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PYRINEX® 480 EC

Reg. no. L4673 Act/Wet 36 of/van 1947
N-AR 0499

An emulsifiable concentrate contact insecticide for the control of pests on various crops as listed.

'n Emulgeerbare konsentraat kontakinsek-doder vir die beheer van plae op verskeie gewasse soos aangedui.

IRAC GROUP CODE INSECTICIDE

1B

IRAC GROEPKODE INSEKDODER

ACTIVE INGREDIENT/AKTIEWE BESTANDDEEL

chlorpyrifos
(organofosfaate)

480 g/L

..... chlorpirifos
(organofosfaat)

NET VOLUME/NETTO VOLUME

..... L

REGISTRATION HOLDER/REGISTRASIEHOUER

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**PYRINEX® is a registered trademark of a company of the ADAMA GROUP.
PYRINEX® is 'n geregistreerde 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.: 3017



HARMFUL /
SKADELIK





WARNINGS

Withholding period (minimum number of days between the last application and harvest or grazing (feeding) of the crop):

Barley (not for grazing)	46 days
Citrus	60 days
Carrots, lettuce	21 days
Tobacco	50 days
Pastures	14 days
Persimmons	63 days
Grain sorghum, dry beans, wheat and maize	32 days
Wheat and maize (grazing)	35 days
Cabbage, Brussel sprouts, potatoes, cauliflower and broccoli	7 days
Bananas, grapes	28 days
Tomatoes	4 days

Note: When **PYRINEX® 480 EC** is used in accordance with the label recommendations as indicated below, the local maximum residue levels (MRLs) will not be exceeded. However, ADAMA South Africa (Pty.) Ltd. cannot be held responsible for residue levels in export crops that exceed the import tolerances of other countries. Please consult the relevant authorities and export organizations in this regard.

- Handle with care.
- Poisonous when absorbed through the skin, swallowed or inhaled.
- Toxic to fish, bees and wildlife.
- **FLAMMABLE** – do not store near open flames.
- Store in a cool place.
- Store away from food and feedstuffs.
- Keep under lock and key out of reach of children, uninformed persons and animals.

Aerial application: Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. Do not spray over or allow drift to contaminate water or adjacent areas.

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 to 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 humans or animals, 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 inhale the spray mist.
- Wash contaminated clothing after use.
- Wash with soap and water after use or accidental skin contact.
- Do not eat, drink or smoke whilst mixing or applying the product or before washing hands and face.
- Prevent contamination of food, feeds, drinking water and eating utensils.
- Avoid drift of spray onto other crops, grazing, rivers, dams and areas not under treatment.
- Clean the applicator before using it for other remedies. Dispose of wash water where it will not contaminate crops, grazing, rivers, dams etc.
- **Triple rinsing of empty container:** 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 equal to a minimum of 10 % of that of the container. Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner. Destroy the empty container by perforation and flattening. Never use the empty container for any other purpose.

SYMPTOMS OF HUMAN POISONING

Headache, fatigue, faintness, giddiness, excessive sweating, nausea, abdominal pains, vomiting, diarrhoea, tightness of the chest, anxiety, blurred vision, muscle twitchings beginning in the eyelids and tip of the tongue, small pupils, respiratory distress, convulsions, coma.

FIRST AID TREATMENT

- Inhalation:** Move the victim to fresh air, keep the victim warm and at rest. If breathing is difficult administer oxygen, and if the victim is not breathing, apply artificial respiration. Obtain medical attention.
- Ingestion:** Do not induce vomiting. Rinse the mouth with water. If breathing is difficult give oxygen if breathing stops, apply artificial respiration. Obtain medical attention.
- Skin contact:** Remove contaminated clothing. Wash off with plenty of cold, running water and soap. Obtain medical attention.
- Eye contact:** Rinse with plenty of running water for at least 15 minutes. Obtain medical attention.



Never administer anything by mouth to an unconscious person.

NOTE TO PHYSICIAN

Antidote 1: Atropine sulphate

Antidote 2: Obidoxime chloride or pralidoxime (PAM)

Suggest serum and/or RBC cholinesterase determination. If ingested, perform gastric lavage and administer activated charcoal.

RESISTANCE WARNING

For resistance management **PYRINEX® 480 EC** is classified as a group code 1B insecticide. Any insect population may contain individuals naturally resistant to **PYRINEX® 480 EC** and other group code 1B insecticides. Resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by **PYRINEX® 480 EC** and other group code 1B insecticides.

To delay insect resistance:

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

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

DIRECTIONS FOR USE

Use only as indicated.

Ground application

PYRINEX® 480 EC can be applied by means of any suitable medium to high volume applicator, provided it is equipped with an efficient agitator, it is able to distribute the spray evenly over the target area and it is calibrated correctly.

Aerial application

Aerial application of **PYRINEX® 480 EC** may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SANS Code 10118 (Aerial Application of Agricultural Pesticides). Ensure that the spray mixture is distributed evenly over the target area and that the loss of spray mixture 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 hectare 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 effects 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 microns is recommended. Limit the production 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 from entering the wingtip vortices.
- The difference in temperature between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8 °C.
- Stop spraying if the wind speed 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 of the target);
 - damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target field.
- Ensure 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 and that relevant data will be compiled in a logbook and kept for future reference.

