per cm² must be recovered at the target area.

Droplet size:

A droplet spectrum with a VMD of 250 to 280 micron is recommended. Limit the delivery of fine droplets less than 150 microns (high drift and evaporation potential) to a minimum.

Flying height:

Maintain the height of the spray boom at 3 to 4 metres above the target. Do not spray when aircraft dives, is in a climb or when banking.

Use suitable **atomising equipment** that will produce the desired droplet size and coverage, but which will ensure the minimum loss of product. The spraying system must produce a droplet spectrum with the lowest possible Relative Span. Position all the atomisers within the inner 60 to 75% of the wingspan, to prevent droplets being sucked into the **wingtip vortices**.

The difference in **temperature** between the wet and dry bulb thermometers of the whirling hygrometer, should not exceed 8° C. Stop spraying if the **wind** exceeds 15 km/h. Stop spraying under **turbulent**, unstable and dry conditions during the heat of the day. Spraying under temperature **inversion conditions** (spraying in or above the inversion layer) and/or high humidity conditions (relative humidity 80% and above) may lead to the following:

- reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
- Damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target area.

Ensure that the Aerial Spray Operator knows exactly which fields to spray.

Obtain assurance from the Aerial Spray Operator that the above requirements will be met and that relevant data will be recorded in the logbook for future reference.

MIXING INSTRUCTIONS:

1. Fill spray tank $\frac{1}{4}$ to $\frac{1}{2}$ full with water
2. Measure the required CYPERMETHRIN into a bucket with water and stir the mixture.
3. Pour the mixture in the spray tank and fill up whilst stirring - also during application.
4. Do not leave spray mixture overnight.

APPLICATION TABLE:

CROP/PEST	DOSAGE	DIRECTIONS FOR APPLICATION
APPLES EN PEARS Banded fruit weevil (Snout beetle) Codling moth, Leaf eaters American bollworm	10 ml/100 ℓ water 250 - 350 ml/ha 5 ml/100 ℓ water 125 - 175 ml/ha 5 ml/100 ℓ water	HV: 2 500 - 3 500 ℓ spray mix/ha LV: Apply $\frac{1}{4}$ - $\frac{1}{8}$ of the spray mix volume as for HV application. Apply two sprays. The first at 75 % petal fall and the second four weeks later. A third spray can be applied in mid-January to prevent late season damage. Initially this treatment will also control American bollworm and Codling moth. NOTE: Toxic to bees Apply the first spray at 75 % petal drop. Repeat every 14 days in orchards where high infestation warrants intensive control or where pheromone traps dictate applications. Repeat every 21 days in orchards when low infestations are experienced. NOTE: Toxic to bees Apply as a corrective spray. Do not apply before 75 % petal drop. NOTE: Toxic to bees
COTTON All bollworms: i.e. American (<i>Helicoverpa</i>), Red and Spiny bollworm Stainers.	Weekly spraying 75 ml/100 ℓ water 75 or 150 ml/ha 87 or 175 ml/ha 175 or 350 ml/ha	See Warning on resistance under "Warnings" above (rest of remarks follows and refers only to the weekly preventive dosage). In order to comply with the principles of pest management and integrated control measures, CYPERMETHRIN is intended to be used during the period of fruiting from peak flowering until boll split, e.g. approximately 10 - 22 weeks after plant emergence. CYPERMETHRIN is primarily intended for use as a preventative control measure against all bollworm larvae based on weekly scouting, or a regular spray programme applied at 7 day intervals. Normally a bollworm spray programme will commence at the beginning of flowering, i.e. about 6 weeks after emergence. From then until peak flowering use registered non-pyrethroid remedies. After boll split use as recommended on scouting data. Cotton plants older than 12 weeks after emergence is considered mature. PREVENTIVE: apply as determined by scouting for eggs i.e. for American bollworm an average of 0,5 eggs per plant; red bollworm an average of 0,25 eggs/plant; spiny bollworm when two or more larvae are found during scouting, after scouting 24 plants at random in lands up to 15 ha in size. Scouting should be done at weekly intervals from flowering until boll split. Stainers will be controlled during regular applications for control of bollworm. Ground application: With boom and nozzles. Ensure thorough coverage of the plants. For plants smaller than 60 cm apply 100 ℓ spray mixture/ha. For taller plants increase the volume of spray mixture to 200 ℓ/ha for mature cotton. Do not use less than 150 ml CYPERMETHRIN/ha on mature cotton. Mistblower: Use the lower dosage on cotton less than 60 cm high and the higher dosage rate on cotton taller than 60 cm. Do not use less than 150ml CYPERMETHRIN/ha on mature cotton. Aerial application: As for mistblower application, by applying 30 ℓ water/ha. CORRECTIVE: Apply as corrective spray to control an established infestation, i.e. when more than 2 bollworms per 24 plants are found during scouting or when leaf eaters are found and damage to

