

MARKSMAN²⁴⁰_{SC}

Act No. 36 of 1947 / Wet Nr. 36 van 1947

SA Reg. No. L10389 / NAM Reg. No. N-AR 1884 / BWA Reg. No. W1301281

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

GROUP

18

INSECTICIDE

PRODUCT INFO:

A suspension concentrate, selective contact and stomach insecticide for the control of certain insect pests, on crops as listed.

PRODUK INFO:

'n Suspensie konsentraat selektiewe kontak- en maaginsekododer vir die beheer van sekere insekplae op gewasse soos gelys.

HAZARD STATEMENTS:

May be harmful if swallowed.
May be harmful in contact with skin.
Cause mild skin irritation.
May cause an allergic skin reaction.
Cause eye irritation.
Harmful if inhaled.
Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

Wear protective gloves, protective clothing, eye, and face protection.
Wash hands and face thoroughly after handling.
Do not touch eyes.



WARNING

Active Ingredient / Aktiewe Bestanddeel

Methoxyfenozide (diacylhydrazine) 240 g/l Metoksiefenosied (diasielhidrasien)

Net (ℓ) SEE CONTAINER

Registration Holder / Registrasiehouer



ICA International Chemicals (Pty) Ltd • Reg. No. 2001/013319/07
28 Planken Street • Plankenbrug Industrial • STELLENBOSCH • 7600 • SOUTH AFRICA
Tel. +27-21 886 9812 • www.icaonline.co.za



What is
GHS?

Batch No.
Date of Manufacture
Expiry Date

SEE
CONTAINER

Lot Nr.
Datum van Vervaardiging
Vervaldatum

In case of poisoning, call the following number: Human Poison Helpline +27-861 555 777
Emergency Number: Griffon Poison Information Centre +27-82 446 8946

MARKSMAN 240 SC

Wet Nr. 36 van 1947
SA Reg. Nr. L10389 / NAM Reg. Nr. N-AR 1884 / BWA Reg. Nr. W1301281

'n Suspensie konsentraat, selektiewe kontak- en maaginsekoder vir die beheer van verskeie insekplae op gewasse soos aangedui.

AKTIEWE BESTANDEEL:

Metoksiefenosied (diasielhidrasien) 240 g/l

GEREGISTREER DEUR:

ICA International Chemicals (Pty) Ltd., Reg. Nr. 2001/013319/07
Plankenstraat 28 • Plankenbrug Industrieel • Stellenbosch • 7600 • Suid-Afrika
Tel. +27-21 886 9812 • www.icaonline.co.za

WAARSKUWINGS

Mag skadelik wees indien ingesluk
Moontlik skadelik in aanraking met vel
Veroorsaak geringe velirritasie
Mag allergiese velreaksie veroorsaak
Veroorsaak oogirritasie
Skadelik indien ingeasem
Baie giftig vir waterlewende organismes met langdurige gevolge

ONTHOUDINGSPERIODES (Minimum aantal dae tussen laaste toediening en oes):

- ▶ Appels 10 Dae
- ▶ Avokado's 30 Dae
- ▶ Brassica/Koolgewasse (kool, blomkool en broccoli) 7 Dae
- ▶ Neutbome (makadama-, pekan-, amandel, pistachio- en haselneute) 14 Dae
- ▶ Pampoengewasse (pampoene) 7 Dae
- ▶ Pere 10 Dae
- ▶ Rissies 3 Dae
- ▶ Sitrus 30 Dae
- ▶ Spinasie 14 Dae
- ▶ Vrugte met oneetbare skille (lietsjies en granate) 14 Dae

Nakoming van hierdie onthoudingsperiodes en toedieningsmetodes sal verseker dat die plaaslike maksimum residu limiete (MRL) nie oorskry word nie, maar mag dalk nie voldoen aan die invoervereistes van ander lande nie. Indien die gewas wat behandel word bestem is vir uitvoer, raadpleeg die betrokke in- of uitvoerder rakende die gebruik van hierdie produk, die MRL en aanbevole onthoudingsperiodes. Alhoewel **MARKSMAN 240 SC** as gewasveilig beskou word op die meeste belangrike kultivars, beteken dit nie dat 'n meer sensitiewe kultivar in die toekoms op die mark kan kom nie. **MARKSMAN 240 SC** moet eers getoets word op nuwe kultivars voordat dit oor groot areas aangewend word.

HERBETREDINGSINTERVAL: Moet nie behandelde gebied binnegaan vir een dag na behandeling nie, tensy beskermende oorklere gedra word.