APPLICATION

CROP AND TARGET	DOSAGE	REMARKS
Apples, pears, peaches, plums, apricots Pernicious scale <i>(Quadraspidiotus perniciosus)</i> Red scale <i>(Aonidiella aurantii)</i>	75 ml/100 L water	Apply only when the trees are dormant. Apply at least two high volume sprays at 4-week intervals; one application before and one after pruning.
Apples, pears Mealybug		DORMANT APPLICATIONS ONLY: Apply two high volume sprays. Apply the first spray with the



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CROP AND TARGET	DOSAGE	REMARKS
<i>(Pseudococcus calceolariae, Pseudococcus obscurus)</i>	75–100 ml/100 L water (1.7–2.5 L/ha)	application of delayed foliation oil or at 3 weeks before bud swell or green tip and the second spray at bud swell or green tip. Use the higher dosage rate if a heavy fruit infestation was experienced in the previous season.
Apples Woolly apple aphid <i>(Eriosoma lanigerum)</i>	75 ml/100 L water	PRE-HARVEST WOOLLY APHID CONTROL (summer spray only): Apply as a full cover spray when the pest starts moving upwards into the trees or when first noticed. If colonization is observed after the initial application, apply a second spray not later than 40 days before harvest. The required spray volume per ha for a specific growth stage should be calculated accurately according to the Unrath method. The spray applied to control woolly aphid will also control codling moth for a period of 14 days. The PYRINEX® 480 EC spray should not replace the standard woolly aphid spray. Apply to Golden Delicious apples only if absolutely necessary, as ring-marking of fruit may occur under certain growing conditions. PYRINEX® 480 EC application will suppress pernicious scale and mealybug. POST-HARVEST WOOLLY APHID CONTROL: If necessary, apply a PYRINEX® 480 EC application as soon as possible after harvest.
Bananas Flat mite <i>(Brevipalpus californicus)</i> Thrips <i>(Hercinothrips bicinctus)</i>	75 ml/100 L water	Apply as a high volume spray and ensure good coverage of each bunch. Commence spraying at the end of July and repeat every 4 weeks until February.
Barley False chinch bug <i>(Nysius natalensis)</i> Aphids	750–1 000 ml/ha	ONLY to be used under the recommendation of SAB Maltings. Use the higher dosage rate for the first application and where high infestation occurs. Start spraying when the first signs of infestation are observed. Repeat 8 to 10 days later if necessary. Apply in



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CROP AND TARGET	DOSAGE	REMARKS
<i>(Schizaphis graminum, Rhopalosiphum padi, Diuraphis noxia)</i>		200–300 L water/ha, depending on the size of the plants. Ground application: Apply as an overall spray. Aerial spraying: Apply in not less than 30 L water/ha.
Citrus Red scale <i>(Aonidiella aurantii)</i> Mussel scale <i>(Lepidosaphes beckii)</i> Circular purple scale <i>(Chrysomphalus aonidum)</i>	100 ml/100 L water 40 ml + 1 L narrow distillation range spray oil/100 L water	PREVENTIVE TREATMENT Use in orchards where red scale is under commercial control. <ol style="list-style-type: none">1. Apply as a full cover spray at 80–100 % petal fall.2. In hot low lying areas, with special reference to young trees, or in other areas where a second spray is considered necessary, re-apply 5 to 8 weeks after the spring spray. When a single preventive spray is required, apply 9 to 11 weeks after petal fall. In the case of double-spray preventive programmes, precede this treatment with 100 ml/100 L water in the spring. IMPORTANT: In all cases apply treatments as a full cover spray. In all cases keep treated trees under observation and be prepared to apply a full corrective spray if scale infestation of fruit occurs in mid- to late summer. WARNINGS <ul style="list-style-type: none">• Do not apply if the temperature in the shade exceeds 33 °C. Do not apply 35 days before or after sulphur applications.• Poor control can be expected if organophosphate resistance has occurred.
African bollworm <i>(Helicoverpa armigera)</i>	75 ml/100 L water	Apply as a full cover spray at blossoming or when pest is noticed. Repeat if necessary.
Aphids <i>(Toxoptera citricida, Aphis gossypii)</i>	20 ml/100 L water	Apply as a light cover spray. Repeat if necessary.
Mealybug	100 ml or 60 ml + 500 ml narrow distillation range	Apply when first signs of pests are noticed. Repeat application if necessary. Apply as a full cover spray and ensure thorough coverage.