	250 ml/100 ℓ water 250 or 500ml/ha 250 or 500 ml/ha	leaves is increasing. Later instar red bollworms established inside bolls might not be controlled successfully. Success of treatment can be related to application, density of crop foliage, stand and instar of caterpillars. Allow up to 4 days for Cypermethrin to achieve its full effect. A corrective application is to be considered an emergency measure and thereafter a regular programme must be resumed irrespective of the crop stage. Ground application: With boom and nozzles. Ensure thorough coverage of the plants. For plants smaller than 60 cm apply 100 ℓ spray mixture/ha. For taller plants increase volume of spray mixture/ha gradually to 200 ℓ/ha for mature cotton. Do not use less than 500 ml Cypermethrin/on mature cotton. Mistblower: Use the lower dosage on cotton less than 60 cm high and the higher dosage rate on cotton taller than 60 cm. Do not use less than 500 ml Cypermethrin on mature cotton. Aerial application: As for mistblower application, by applying 30 ℓ water/ha.
CRUCIFERAE American bollworm Caterpillars of the diamond back moth and greater Cabbage moth Thrips	10 ml/100 ℓ water	Ensure good wetting of the plant by adding a wetting agent. Commence spraying at the first signs of the pest and repeat sprays every 10-14 days. This treatment will suppress aphids in a programme spray.
FORESTRY Pine Emperor moth Willow Tree Emperor moth	50 ml/ha 100 ml/ha	Aerial application: In 30 ℓ water/ha. This caterpillar defoliates Pines, Eucalyptus en Proteas. Aerial application: In 30 ℓ water/ha. This caterpillar defoliates Willows, Acacias, Poplars and Oaks.
GRAPE VINES Weevils (Snout beetles)	10 ml/10 ℓ 25 - 150 ml/ha	HV: 250 – 1500 ℓ spray mixture/ha Apply as a full cover application ensuring thorough coverage of all parts of the plant. Apply first spray when the first signs of movement and/or feeding of snout beetles are detected. Repeat within 21 - 28 days as necessary. The first occurrence of weevils varies from area to area but can be expected from mid-October to mid-November. NOTE: Toxic to bees.
GRAZING Army worm	150 ml/ha	A pest of grasses only (veldt, grazing and grass crops). Apply when pest occurs. Ground or aerial application. Apply a minimum of 300 ℓ/ha for ground application.
GROUNDNUTS EN BEANS (Including soya beans) American bollworm	150 ml/ha	Commence application as soon as eggs or larvae are noticed on the plants. Repeat the application at 14 day intervals or as directed by inspection of the crop. Ground application: Apply not less than 200 ℓ mix/ha. Aerial application: Apply in 30 ℓ water/ha.
LAWNS Crickets	5 ml/10 ℓ water	Apply at the rate of 0,5 ℓ spray mixture/10 m ² and/or pour 50 ml of the mixture into each hole. Repeat when necessary.