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 produkte 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 effekte op mens of dier of vir 'n gebrek aan doeltreffendheid, as gevolg van die versuim van die gebruiker om die 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

Indien mediese advies benodig word, hou die produkhouer of -etiket byderhand.
Hou buite bereik van kinders.
Lees sorgvuldig en volg alle instruksies.
Vermy inaseming van stuifsel, dampe en spuitstof.
Was hande en gesig deeglik na hantering. Moet nie aan oë raak nie.
Moenie eet, drink of rook wanneer hierdie produk gebruik word nie.
Gebruik slegs buitenshuis of in 'n goed geventileerde area.
Besoedelde werksklere moet nie buite die werksplek toegelaat word nie.
Vermy vrystelling in die omgewing.
Dra beskermende handskoene, beskermende klere, oog- en gesigbeskerming.
INDIEN INGESLUK: Kry mediese hulp.
INDIEN OP VEL: Was met baie seep en water. Kry mediese hulp.
Indien velirritasie ontstaan: Kry mediese hulp.
INDIEN INGEASEM: Neem slagoffer na vars lug en hou gemaklik vir asemhaling. Kry mediese hulp.
INDIEN IN OË: Spoel versigtig met water vir etlike minute. Verwyder kontakklense indien aanwesig en maklik om te verwyder. Hou aan met spoel.
Indien oogirritasie voortduur: Kry mediese hulp.
Vir spesifieke behandeling verwys na noodhulpbehandeling op hierdie etiket.
Trek alle besoedelde klere uit en was dit voor hergebruik.
Maak stortsel bymekaar.
Berg agter slot en grendel.

SPOEL DIE LEË HOUER DRIE MAAL SOOS VOLG: Keer die leë houer om oor 'n meng- of spuittenk en laat vir ten minste 30 sekondes leegloop totdat die vloeï stadiger word tot 'n gedrup. Spoel die leë houer drie maal met skoon water gelyk aan 'n minimum van 30 % van die volume van die houer. Voeg spoelwater by die inhoud van die spuittenk. Bied houer aan vir herwinning of perforeer dit en raak daarvan ontslae by 'n gemagtigde opvulterrein (www.croplife.co.za). Moenie houer vir enige ander doel gebruik nie.

RELEVANTE STOWWE:

Metoksiefenosied (Cas no: 161050-58-4) Waterlewend Akueel Kategorie 1, H400; Waterlewend Kronies Kategorie 1, H410 (24 % m/v).
1,2-bensiotiasolien-3-oon (Cas no: 2634-33-5) Akute Giftigheid Mondelings Kategorie 4, H302; Velirritasie Kategorie 2, H315; Ernstige Oogskade Kategorie 1, H318; Vel Allergie Kategorie 1, H317; Waterlewend Akueel Kategorie 1, H400; Waterlewend Kronies Kategorie 1, H410 (< 10 % m/v).
Geëtoksileerde poli-arielfenolfoosfaat amiensout (Cas no: 105362-40-1) Oogirritasie Kategorie 2, H319; Velirritasie Kategorie 2, H315 (< 10 % m/v).

NOODHULPBEHANDELING

Ingeval van 'n ongeluk of as u onwel voel, verkry mediese hulp dadelik en wys ETIKET indien moontlik.

- INGEASEM:**
- Neem die slagoffer weg van die onmiddellike bron van blootstelling. Verskuif die slagoffer na vars lug as dit veilig gedoen kan word en hou gemaklik.
 - Indien die slagoffer ophou asemhaal, pas kunsmatige asemhaling toe.
 - Dien suurstof toe as die slagoffer se asemhaling moeilik of onreëlmatig is. Kry mediese hulp.
- VEL:**
- Verwyder en isoleer besmette klere, skoene en leergoedere en gaan stort.
 - Spoel aangetaste areas met nieskurende seep of sagwerkende wasmiddel en groot hoeveelhede lopende water. Was besmette klere voor hergebruik. Kry mediese hulp indien irritasie ontwikkel en voortduur.
- OË:**
- Spoel oë versigtig met skoon water vir ten minste 15 minute spoel terwyl ooglede vanmekaar gehou word. Verwyder kontaklense na 5 minute indien aanwesig en maklik om te doen.
 - Hou aan met spoel terwyl ooglede vanmekaar gehou word. Kry mediese hulp indien irritasie voortduur.
- OPNEMING:**
- Indien ingesluk spoel mond deeglik uit. MOENIE vomering aanmoedig nie, tensy deur 'n gifbeheersentrum of dokter aangesê word om dit te doen.
 - Laat persoon slukkies van 'n glas water neem indien in staat om te sluk. Moet nooit iets per mond aan 'n bewustelose persoon toedien nie.
 - Indien vomering plaasvind, hou aan vloeistowwe gee. Kry mediese hulp.
- NOTA AAN GENEESHEER:**
- Daar is nie 'n spesifieke teenmiddel nie. Alle behandeling moet gebaseer word op waargenome tekens en simptome van nood by die pasiënt.
- MOONTLIKE GESONDHEIDSGEVOLGE:**
- Gevolge van blootstelling (inaseming, opneming of velkontak) aan stof kan vertraag wees.