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CROP AND TARGET	DOSAGE	REMARKS
<p>(<i>Planococcus citri</i>, <i>Nipaecoccus viridis</i>, <i>Paracoccus burnerae</i>)</p> <p>Orange dog (<i>Papilio</i> spp)</p> <p>Psylla (<i>Trioza erytrae</i>)</p>	<p>spray oil/100 L water</p> <p>40 ml/100 L water</p> <p>60 ml/100 L water</p>	<p>Apply as a light cover spray. Repeat if necessary.</p> <p>Apply when eggs start to hatch on new growth. If possible, apply on a spot-spray basis. If swelling has already occurred on leaf surfaces, spraying will not correct abnormal growth.</p>
<p>Cruciferae</p> <p>Aphids (<i>Brevicoryne brassicae</i>)</p> <p>Caterpillars of the diamond back moth (<i>Plutella xylostella</i>)</p> <p>Greater cabbage moth (<i>Crociodolomia binotalis</i>)</p>	<p>50 ml/100 L water</p>	<p>Apply when pest is first noticed. Do not apply less than 500 L water/ha. Ensure thorough coverage of the whole plant. When aphids or the caterpillars are already in the cabbage head, or in the clusters of leaves of the Brussel sprouts, variable control can be expected. The addition of a wetting agent is recommended. Repeat application, if necessary.</p>
<p>Dry beans, grain sorghum</p> <p>Black maize beetle (<i>Heteronychus arator</i>)</p>	<p>10 ml/100 m row length in 3 L water</p>	<p>Spray into the plant furrow just behind the planter shoe before closing the furrow.</p>
<p>Lettuce</p> <p>Cutworms (<i>Agrotis</i> spp)</p> <p>Western Cape only</p>	<p>1 000 ml/ha</p>	<p>Apply as an overall application when plants emerge. Repeat application every 7 to 14 days if necessary. Apply in at least 500 L water/ha.</p>
<p>Maize</p> <p>Black maize beetle (<i>Heteronychus arator</i>)</p>	<p>Row application: 10 ml/100 m row length in 3 L water</p> <p>Overall application: 1 000 ml/ha in 200 L water</p>	<p>Apply in a 30 cm band behind the planter press-wheel and cover with a layer of soil by dragging a piece of iron or a chain behind the planter. Apply as an overall spray prior to planting and mixing the soil to a depth of 10 cm by using a suitable implement, e.g. a disc or Fieldspan.</p> <p>NB: These applications will suppress cutworm. Less effective control can be expected under dry soil conditions. May be sprayed onto the soil surface without incorporation, if rain is</p>



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CROP AND TARGET	DOSAGE	REMARKS
Maize stalk borer (<i>Busseola fusca</i>)	3.5 ml/100 m row length in 3 L water	expected within 24 hours of application or before irrigation. GROUND APPLICATION ONLY Early planting: Apply when 5 % of the plants are infested with eggs or when 10 % of the plants show "shot hole" damage. If control of this infestation is delayed too long, the larvae may be protected inside the stalk and poor results can be expected. Late planting: Apply the first spray 30–35 days after planting and repeat 14 days later.
Pastures African armyworm (<i>Spodoptera exempta</i>)	250 ml/ha	Apply in 200–500 L water/ha.
Persimmons Mealybug (<i>Planococcus ficus</i>)	100 ml/100 L water 200 ml/100 L water 100 ml/100 L water	Only to be used under the recommendation of the Persimmon Growers Association of South Africa. DOMANT SPRAY ONLY: For low infestation pressure. For high infestation pressure. Apply two applications 14 days apart before bud burst. Apply as a high volume application and ensure thorough wetting of all plant parts. SUMMER SPRAY ONLY: Apply when first movement of mealybug is noticed. Apply as a high volume application ensuring thorough coverage of all plant parts. A second application can be done but not later than the end of January. African bollworm (<i>Helicoverpa armigera</i>) and aphids will also be controlled if present at the time of application.
Potatoes, carrots Cutworms (<i>Agrotis spp</i>) Western Cape only	1 000 ml/ha	Apply as an overall application when plants emerge. Repeat application at intervals of 2 to 3 weeks. Apply in at least 500 L water/ha.



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CROP AND TARGET	DOSAGE	REMARKS
Potatoes Black maize beetle (<i>Heteronychus arator</i>) Cutworm (<i>Agrotis spp</i>)	Pre-plant: 15 ml/100 m row length in 3 L water Post-plant: 500 ml/ha 1 000 ml/ha	PROGRAMME APPLICATION: Apply in 10cm band just before closing the furrows. Apply 6 weeks later in not less than 500 L water/ha and increase the volume of water with the increase in crop density. Repeat at intervals of 2 - 3 weeks. Use drop arms and ensure good ground coverage. Rain or ridging is essential for good control. Apply just prior to tuber initiation in not less than 500 L water/ha and increase the volume of water with the increase in crop density. Repeat at intervals of 2 to 3 weeks. Use drop arms and ensure good ground coverage. Rain or ridging after application is essential for good control.
Tobacco Cutworm (<i>Agrotis spp</i>) Wireworm (<i>Elateridae spp</i>)	200 ml/100 L water	Apply 30 ml per plant as a stem treatment and ensure thorough wetting of the stem and soil surrounding the base of the plant. Do not apply over the heart of the plant as this can cause leaf damage. Repeat if necessary.
Tomatoes African bollworm (<i>Helicoverpa armigera</i>) Looper (<i>Ascotis selenaria</i>) Thrips (<i>Thrips tabaci</i>)	150–200 ml/100 L water 150–200 ml/100 L water	Apply as a full cover spray and repeat every 7 days. When a heavy African bollworm infestation occurs, the higher dose is recommended. Repeat this application every 7 days until the pest is under control. Thereafter continue spraying the lower dosage rate (150 ml) every 7 days. Apply as a full cover spray and repeat every 7 days. The above spray programme for African bollworm and looper will also control thrips.