Lawn caterpillar	5 ml/10 ℓ water	Apply when damage is noticed. Light full cover application. A damp sack left on the lawn overnight will reveal infestation when removed early in the morning.
Northern harvester Termite and ants	5 ml/10 ℓ water	Apply onto lawns at 5 ℓ spray mixture/100 m ² . Repeat application when activity is noticed again. Home garden only. In case of Northern harvester termite up to 30 days control may be expected.
Army worm	5 ml/10 ℓ water	Spray as an overall light cover onto the lawn.
PEAS American bollworm Lesser Army worm	150 ml/ha	Ground application: Apply in not less than 200 ℓ water/ha. Aerial application: Apply 30 ℓ water/ha
LUCERNE Caterpillar	75 ml/ha	Aerial application: Apply in 30 ℓ water/ha. Ground application: Full cover spray in 300 ℓ water/ha.
MACADAMIAS Stink bug	20 ml/100 ℓ water	Apply as high volume spray when the nuts are marble size (Oct./Nov.) Repeat 4 weeks later. A third application may be necessary 4 weeks after the second.
MAIZE AND SWEETCORN Cut worm	0,33 ml/100 m row	Row treatment: Apply post emergence to the crop as soon as pest is noticed in at least 3 ℓ water/ 100 m row. Apply in a band at least 30 cm wide over the row. Ensure that soil is moist right to the surface at time of application. Later infestation may require a second application. Overall application: Ground application in 300 ℓ water/ha. Aerial application: In 30 ℓ water/ha. Soil must be moist up to surface. Ground application: If the row width allows ground application use not less than 3 ℓ water/ 100 m. Direct nozzles towards the heads. Aerial application: Apply in 30 ℓ water/ha. Apply when pest is noticed, but not later than 80 % beard emergence. Ground application: Preventive treatment against young caterpillars based on scouting for eggs on plants. Apply 7 - 10 days after 5 % or more plants are found to be infested with eggs. Do weekly scouting from 2 - 7 weeks after crop emergence by inspecting at least 100 plants at random per field. If eggs have hatched, spray at the first signs of infestation. Direct spray into the funnel. Repeat application when scouting shows this to be necessary later in the season. Apply in sufficient water, i.e. 3 ℓ/100 m row. This will result in the use of 350 ml/ha on 1m row width and 175 ml/ha on 2 m row width. Aerial application: Apply in 30 ℓ water/ha according to the directions above for ground application. Sweet corn: Start spraying 3 weeks after planting and repeat with 10 - 14 day intervals until ears appear. Use in not less than 3 ℓ water/100 m row. Will suppress <i>Busseola fusca</i> stalk borer, American bollworm and leafhoppers. Aerial application: Apply as above in 30 ℓ water/ha.
American bollworm	100 ml/ha	
	100 ml/ha	
American bollworm	1,5 ml/100 m row	
	150 ml/ha	
Stalk borer (<i>Busseola fusca</i>)	3,5 ml/100 m row	
	350 ml/ha	
Pink Stalk borer	1,5 ml/100 m row	
	150 ml/ha	

ORNAMENTALS AND FLOWERS Aphids Mealy bug, Australian bug Flower beetles Lily borer Pine emperor moth, Caterpillars (eg. on Proteas) Shield bug and Twig withers White fly	1 ml/10 ℓ water	Apply when pest is noticed. Repeat when necessary. Full cover application. Only for home garden.
	1 ml/10 ℓ water	Full cover application. Only for home garden. Ant control will materially assist with control.
	1 ml/10 ℓ water	Direct contact spray.
	1 ml/10 ℓ water	Apply regularly when the pest is about.
	50 ml/ha	Apply by air in 30 ℓ water/ha
	1 ml/10 ℓ water	Direct contact spraying in home garden only.
	1 ml/10 ℓ water	Full cover application. Pay particular attention to the underside of the leaves. Home garden use only.
PEACHES Fruit flies False Codling moth Codling moth American bollworm Banded fruit weevil (Snout beetle)	10 ml/100 ℓ water 150 - 350 ml/ha	Full cover spray at 14 day intervals, beginning 8 weeks prior to harvest. In the summer rainfall region, application should commence not later than third week in December.
	5 ml/100 ℓ water 125 - 175 ml/ha	Early cultivars: Full cover spray at 14 day intervals, beginning 6 weeks prior to harvest. Late cultivars: Full cover spray at 14 day intervals beginning 8 weeks prior to harvest. In summer rainfall region application should commence not later than third week of December.
	5 ml/100 ℓ water 125 - 175 ml/ha	Full cover spray at 75 % petal drop. Repeat at 14 -21 day intervals, depending on level of infestation.
	5 ml/100 ℓ water 125 - 175 ml/ha	Full cover application from 75 % petal drop or when pest is noticed.
	10 ml/100 ℓ water 250 - 350 ml/ha	Apply as soon as damage is noticed. Repeat 4 weeks later if necessary.
SORGHUM Cutworm American bollworm Stalk borer (<i>Busseola fusca</i>)	0,33 ml/100 m row	Row treatment: Apply post emergence to the crop as soon as pest is noticed in at least 3 ℓ water/100 m row. Apply in a band at least 30 cm wide over the row. Ensure that soil is moist right to the surface at time of application. Later infestation may require a second application.
	100 ml/ha	Aerial application: Apply according to the above conditions in 30 ℓ water/ha.
	1,5 ml/100 m row	Ground application: Direct application onto ears. Apply in not less than 2 ℓ water/100 m row.
	150 ml/ha	Aerial application: Apply in 30 ℓ water/ha. Apply when pest is noticed. If Bollworm is concealed in the ear, control may be less effective. Later infestation may require a second application.
	3,5 ml/100 m row 350 ml/ha	Ground application: Apply in not less than 3 ℓ/100 m row. Aerial application: As for maize.

WAARSKUWINGS

- **Gevaarklousules**

Mag dodelik wees indien ingesluk en dit die lugweg binnedring (asemhalingsgevaar).
Veroorsaak ernstige oogskade en velirritasie.
Mag asemhalingirritasie, lomerigheid en lighoofdigheid veroorsaak.
Mag met langdurige herhaaldelikeblootstelling skade aanbring aan die sentrale senuweestelsel
Uiters giftig vir waterlewe met langdurige effek.