WEERSTANDSWAARSKUWING

Vir weerstandbestuur, **MARKSMAN 240 SC** is 'n IRAC groepkode (18) diasielhidrasien insekdoder. Enige insekpopulasie mag individue met 'n natuurlike weerstand teen **MARKSMAN 240 SC** of ander groepkode (18) insekdoders insluit. Indien **MARKSMAN 240 SC**, of insekdoders van dieselfde chemiese groep, herhaaldelik oor lang periodes, of teen opeenvolgende generasies van insekte aangewend word, sal die weerstandbiedende individue uiteindelik oorheersend in die populasie voorkom. Hierdie weerstandbiedende insekte sal nie deur **MARKSMAN 240 SC**, of ander groepkode (18) insekdoders beheer word nie. Plaaslike kundiges moet oor 'n weerstandstrategie of oor aanbevelings in die verband geraadpleeg word.

Dit is bekend dat weerstand van insekte en myte teen insekdoders en mytdoders ook kan ontstaan as gevolg van verhoogde metabolisme, verlaagde penetrasie of veranderde gedragpatrone. Hierdie tipe weerstand hou nie verband met enige werkingswyse-klassifikasie nie. Afwisseling met verbindings tussen verskillende chemiese groepe is 'n anti-weerstand bestuurstechniek.

Om weerstand teen insekdoders te vertraag:

- ▶ Vermyn die eksklusiewe herhaaldelike gebruik van insekdoders van dieselfde chemiese groepkode.
- ▶ Moenie insekdoders teen 'n laer dosis, as wat op etikette voorgeskryf word, aanwend nie.
- ▶ Rig toedienings verkieslik en waar enigsins moontlik, teen die jonger larvale- of die eierstadium van 'n betrokke plaag.
- ▶ Sluit verbouing en biologiese beheermaatreëls in geïntegreerde insekdoderprogramme in.
- ▶ **MARKSMAN 240 SC** moet toegedien word wanneer erkende verkenningmetodes aantoon dat die bevolkingsdigtheid van teiken plaë die ekonomiese drempelwaarde bereik soos beskryf onder aanbevelings.
- ▶ Indien **MARKSMAN 240 SC** met ander insekdoders gemeng word wat nie selektief ten opsigte van voordelige insekte is nie, sal die voordeel van **MARKSMAN 240 SC** in die geïntegreerde plaagbestuurprogram nie ten volle benut kan word nie.

Vir spesifieke inligting oor weerstandbestuur, kontak die registrasiehouer van hierdie produk. Aangesien die voorkoms van weerstand nie voorspel kan word nie, word gebruikers aangeraai om behandelde gewasse onder streng observasie te hou. Indien die behandeling nie doeltreffend is as gevolg van die gebruik van **MARKSMAN 240 SC** soos aanbeveel nie, mag 'n weerstandbiedende ras teenwoordig wees. As 'n weerstandbiedende ras positief geïdentifiseer word, moet oorweging daaraan geskenk word vir die vinnige gebruik van 'n insekdoder met 'n ander werkswyse, waarvoor daar geen rekord van weerstand teen die betrokke insekdoder is nie.

MARKSMAN 240 SC moet eerder as 'n voorkomende bespuiting aangewend word. Waar gebruik gemaak word van daggrade modelle (bv. kodlingmot) is die beste stadium om **MARKSMAN 240 SC** te plaas aan die begin van mot piek vlugte of net voordat maksimum eierlegging ver wag word. Dit sal verseker dat die meeste eiers op behandelde oppervlak gelê word en pas uitgebroeide larwes aan **MARKSMAN 240 SC** blootgestel word, voordat enige skade gedoen kan word.