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CROP AND TARGET	DOSAGE	REMARKS
Wheat Russian wheat aphid (<i>Diuraphis noxia</i>)	750–1 000 ml/ha	Use higher dosage rate for the first application and where high infestation occurs. Start spraying when the first signs of infestation are observed. Repeat spray 8 - 10 days later if necessary. Apply in 200 – 300 L water/ha depending on size of the plants. Ground application: Apply as an overall spray. Aerial spraying: Apply in not less than 30 L water/ha. NOTE: These applications will also suppress black maize beetle.
Green and brown aphids (<i>Schizaphis graminum</i> , <i>Sitobion avenae</i> , <i>Rhopalosiphum padi</i>)	750 ml/ha	Spray if the aphid population is on the increase, and very few ladybird predators and parasites are present. Ground or aerial application.
Wine grapes Mealybug (<i>Planococcus ficus</i>), Argentine ants (suppression) (<i>Linepithema humile</i>)	75 ml/100 L water	SUMMER SPRAY ONLY: Apply when the first movement of Mealybugs are noticed. Apply as a high volume application ensuring thorough coverage of the vines. Repeat after 21 days if necessary. Do not apply during bud swell or within 4 weeks from budding.
Mealybug (<i>Planococcus ficus</i>)	100 ml/100 L water 200 ml/100 L water	DORMANT SPRAYS ONLY: For low infestation pressure. For high infestation pressure. Apply two applications at 2-week intervals before budburst. Apply as high volume applications to ensure optimum coverage. NOTE: Argentine ants, if present at the time of application, will be suppressed by all three dosage regimes. Cocktail ants will be controlled by the highest dosage but only suppressed by the middle dosage.



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CROP AND TARGET	DOSAGE	REMARKS
Wine and table grapes Cocktail ants (<i>Crematogaster spp</i>) (corrective sprays only)	400 ml/100 L water	Refer to the paragraph above. DORMANT SPRAY ONLY: Apply as a single spray when Cocktail ants are present. Apply as a high volume application to ensure optimal coverage. NOTE: This application will also control mealybug and suppress Argentine ants if present at application.
Table grapes Mealybugs (<i>Planococcus ficus</i>)	200 ml/100 L water (two applications)	DORMANT SPRAY ONLY: Apply 2 sprays in the later winter dormant period. The first spray should commence approximately 6 weeks before budburst and the second spray should be applied a minimum of 7 days after the first spray, but before any signs of green growth are evident. (PYRINEX® 480 EC is phytotoxic to young vine leaves.) Use only handgun type high volume sprays. Vines should be individually drenched down to ground level with minimum of 4 L spray mixture per vine. Follow-up sprays: In certain vineyards high population pressure and poor application might necessitate follow-up sprays in summer. As soon as mealybugs are observed, apply another suitable registered chemical.

WAARSKUWINGS

Onthoudingsperiodes (minimum aantal dae tussen laaste toediening en oes of voer/beweiding van die gewas):

Gars (nie vir beweiding nie)	46 dae
Geelwortels, blaarslaai	21 dae
Kopkool, Brusselse spruite, aartappels, blomkool, brokkoli	7 dae
Droë bone, graansorghum, koring, mielies	32 dae
Koring, mielies (vir beweiding)	35 dae
Persimmon	63 dae
Piesangs, druwe	28 dae
Sitrus	60 dae
Tabak	50 dae
Tamaties	4 dae
Weiding	14 dae

Let wel: Wanneer **PYRINEX® 480 EC** gebruik word in ooreenstemming met die etiketaanbevelings soos hier onder aangedui, sal die plaaslike maksimum residuvlakke (MRV's) nie oorskry word nie. ADAMA South Africa (Pty.) Ltd. kan egter nie verantwoordelik gehou word vir residuvlakke in uitvoergewasse wat die invoertoleransies van ander lande oorskry nie. Raadpleeg die relevante owerhede en uitvoerorganisasies in verband hiermee.

- Hanteer versigtig.
- Giftig indien deur die vel geabsorbeer, ingesluk of ingeasem word.
- Giftig vir visse, bye en wild.
- **VLAMBAAR** – moenie naby oop vlamme berg nie.
- Berg in 'n koel plek.
- Berg weg van kos en voer.
- Hou toegesluit en buite bereik van kinders, oningeligte persone en diere.

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 aangrensende gebiede wat nie onder behandeling is spuit nie en voorkom dat die spuitnewel na hierdie gebiede oorwaai.

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 klimaats-, grond-, en bergingstoestande; kwaliteit van verdunningswater, verenigbaarheid met ander stowwe wat nie op die etiket aangedui word nie en die voorkoms van weerstandbiedendheid 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 mense of diere of vir 'n gebrek aan prestasie 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 die geval van enige onsekerheid.

VOORSORGMAATREËLS

- Vermy inaseming van spuitnewel.
- Was gekontamineerde klere na gebruik.
- Was met seep en water na gebruik of velkontak per abuis.
- Moet nie eet, drink of rook terwyl die produk gemeng of toegedien word of voordat hande en gesig gewas is nie.
- Voorkom besoedeling van voedsel, voer, drinkwater en eetgerei.
- Vermy wegdrywing van spuitnewel na ander gewasse, weidings, riviere, damme en gebiede wat nie behandel word nie.
- Maak die toediener skoon voordat dit vir ander middels gebruik word en raak ontslae van die waswater waar dit nie gewasse, weidings, riviere en damme sal besoedel nie.

Drie keer uitspoel van leë houers: Keer die leë houer om oor die spuittenk of mengbak en dreineer vir minstens 30 sekondes nadat die vloeï tot 'n gedrup verminder het. Spoel die houer daarna drie keer uit met 'n volume water gelykstaande aan 'n minimum van 10 % van die volume van die houer. Gooi die spoelwater by die inhoud van die spuittenk voordat die houer op die voorgeskrewe wyse vernietig word. Vernietig leë houers deur gate daarin te maak en dit plat te druk. Leë houers moet vir geen ander doel gebruik word nie.