- DIE VOLGENDE AANTAL DAE MOET VERSTRYK TUSSEN DIE LAASTE BESPUITING EN OES OF VOER/BEWEIDING (F):

Makadamias.....	30 dae
Druwe, Sorghum, Katoen (F).....	28 dae
Tafelperskes.....	28 dae
Appels, Pere, Mielies, Suikermielies, Lusern (F).....	14 dae
Boontjies, Soja, Ertjies, Grondbone (Hooi F).....	7 dae
Tamaties, Koolgewasse.....	4 dae
Inmaakperskes.....	3 dae

- HERBETREDING: Moenie behandelde gebied betree alvorens die bespuiting afgedroog het nie, tensy beskermende klere gedra word nie.

Alhoewel hierdie middel omvattend onder 'n groot verskeidenheid toestande getoets is, waarborg die registrasiehouer nie dat dit onder all 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, en omgewing of vir nadelige effek op mens of dier of vir 'n gebrek aan prestasie van die betrokke middel as gevolg van die ontstaan van toestande wat nie kragtens die registrasie voorsien kon word nie.

Raadpleeg die verskaffer in die geval van enige onsekerheid.

VOORSORGMAATREËLS:

- **Voorkoming**

Voorkom inaseming van dampe/mis of spuitnewel.
Was hande en gesig deeglik na hantering. Moenie oë aanraak nie.
Gebruik slegs buitenshuis of in goed deurlugte areas.
Verhoed vrystelling in die omgewing.
Dra beskermende handskoene/klere/ oog en gesigbeskerming.

- **Reaksie**

Kry mediese hulp met blootstelling. Spesifieke behandeling - verwys na Seksie 4 van SDS.
INDIEN INGESLUK: Kry onmiddelik mediese hulp. Moet nie vomering induseer nie.
INDIEN IN OË: Spoel onmiddelik vir etlike minute. Verwyder kontaklense indien moontlik en hervat spoeling.
INDIEN INGEASEM: Verwyder persoon na vars lug, hou rustig vir normale asemhaling.
INDIEN OP VEL: Was met baie water onder veiligheidstort. Indien irritasie voortduur, kry mediese hulp.
Verwyder besoedelde klere en was voor hergebruik.
Versamel vermorsing.

- **Berging**

Stoor weggesluit in goed deurlugte plek, weg van voedsel en voer.

- **Wegdoening**

Spoel die leë houer drie keer as volg uit: Keer die leë houer om oor die spuit- of mengtenk en dreineer vir minstens 30 sekondes nadat die vloei tot 'n gedrup verminder het. Spoel die houer daarna driekeer uit met 'n volume water gelykstaande aan 'n minimum van 10 persent van die inhoud van die houer. Gooi die spoelwater by die inhoud van die spuittenk voordat die houer op die voorgeskrewe wyse vernietig word.
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Doen weg met leë houers deur te verskaf aan goedgekeurde herwinningsinstansies volgens plaaslike en nasionale regulasies.

BETROKKE BESTANDDELE:

Gevaarlike Komponent	Massa - %	GHS Klassifikasie
Swaar aromatiese nafta (petroleum) oplosmiddel.	>60%	Asemhalingstoksisiteit, Kategorie 1. Toksiteit vir waterlewe, Kronies Kategorie 2. STOT SE, Kategorie 3.
Sipermetrien	20 - 30%	Akute Toksisiteit, Oraal, Kategorie 4. Akute Asemhalingstoksisiteit, Kategorie 4. STOT SE, Kategorie 3. STOT RE, Kategorie 2. Akute Waterlewe Toksisiteit, Kategorie 1. Kroniese Waterlewe Toksisiteit, Kategorie 1.
4-(C10-14) Alkiel benseensulfoonsuur, Kalsiumdodesiel benseensulfonaat	10 - 20%	Akute Toksisiteit, Oraal, Kategorie 4. Velskade/irritasie, Kategorie 2. Ernstige oogskade/irritasie, Kategorie 1. Kroniese Waterlewe Toksisiteit, Kategorie 4.

EERSTEHULP:

Verwys na Voorsorgmaatreëls hierbo.

Nota aan Geneesheer:

Geen spesifieke teenmiddel is beskikbaar nie. Behandel simptome en ondersteunend.

Nota: Piretroïed vergiftiging moet nie verwar word met karbamaat - of organofosfaat vergiftiging nie. Indien ingesluk, doen maagspoeling versigtig om oplosmiddel uit lugweg te hou.

WEERSTANDWAARSKUWING:

CYPERMETHRIN is 'n groeppkode 3 insekdoder. Enige populasie van 'n spesifieke insek mag individue insluit wat 'n natuurlike weerstand teen CYPERMETHRIN, of enige ander groeppkode 3 insekdoder het. Indien hierdie insekdoders herhaaldelik aangewend word, kan die weerstandbiedende individue uiteindelik die insekpopulasie oorheers. Hierdie weerstandbiedende insekte sal waarskynlik nie deur CYPERMETHRIN of enige ander groeppkode 3 insekdoder beheer word nie.

Om weerstand teen insekdoders te vertraag:

- Vermoë eksklusiewe herhaaldelike gebruik van insekdoders met dieselfde groeppkode. Wissel af met, of gebruik tenkmengsels van insekdoders uit ander groeppcodes.
- Integreer ander beheermaatreëls (chemies, verbouing, biologies) in insekdoder programme.

Vir spesifieke inligting oor weerstandbestuur, kontak die verspreider van hierdie produk.

Weerstand van Amerikaanse bolwurm (*Helicoverpa armigera*) teen sintetiese piretroïede is bevestig.

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

ALLE ANDER GEWASSE: Moet nie meer as twee toedienings per groeiseisoen toedien nie. As 'n piretroïedbespuiting swak beheer gee, MOET NIE met enige sintetiese piretroïed, selfs teen 'n korrektiewe dosis, herspuit nie. Gebruik 'n produk uit 'n ander chemiegroep.

WERKINGSMETODE:

Modulering van die natriumkanale wat sluiting voorkom vir energie geleiding in die senuweestelsel verhoed lei tot hiperaktiwiteit.

GEBRUIKSAANWYSINGS:

GEBRUIK SLEGS SOOS AANGEDUI

Sien "WAARSKUWINGS" aangaande onthoudingsperiode, die tydperk wat moet verstryk tussen laaste toediening en oes van gewas.

VERENIGBAARHEID:

- Die doeltreffendheid van CYPERMETHRIN mag verlaag word deur hoë pH spuitmiddels. Moet dus nie CYPERMETHRIN meng met alkaliese stowwe nie.

- CYPERMETHRIN is nie verenigbaar met spuitolies, verskeie bevorderingsmiddels en sommige plaagdoders nie. Die verenigbaarheid van CYPERMETHRIN met ander produkte moet dus vooraf getoets word.
- CYPERMETHRIN is mees stabiel by ongeveer pH4. Indien versuringsmiddel gebruik word om pH te verlaag moet dit eers met spuitwater gemeng word. Melasse versuur ook spuitmengsel en verhoed verdamping van spuitdruppels. Indien melasse bygevoeg word, word 10 % vir grondtoediening, en 20 % vir lugtoediening, aanbeveel.

LUGTOEDIENING:

CYPERMETHRIN kan slegs deur 'n geregistreerde Lugbespuitingsoperateur met 'n korrek gekalibreerde, geregistreerde vliegtuig volgens die instruksies van SANS 10118 (Aerial Application of Agricultural Pesticides) uit die lug bespuit word. Verseker dat die spuitmengsel eweredig oor die teikenarea versprei word en die verlies aan spuitmengsel tydens toediening tot 'n minimum beperk word. Dit is daarom belangrik om aan die volgende vereistes te voldoen:

Volume:

'n Spuitmengsel van 30 liter per ha word aanbeveel. Hierdie produk is nie teen 'n verlaagde volume getoets nie. Die Registrasiehouer kan nie effektiwiteit waarborg, of verantwoordelik gehou word vir enige nadelige effek indien hierdie produk teen 'n laer volume, as hier bo aanbeveel, toegedien word nie.

Druppelbedekking:

30 tot 40 druppels per cm² moet op die teikenarea herwin word.

Druppelgrootte:

'n Druppelspektrum met 'n VMD van 250 tot 280 mikron word aanbeveel. Beperk die lewering van druppelskleiner as 150 mikron. (hoë drywing en verdampingspotensiaal) tot 'n minimum.

Vlieghoogte:

Handhaaf die hoogte van die spuitbalk bo die teiken op 3 tot 4 meter. Moet nie spuit wanneer die vliegtuig duik, uitklim of draai nie.

Gebruik geskikte **atomiseringsapparaat** wat die vereiste druppelgrootte en bedekking sal lewer, maar die minste verlies aan produk verseker.