SIMPTOME VAN MENSLIKE VERGIFTIGING

Hoofpyn, moegheid, flou gevoel, duiseligheid, oormatige sweet, naarheid, maagpyn, braking, diarree, benoudheid op bors, angstigheid, versteurde visie, spiërsametrekking beginnende in die ooglede en punt van tong, vernoude pupille, asemhalingsnood, konvulsies, koma.

NOODHULP

Inaseming: Neem die pasiënt na vars lug en hou die pasiënt warm en stil. As asemhaling moeilik is, gee suurstof. As asemhaling ophou, pas kunsmatige asemhaling toe. Kry mediese aandag.

- Inname:** Moenie braking veroorsaak nie. Spoel die mond uit met water. As asemhaling moeilik is, gee suurstof. As asemhaling ophou, pas kunsmatige asemhaling toe. Kry mediese aandag.
- Velkontak:** Verwyder besoedelde klere. Was met groot hoeveelhede koue, lopende water en seep. Kry mediese aandag.
- Oogkontak:** Spoel met groot hoeveelhede lopende water vir ten minste 15 minute. Kry mediese aandag.

Moet nooit enigiets per mond vir 'n bewustelose persoon gee nie.

NOTA AAN GENEESHEER

Teenmiddel 1: Atropiensulfaat

Teenmiddel 2: Obidoksien chloride of pralidoksiem (PAM)

Stel voor om serum- en/of rooibloedsel-cholienesterase te bepaal. Indien ingeneem is, gee 'n maagspoeling en geaktiveerde koolstof.

WEERSTANDSWAARSKUWING

Vir weerstandsbestuur word **PYRINEX® 480 EC** as 'n groepkode 1B insekdoder geklassifiseer. Enige insekpopulasie mag individue bevat wat natuurlik weerstandbiedend teen **PYRINEX® 480 EC** en ander groepkode 1B insekdoders is. Hierdie weerstandbiedende individue kan uiteindelik die insekpopulasie oorheers as hierdie insekdoders aanhoudend gebruik word. Hierdie weerstandbiedende insekte mag dalk nie deur **PYRINEX® 480 EC** en ander groepkode 1B insekdoders beheer word nie.

Om insekweerstand te vertraag:

- Vermy die eksklusiewe aanhoudende gebruik van insekdoders uit dieselfde groepkode. Wissel af of maak tenkmengsels met insekdoders van ander groepkodes
- Integreer beheermetodes (chemiese, bewerking, biologies) in beheerprogramme

Vir meer spesifieke inligting rakende weerstandbestuur, skakel met die registrasiehouer van hierdie produk.

GEBRUIKSAANWYSINGS

Gebruik slegs soos aangedui.

Grondtoediening

PYRINEX® 480 EC kan met enige medium- tot hoë-volume spuitapparaat toegedien word, mits dit toegerus is met 'n doeltreffende roermeganisme, dit in staat is om die spuitmengsel eweredig oor die teikengebied te versprei en dit korrek gekalibreer is.

Lugtoediening

PYRINEX® 480 EC kan slegs deur 'n geregistreerde Lugbespuitingsperateur met 'n korrek gekalibreerde, geregistreerde vliegtuig volgens die instruksies van SABS Kode 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 volume van 30 liter per hektaar 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 effekte indien hierdie produk teen 'n laer volume, as hierbo 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 mikrons word aanbeveel. Beperk die produksie van druppels kleiner as 150 mikrons (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 produseer, maar die minste verlies van produk verseker. Die spuitstelsel moet 'n druppelspektrum met die kleinste moontlike Relatiewe Span produseer.
- Plaas al die atomiseerders in die binnste 60 tot 75 % van die vlerkspan om te verhoed dat druppels binne-in die vlerkpuntvorteks beweeg.
- Die verskil in temperatuur tussen die nat- en droëboltermometer van 'n swaaihygrometer, moet nie 8°C oorskry nie.
- Stop bespuiting indien die windspoed 15 km/h oorskry.
- Stop bespuiting tydens turbulente, onstabiele en droë toestande gedurende die hitte van die dag.
- Bespuiting onder temperatuur inversie toestande (deur bo of binne die inversie laag te spuit) en/of hoë lugvog toestande (relatiewe humiditeit 80 % en meer) mag tot die volgende probleme aanleiding gee:
 - verlaagde effektiwiteit aangesien die druppels as 'n wolk in die lug bly hang en moontlik verdamp (onvoldoende bedekking op teiken).
 - skade aan ander, nie-teiken gewasse of sensitiewe areas as gevolg van wegdrywing van die spuitwolk na nie-teiken area.
- Verseker dat die Lugbespuitingsperateur presies weet watter lande bespuit moet word.
- Dit is noodsaaklik om 'n versekering van die Lugbespuitingsperateur te verkry dat aan al die bogenoemde vereistes voldoen sal word en dat data van belang in 'n logboek saamgevat is vir toekomstige verwysing.



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TOEDIENING

GEWAS EN PLAAG	DOSIS	OPMERKINGS
Aartappels, geelwortels Snywurm (<i>Agrotis spp</i>) Westelike Provinsie alleenlik	1 000 ml/ha	Dien toe as 'n algehele bespuiting wanneer die plante opkom. Herhaal toediening met tussenposes van 2 tot 3 weke. Dien toe in ten minste 500 L water/ha.
Aartappels Swartmieliekewer (<i>Heteronychus arator</i>)	Voorplant: 15 ml/100 m rylengte in 3 L water	PROGRAMTOEDIENING: Dien toe in 'n 10 cm strook net voordat die plantvoor toegemaak word.
 Snywurm (<i>Agrotis spp</i>)	Na-plant: 500 ml/ha 1000 ml/ha	Dien toe 6 weke later in nie minder as 500 L water/ha en vermeerder die volume water met die toename van gewasdigtheid. Herhaal met 2 tot 3 weke tussenposes. Gebruik valarms en verseker sodoende 'n goeie grondbedekking. Reën of operd na toediening is noodsaaklik vir goeie beheer. Dien toe net voor knolvorming begin in nie minder as 500 L water/ha en vermeerder die volume water met die toename van gewasdigtheid. Herhaal met 2 tot 3 weke tussenposes. Gebruik valarms en verseker sodoende goeie grondbedekking. Reën of operd na toediening is noodsaaklik vir goeie beheer.
Appels, pere, perskes, pruime, appelkose Verderflike dopluis (<i>Quadraspidotus perniciosus</i>) Rooi dopluis (<i>Aonidiella aurantii</i>)	75 ml/100 L water	Dien slegs gedurende die rusperiode van die bome toe. Dien ten minste twee hoë-volume bespuitings met tussenposes van 4 weke toe; een voor en een na snoei.
Appels, pere Witluis	75–100 ml/100 L water	SLEGS RUSTYDPERKTOEDIENINGS: Dien twee hoë-volume bespuitings toe. Dien die eerste bespuiting saam met die vertraagde bot olie-bespuiting toe of 3 weke voor ogieswel of



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GEWAS EN PLAAG	DOSIS	OPMERKINGS
<i>(Pseudococcus calceolariae, Pseudococcus obscurus)</i>	(1.7– 2.5 L/ha)	groenpunt, en die tweede bespuiting met ogieswel of groenpunt. Gebruik die hoër dosis waar swaar vrugbesmetting die vorige seisoen ondervind is.
Appels Appelbloedluis <i>(Eriosoma lanigerum)</i>	75 ml/100 L water	VOOROESBEHEER VAN BLOEDLUIS (slegs somerbespuitings): Dien as 'n volle dekbespuiting toe wanneer die plaag opwaarts in die bome begin inbeweeg of sodra dit waargeneem word. Indien kolonisering na die aanvanklike bespuiting waargeneem word, dien 'n opvolgbespuiting toe nie later nie as 40 dae voor oes. Spuitvolumes benodig per ha vir 'n spesifieke groeistadium moet akkuraat volgens die Unrath metode bepaal word. Bespuitings toegedien vir die beheer van bloedluis sal ook kodlingmot vir 14 dae beheer. Die PYRINEX® 480 EC bespuiting moet nie die standaard bloedluisbespuiting vervang nie. Dien slegs op Golden Delicious appels toe wanneer dit absoluut nodig is, want ringmerke mag moontlik onder sekere groeitoestande op vrugte voorkom. Verderflike dopluis en witluis sal deur hierdie PYRINEX® 480 EC bespuiting onderdruk word. NAOESBEHEER VAN BLOEDLUIS: Indien nodig dien 'n PYRINEX® 480 EC bespuiting so gou as moontlik na oes toe.
Blaarslaai Snywurm <i>(Agrotis spp)</i> Westelike Provinsie alleenlik	1 000 ml/ha	Dien toe as 'n algehele bespuiting wanneer die plante opkom. Herhaal toediening elke 7 tot 14 dae indien nodig. Dien toe in ten minste 500 L water/ha.
Droëbone, graansorghum Swartmieliekewer <i>(Heteronychus arator)</i>	10 ml/100 m rylengte in 3 L water	Spuit in die plantvoor direk agter die planterskoen voordat die voor toegemaak word.



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GEWAS EN PLAAG	DOSIS	OPMERKINGS
<p>Gars</p> <p>Stinkluis (<i>Nysius natalensis</i>)</p> <p>Plantluise (<i>Schizaphis graminum</i>, <i>Rhopalosiphum padi</i>, <i>Diuraphis noxia</i>)</p>	750–1 000 ml/ha	<p>SLEGS vir gebruik onder aanbeveling van SAB Maltings.</p> <p>Gebruik die hoër dosis vir die eerste bespuiting en waar hoë infestasië voorkom. Begin toediening as die eerste tekens van besmetting waargeneem word. Herhaal die bespuiting 8 tot 10 dae later indien nodig. Afhangend van plantgrootte, dien in 200–300 L water/ha toe.</p> <p>Grondtoediening: Dien toe as 'n algehele bespuiting.</p> <p>Lugbespuiting: Dien toe in nie minder nie as 30 L water/ha.</p>
<p>Koolgewasse</p> <p>Plantluise (<i>Brevicornyne brassicae</i>)</p> <p>Ruspes van die Ruitrugmot (<i>Plutella xylostella</i>)</p> <p>Groter Koolmot (<i>Crociodolomia binotalis</i>)</p>	50 ml/100 L water	<p>Dien toe wanneer die plaag vir die eerste keer opgemerk word. Moet nie minder as 500 L water/ha toedien nie. Sorg vir die deeglike benatting van die hele plant. Wanneer die plantluise of ruspes alreeds binne in die koolkop of tussen die blare van die Brusselse spruite is, kan wisselvallige beheer verwag word. Die byvoeging van 'n benattingsmiddel word aanbeveel. Herhaal toediening wanneer nodig.</p>