Die spuitstelsel moet 'n druppelspektrum met die kleinste moontlike Relatiewe span produseer. Plaas al die atomiseerders in die binneste 60 tot 75% van die vlerkspan om te verhoed dat druppels ingetrek word in die **vlerkpunt vortekse**. Die verskil in **temperatuur** tussen die nat- en droëbol termometer van 'n swaaihygrometer, moet nie 8° C oorskry nie. Staak bespuiting indien die **windspoed** 15 km/h oorskry. Staak bespuiting tydens **turbulente**, onstabiele en droë toestande gedurende die hitte van die dag. Bespuiting onder temperatuur **inversie toestande** (deur bo of binne die inversielaag te spuit) en/of **hoë lugvogtoestande** (relatiewe humiditeit 80% en meer) mag tot volgende probleme aanleiding gee:

- verlaagde effektiwiteit, deurdad die druppels as 'n wolk in die lug bly hang en moontlik verdamp (onvoldoende bedekking op teiken).
- skade aan nie-teiken gewasse of sensitiewe areas agv wegdrywing van die spuitnewel na nie-teiken gebiede.

Verseker dat die spuitoperateur presies weet watter lande bespuit moet word.

Verkry versekering van die Lugbespuitingsoperateur, dat aan al die bogenoemde vereistes voldoen sal word en dat data van belang in die logboek aangeteken sal word vir latere verwysing.

MENGINSTRUKSIES:

1. Vul spuittenk $\frac{1}{4}$ tot $\frac{1}{2}$ vol met water.
2. Meet die verlangde hoeveelheid CYPERMETHRIN af in 'n emmer met water en roer die mengsel.
3. Gooi dié mengsel in die spuittenk en vul die tenk en roer - ook terwyl gespuit word.
4. Moenie aangemaakte mengsel oornag laat nie.

TOEDIENINGSTABEL:

GEWAS/PLAAG	DOSIS	GEBRUIKSAANWYSINGS
APPELS EN PERE Gebande vrugtekalandar (Snuitekwer)	10 ml/100 ℓ water 250 - 350 ml/ha	HV: 2 500 - 3 500 ℓ spuitmengsel/ha LV: $\frac{1}{4}$ - $\frac{1}{8}$ van die spuitmengsel volume as vir HV toediening toe. Dien twee keer toe: Met 75 % blomblaarval en weer 4 weke later. 'n Derde bespuiting mag raadsaam wees middel Januarie om laatseisoen skade te voorkom. Sal ook Amerikaanse bolwurm en Kodlingmot aanvanklik beheer. NOTA: Giftig vir bye.
Kodlingmot, Blaarvreters	5ml/100ℓ water 125 - 175 ml/ha	Eerste bespuiting teen 75 % blomblaarval. Herhaal elke 14 dae waar hoë besmetting intensiewe maatreëls regverdig, of waar feromoonlokvalle so aandui. Herhaal elke 21 dae in boorde met lae besmetting. NOTA: Giftig vir bye.
Amerikaanse bolwurm	5 ml/100 ℓ water	Dien toe as 'n korrektiewe bespuiting, maar nie voor 75 % blomblaarval nie. NOTA: Giftig vir bye.
BOSBOU Dennepouoogmot	50 ml/ha	Lugtoediening: In 30 ℓ water/ha. Hierdie ruspes ontblaar denne, Eucalyptus en Protea
Wilgerpouoogmot	100 ml/ha	Lugtoediening: In 30 ℓ water/ha. Hierdie ruspes ontblaar wilger, Acacia, populier- en eikesoorte
ERTJIES Amerikaanse bolwurm Kleinkommandowurm	150 ml/ha	Grondtoediening: Dien in nie minder as 200 ℓ water/ha toe nie. Lugtoediening: Gebruik 30 ℓ water/ha
GRASPERKE Krieke	5 ml/10 ℓ water	Dien toe teen 0,5 ℓ spuitmengsel/10 m ² en/of giet 50 ml van die mengsel in elke gat. Herhaal wanneer nodig.
Grasperkruspe	5 ml/10 ℓ water	'n Ligte dekbespuiting sodra skade opgemerk word. 'n Nat sak wat oornag op die grasperk gelaat word, sal die infestasië wys wanneer dit vroeg soggens weggeneem word.
Noordelike grasdraertermiet en egte miere	5 ml/10 ℓ water	Bespuut die grasperk teen 5 ℓ spuitmengsel/100 m ² . herhaal sodra bedrywighede weer begin. Alleenlik vir huistuine. in die geval van die grasdraertermiet mag tot 30 dae beheer verkry word.
Kommandowurm	5 ml/10 ℓ water	'n Ligte dekbespuiting oor die grasperk.
GRONDBONE EN BONE (Insluitende soja) Amerikaanse Bolwurm	150 ml/ha	Begin sodra eiers of ruspes op die plant gevind word. Herhaal met 14 dae tussenposes of soos na inspeksie raadsaam blyk. Grondtoediening: Moenie minder as 200 ℓ spuitmengsel/ha gebruik nie Lugtoediening: Dien in 30 ℓ water/ha toe.
KATOEN Alle soorte bolwurm: Amerikaanse (<i>Helicoverpa</i>)		Sien: Waarskuwing teen bestandheid onder "Waarskuwings" bo (die res van die inskrywings

Ruspe van die ruitrugmot en Grootkoolmot Blaaspootjies		voeg. Begin spuit by eerste tekens van die plaag en herhaal elke 10 - 14 dae. So 'n behandelingsprogram sal plantuise onderdruk.
LUSERN Lusernruspe	75 ml/ha	Grondtoediening: Volle dekspuiting. In 300 ℓ water/ha. Lugbespuiting: In 30 ℓ water/ha.
MAKADAMIAS Stinkbesies	20 ml/100 ℓ water	Volle dekbespuiting wanneer die neute albastergrootte is (Okt./Nov). Herhaal 4 weke later. 'n Derde toediening mag nodig wees 4 weke na die tweede.
MIELIES EN SUIKERMIELIES Snywurm	0,33 ml/100 m ry	Rybehandeling: Dien na opkom van die saailinge toe sodra die plaag opgemerk word in ten minste 3 ℓ water per 100 m ry. Spuit 'n baan van ten minste 30 cm breed oor die ry. NB: Die grond moet vogtig wees to bo. Latere besmetting mag 'n tweede bespuiting vereis. Algehele landbehandeling: Grond toediening in 300 ℓ water/ha Lugbespuiting: In 30 ℓ water/ha. Die grond moet vogtig wees tot op oppervlak. Grondtoediening: Waar die rywydte dit toelaat, gebruik ten minste 3 ℓ water/100 m ry. Rig die spuitstraal na die koppe. Lugtoediening: In 30 ℓ water/ha. Spuit sodra die larwes opgemerk word, maar nie later dan 80 % baardverskyning nie. Grondtoediening: Voorkomende behandeling teen jong larwes, gebaseer op eierpakkietellings. Spuit 7 - 10 dae nadat op 5 % of meer van die plante eiers gevind is. Inspekteer elke week tussen 2 - 7 weke na ontkieming, deur ten minste 100 plante ewekansig per landery te ondersoek. Indien die eiers al uitgebroei het, spuit sodra eerste tekens van besmetting opgelet word. Spuit direk in die kelk in. Herhaal die toediening later in die seisoen, indien dit volgens inspeksie nodig is. Spuit in genoeg water, d.w.s. 3 ℓ/100 m ry. Lugtoediening: Dien in 30 ℓ water/ha toe volgens aanwysings vir grondtoediening. Suikermielies: Begin spuit 3 weke na plant en herhaal met 10 - 14 dae tussenposes tot dat die koppe verskyn het. Gebruik nie minder as 3 ℓ water/100 m ry. Sal ook <i>Busseola fusca</i> stamboorder, Amerikaanse bolwurm en Bladspringers onderdruk. Lugtoediening: Spuit soos bo in 30 ℓ water/ha.
Amerikaanse bolwurm	100 ml/ha 100 ml/ha	
	1,5 ml/100 m ry	
	150 ml/ha	
Stronkboorder (<i>Busseola fusca</i>)	3,5 ml/100 m ry	
	350 ml/ha	
Pienk Stronkboorder	1,5 ml/100 m ry	
	150 ml/ha	
PERSKES Vrugtevlieg	10 ml/100 ℓ water 150 - 350 ml/ha	Volle dekbespuiting met 14 dae tussenposes, vanaf agt weke voor oes. In die somer reënvalgebied moet nie later as die derde week van Desember begin word nie.
Valskodlingmot	5 ml/100 ℓ water 125 - 175 ml/ha	Vroeë variëteite: Volle dekbespuiting met 14 dae tussenposes vanaf 6 weke voor oes. Laat variëteite: Volle dekbespuiting met 14 dae tussenposes vanaf 8 weke voor oes. In die somerreënvalgebied moet nie later as die derde week van Desember begin word nie.
Kodlingmot	5 ml/100 ℓ water 125 - 175 ml/ha	Volle dekbespuiting teen 75 % blomblaarval. Herhaal met 14 - 21 dae tussenposes, afhangende