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GEWAS EN PLAAG	DOSIS	OPMERKINGS
Koring Russiese koringluis (<i>Diuraphis noxia</i>)	750–1 000 ml/ha	Gebruik die hoër dosis vir die eerste bespuiting en waar hoë infestاسies voorkom. Begin toediening as eerste tekens van besmetting waargeneem word. Herhaal bespuiting 8 tot 10 dae later indien nodig. Afhangende van plantgrootte, dien 200–300 L water/ha toe. Grondtoediening: Dien toe as 'n algehele bespuiting. Lugbespuiting: Dien toe in nie minder as 30 L water/ha. NOTA: Hierdie toedienings sal ook swartmieliekewer onderdruk.
Groen en bruin plantluise (<i>Schizaphis graminum</i> , <i>Sitobion avenae</i> , <i>Rhopalosiphum padi</i>)	750 ml/ha	Spuit wanneer die luisbevolking toeneem en daar weinig skilpadbesiepredatore of parasiete teenwoordig is. Grond- of lugtoediening.
Mielies Swartmieliekewer (<i>Heteronychus arator</i>)	Rytoediening: 10 ml/100 m rylengte in 3 L water Algehele toediening: 1 000 ml/ha in 200 L water	Dien toe in 'n 30 cm baan agter die planterdrukwiël en bedek met grond deur 'n sleepyster of ketting agter die planter aan te sleep. Dien toe as 'n algehele bespuiting voor planttyd en vermeng die grond tot 'n diepte van 10 cm deur gebruik te maak van 'n geskikte implement, bv. 'n skotteleg of Fieldspan. NB: Hierdie toedienings sal snywurm onderdruk. Minder effektiewe beheer kan verwag word onder droë grondtoestande. Mag ook sonder inwerking op die grondoppervlak gespuit word indien reën binne 24 uur na toediening verwag word of voor besproeiing.
Stronkboorder (<i>Busseola fusca</i>)	3.5 ml/100 m rylengte in 3 L water	SLEGS GRONDTOEDIENING: Vroeë plantdatum: Dien toe wanneer 5 % van die plante met eiers besmet is of wanneer 10 % van die plante "haelskade"-simptome toon. Indien daar te lank gewag word om beheermaatreëls teen die infestاسie toe te pas, sal die larwes binne-in die stam beskerm wees teen die insekdoder en swak resultate kan verwag word.



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GEWAS EN PLAAG	DOSIS	OPMERKINGS
		Laat plantdatum: Dien die eerste bespuiting toe 30 tot 35 dae na plant en herhaal 14 dae later.
Persimmon Witluis (<i>Planococcus ficus</i>)	100 ml/100 L water 200 ml/100 L water 100 ml/100 L water	Slegs vir gebruik onder aanbeveling van die Persimmon Growers Association of South Africa. SLEGS DORMANTE TOEDIENING: Vir lae infestasiëdruk. Vir hoë infestasiëdruk. Dien twee toedienings 14 dae uitmekaar toe voor bot. Dien as 'n hoë-volume bespuiting toe en verseker deeglike benatting van alle plantdele. SLEGS SOMERTOEDIENING: Dien toe sodra die eerste witluisbeweging opgemerk word. Dien as 'n hoë-volume bespuiting toe en verseker deeglike bedekking van alle plantdele. 'n Tweede bespuiting kan gedoen word, maar nie later as die einde Januarie nie. Afrika bolwurm (<i>Helicoverpa armigera</i>) en plantluis sal ook beheer word indien teenwoordig tydens bespuiting.
Piesangs Blaaspootjies (<i>Hercinothrips bicinctus</i>) Platmyt (<i>Brevipalpus californicus</i>)	75 ml/100 L water	Dien toe as 'n hoë-volume bespuiting en sorg vir goeie bedekking van elke tros. Dien die eerste bespuiting aan die einde van Julie toe en herhaal elke 4 weke tot Februarie.
Sitrus Rooidopluis (<i>Aonidiella aurantii</i>) Mosseldopluis (<i>Lepidosaphes beckii</i>)	100 ml/100 L water	VOORKOMENDE BEHANDELING Gebruik in boorde waar rooidopluis kommersieël onder beheer is. <ol style="list-style-type: none">1. Dien as 'n volle dekbespuiting toe teen 80–100 % blomblaarval.2. In warm laagliggende gebiede, met spesiale verwysing na jong bome, of in ander areas waar 'n tweede bespuiting nodig geag word, herhaal die toediening 5 tot 8 weke na die lentetoediening.



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GEWAS EN PLAAG	DOSIS	OPMERKINGS
Rondepersdopluis (<i>Chrysomphalus aonidum</i>)	40 ml + 1 L smalbestek- distillasie spuitolie/100 L water	<p>Waar 'n enkele voorkomende bespuiting verlang word, dien 9 tot 11 weke na blomblaarval toe. In die geval van 'n dubbel-voorkomende bespuitingsprogram, moet behandeling voorafgegaan word deur 'n toediening van 100 ml/100 L water in die lente.</p> <p>BELANGRIK: Dien in alle gevalle as 'n volle dekbespuiting toe. Hoe in alle gevalle behandelde bome onder observasie en wees voorbereid om 'n korrektiewe behandeling toe te dien, indien dopluisinfestasië op die vrugte gedurende middel- tot laat somer voorkom.</p> <p>WAARSKUWINGS</p> <ul style="list-style-type: none">• Moet nie toedien as die skadutemperatuur 33 °C oorskry nie. Moet nie binne 35 dae voor of na 'n swaelaanwending toedien nie.• Swak beheer kan verwag word indien daar bestandheid teen organofosfate voorkom.
Afrika-bolwurm (<i>Helicoverpa armigera</i>)	75 ml/100 L water	Dien toe as 'n volle dekbespuiting met blomtyd of wanneer die plaag opgemerk word. Herhaal indien nodig.
Plantluise (<i>Toxoptera citricida</i> , <i>Aphis gossypii</i>)	20 ml/100 L water	Dien toe as 'n ligte dekbespuiting. Herhaal indien nodig.
Witluise (<i>Planococcus citri</i> , <i>Nipaecoccus viridis</i> , <i>Paracoccus burnerae</i>)	100 ml of 60 ml + 500 ml smalbestek- distillasie spuitolie/100 L water	Dien toe wanneer die eerste tekens van die plaag opgemerk word. Herhaal toediening indien nodig. Dien toe as 'n volle dekbespuiting en verseker deeglike bedekking.
Lemoenvlinderruspe (<i>Papilio spp</i>)	40 ml/100 L water	Dien toe as 'n ligte dekbespuiting. Herhaal indien nodig.
Lemoenbladvlooi (Silla) (<i>Trioza erytrae</i>)	60 ml/100 L water	Dien toe wanneer die eiers begin uitbroei op die nuwe groeivlaag. Indien moontlik, wend lokaal (kol-kol) aan. Indien die uitstulpings alreeds op blare begin vorm, sal bespuiting nie meer abnormale groei kan verhoed nie.



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GEWAS EN PLAAG	DOSIS	OPMERKINGS
Tabak Snywurm (<i>Agrotis spp</i>) Draadwurm (<i>Elateridae spp</i>)	200 ml/100 L water	Dien 30ml per plant toe as stambehandeling en verseker deeglike benatting van die stam en grond aan die basis van die plant. Moet nie oor die kroon van die plant toedien nie, aangesien blaarbrand mag voorkom. Herhaal indien nodig.
Tamaties Afrika bolwurm (<i>Helicoverpa armigera</i>) Plusia landmeter (<i>Ascotis selenaria</i>) Blaaspootjie (<i>Thrips tabaci</i>)	150–200 ml/100 L water 150–200 ml/100 L water	Dien toe as 'n volle dekbespuiting en herhaal elke 7 dae. Wanneer 'n hoë infestasië Afrika bolwurm voorkom, word die hoër dosis aanbeveel. Herhaal toediening elke 7 dae totdat die plaag onder beheer is. Gaan daarna voort met die bespuiting teen die laer toedieningshoeveelheid (150 ml) elke 7 dae. Dien toe as 'n volle dekbespuiting en herhaal elke 7 dae. Die bogenoemde spuitprogram vir Afrika bolwurm en Plusia landmeter sal ook blaaspootjies beheer.
Weidings Kommandowurm (<i>Spodoptera exempta</i>)	250 ml/ha	Dien toe in 200 – 500 L water/ha.
Wyndruiwe Witluis (<i>Planococcus ficus</i>); Argentynse mier (onderdrukking) (<i>Linepithema humile</i>)	75 ml/100 L water	SLEGS SOMERBESPUITING: Dien toe as 'n hoë-volume bespuiting ten einde optimum bedekking te verseker. Dien toe sodra Witluisbeweging waargeneem word. Herhaal na 21 dae indien nodig. Moet nie tydens ogieswel en binne 4 weke na bot toedien nie.



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GEWAS EN PLAAG	DOSIS	OPMERKINGS
Witluis (<i>Planococcus ficus</i>)	100 ml/100 L water 200 ml/100 L water	SLEGS WINTERBESPUITING: Vir lae infestasiedruk. Vir hoë infestasiedruk. Dien twee toedienings met 'n interval van 2 weke toe voor bot. Dien as 'n hoë-volume bespuiting toe om die beste moontlike bedekking te verseker. NOTA: Argentynse miere, indien teenwoordig tydens toediening, sal deur al drie bogenoemde dosissterktes onderdruk word. Wipstertmiere sal deur die hoogste dosis beheer word en deur die middelste dosis onderdruk word.
Wyn- en tafeldruive Wipstertmiere (<i>Crematogaster sp</i>) (slegs korrektiewe bespuiting)	400ml/100 L water	Verwys ook na die paragraaf hierbo. SLEGS WINTERBESPUITING: Dien toe as 'n enkele bespuiting wanneer Wipstertmiere teenwoordig is. Dien toe as 'n hoë-volume bespuiting ten einde optimum bedekking te verseker. LET WEL: Hierdie toediening sal ook witluis beheer en Argentynse miere onderdruk, indien teenwoordig tydens bespuiting.
Tafeldruive Witluis (<i>Planococcus ficus</i>)	200 ml/100 L water (twee bespuitings)	SLEGS WINTERBESPUITING: Dien 2 bespuitings toe tydens die latere deel van die rustyd. Die eerste behoort omtrent 6 weke voor bot plaas te vind, en die tweede ten minste 7 dae later, maar voordat enige groen op die stokke begin wys. (PYRINEX® 480 EC is fitotoksies vir jong wingerdblare.) Gebruik alleenlik spuitgeweertipe hoë-volume bespuitings. Die stokke behoort elkeen tot grondvlak benat te word met ten minste 4 L spuitoplossing per stok. Opvolgbespuitings: In sekere wingerde mag hoë infestasiedruk of swak toedieningspraktyke opvolgbespuitings in die somer vereis. Sodra witluis waargeneem word, behandel met 'n ander geregistreerde middel.