Amerikaanse bolwurm	5 ml/100 ℓ water 125 - 175 ml/ha	van die infeksiedruk.
Gebande vrugtekalanders	10 ml/100 ℓ water 250 - 350 ml/ha	Volle dekbespuiting vanaf 75 % blomblaarval of wanneer die plaag opgemerk word. Bespuit sodra vreeskade opgelet word. Herhaal 4 weke later indien nodig.
SIERPLANTE EN BLOMME Plantluise	1 ml/10 ℓ water	Volle dektodiening wanneer die luise opgemerk word. Herhaal wanneer nodig. Alleenlik vir huistuine
Witluis en Australiese luis	1 ml/10 ℓ water	Volle dektodiening. Alleenlik vir huistuine. Mierbeheer sal baie help.
Blomkewers	1 ml/10 ℓ water	Direkte kontakbespuiting.
Lelieboorder	1 ml/10 ℓ water	Dien gereeld toe wanneer die mot bedrywig is.
Dennepouoogmot se ruspes (bv. op Proteas)	50 ml/ha	Lugtoediening in 30 ℓ water/ha
Skildstinkbesies & Verwelkbesies	1 ml/10 ℓ water	Direkte kontakbespuiting: Alleenlik vir huistuine
Witvlieg	1 ml/10 ℓ water	Volle dekbespuiting veral ook na die onderkante van die blare. Alleenlik vir die huistuin.
SORGHUM Snywurm	0,33 ml/100 m ry	Rybehandeling: Dien toe na saailings op is, sodra die plaag opgemerk word, in 3 ℓ water/100 m ry. Spuit 'n baan ten minste 30 cm breed oor die ry. NB die grond moet tot bo klam wees. Latere besmetting mag 'n tweede bespuiting vereis. Lugtoediening: In 30 ℓ water/ha, onder bogenoemde voorwaardes Grondtoediening: Gerigte bespuiting na die are in ten minste 2 ℓ water/100 m ry. Lugtoediening: In 30 ℓ water/ha spuit sodra die plaag opgemerk word. Waar die ruspes binne digte are versteek sit, mag die beheer minder effektief wees. Latere besmettings mag 'n tweede bespuiting benodig. Grondtoediening: Dien toe in minstens 3 ℓ/100 m ry. Lugtoediening: Soos vir mielies.
Amerikaanse bolwurm	100 ml/ha	
	1,5 ml/100 m ry	
	150 ml/ha	
Stronkboorder (<i>Busseola fusca</i>)	3,5 ml/100 m ry	
	350 ml/ha	
TAMATIES Amerikaanse bolwurm	15 ml/100 ℓ water	Grondtoediening: Dien toe as 'n volle dekbespuiting sodra 'n besmetting opgelet word. Herhaal elke 7 - 10 dae of soos inspeksie van gewas aandui. Hoë volume: Tot 500 ℓ spuitmengsel per ha vir plante tot 60 cm hoog, en 1000 ℓ/ha of meer vir plante hoër as 60 cm, bv. opgeleide tamaties. Moenie meer as 150 ml CYPERMETHRIN/ha toedien nie. Newelblasers: 150 - 500 ℓ spuitmengsel/ha. Gebruik die laer dosis en volume vir plante tot 60 cm hoog en die hoër dosis en volume vir plante vanaf 60cm opwaarts bv. opgeleide tamaties. Moenie meer as 150 ml CYPERMETHRIN/ha aanwend nie.
	75 - 150 ml/ha	
VERSKILLENDE GEWASSE Snywurm	0,33 ml/100 m ry	Rybehandeling: Spuit alleenlik indien die grond se boonste 3 cm klam is. Spuit 'n baan ten minste 30 cm breed oor die ry na opkom in 3 ℓ water. Breedwerpig toediening in 300 ℓ water/ha vir
	100 ml/ha	

		grondtoediening of in 30 ℓ/ha by lugtoediening.
WEIDING Kommandowurm	150 mℓ/ha	'n Plaag alleenlik op grasse (veld, weiding en grasgewasse). Dien toe sodra plaag opgemerk word. Grond of lugtoediening. Dien toe in minstens 300 ℓ water/ha vir grondtoediening.
WATTELPLANTASIES Sakwurm	100 mℓ/ha	Lugbespuiting: In 30 ℓ water/ha. Begin spuit in Nov/Des wanneer die ruspes aktief voed.
WINGERD Kalanders	10 mℓ/10 ℓ 25 - 150 mℓ/ha	HV: 250 - 1 500 ℓ spuitmengsel/ha Volle dekhoediening van alle dele van die wingerdstok. Begin sodra die eerste teken van beweging van kewers of vreetskade opgemerk word. Herhaal na 21 - 28 dae indien nodig. Die eerste voorkoms van kewers kan van area tot area varieer maar kom gewoonlik tussen middel Oktober tot middel November voor. NOTA: Giftig vir bye.