WERKINGSWYSE

MARKSMAN 240 SC is 'n vervellingsversnellingsmiddel en is hoofsaaklik effektief met inname tot L2 larvale stadiums vir die beheer van kodlingmot (*Cydia pomonella*), met geringe kontakwerking op die eiers. Metoksiefenosied mimiek die werking van die vervellingshormoon van lepidoptera larwes in die L1 – L2 stadiums. Die uitwerking op larwes is vinnig en verskil van ander insek groeireguleerders soos chitien-biosintese-inhibeerders of jonghormoon-mimiek-middels. Die versnelde vervellingsproses begin na inname deur die larwes van die orde Lepidoptera, vervelling is voortydig en onvolledig, met dodelike gevolge. Larwes hou binne 4 – 8 ure na inname op met voed. Die larwes vrek deurdat hul vermoë om te voed belemmer word, en hul nie die vervellingsproses kan voltooi nie.

GEBRUIKSBEPERKINGS

Die werkingswyse van die aktiewe bestanddeel metoksiefenosied vereis 'n deeglike bedekking van die plantoppervlak met **MARKSMAN 240 SC**.

GEÏNTEGREERDE PLAAGBESTUURSPROGRAM (GPB)

MARKSMAN 240 SC kan in GPB programme van gewasse aanbeveel word. **MARKSMAN 240 SC** moet eerder as voorkomende bespuiting aangewend word, veral waar die voorkoms van plaë gemonitor word en toedienings eers oorweeg word wanneer verwag word dat die ekonomiese drumpelwaarde vir die plaag op die betrokke gewas bereik of oorskry gaan word. Waar gebruik gemaak word van daggrade modelle (bv. kodlingmot) is die beste stadium om **MARKSMAN 240 SC** te plaas aan die begin van mot piek vlugte of net voordat maksimum eierlegging verwag word. Dit sal verseker dat die meeste eiers op behandelde oppervlak gelê word en pas uitgebroeide larwes aan **MARKSMAN 240 SC** blootgestel word, voordat enige skade gedoen kan word.

MARKSMAN 240 SC is 'n selektiewe insekdoder en beheer slegs die larvale stadium van insekte van die Lepidoptera groep. Wanneer **MARKSMAN 240 SC**, binne goeie landboupraktyk aangewend word, het dit geen beduidende nadelige invloed op parasitiese en predatoriese insekte en roofmyte soos skilpadkewers, goudogies, roofwantse, predatoriese myte, ens. nie.

Uitwerking daarvan op voordelige organismes:

Bye en jong bye – relatief skadeloos

Parasiete – relatief skadeloos

Predatoriese insekte en myte – relatief skadeloos

GEBRUIKSAANWYSINGS – gebruik slegs soos aangedui

VERENIGBAARHEID:

Hoewel **MARKSMAN 240 SC** verenigbaar is met meeste landbouchemiesemiddels word 'n fisiese mengbaarheidstoets (fles toets) altyd aanbeveel voor gebruik aangesien mengbaarheid beïnvloed word deur faktore soos verdunningswatergehalte en produkformulering. **MARKSMAN 240 SC** is oor die algemeen verenigbaar met ander gewasbeskermings chemikalieë.

pH: **MARKSMAN 240 SC** is stabiel in 'n watersuspensie met 'n pH van 4.0 – 9.0.

MENGINSTRUKSIES:

Maak mengtenk halfvol met skoon water en voeg die korrekte hoeveelheid **MARKSMAN 240 SC** by terwyl dit geroer word om 'n homogene emulsie te vorm. Vul die spuittenk met die res van die water terwyl dit geroer word. By die voorbereiding van 'n tenkmengsel: Voeg die produkte by ½ van die water in die volgende volgorde – benatbare poeiers, water oplosbare korrels, **MARKSMAN 240 SC** en ander suspensie konsentrate, emulsifiseerde konsentrate en oplosbare konsentrate laaste. Vul mengtenk met skoon water tot by verlangde vlak terwyl voortdurend geroer word. Roer mengsel deeglik voor en tydens toediening. Aangemaakte spuitmengsels moenie in spuittenk gelaat word vir onbepaalde tyd, bv. oornag, nie. Maak alle toerusting deeglik skoon na gebruik en gooi afvalwater weg sonder om die omgewing te besoedel.

ADJUVANT:

Gebruik van 'n geregistreerde benattingsmiddel teen die geregistreerde dosis word aanbeveel indien vrugte/produkt wasagtig of moeilik benatbaar is.

TOEDIENINGSTABEL		
GEWAS en PLAAG	DOSIS per 100 ℓ water	OPMERKINGS
BRASSICAS/KOOLGEWASSE Kool, Blomkool en Broccoli Afrika/Amerika Bolwurm (<i>Helicoverpa armigera</i>) Ruitrugmot (<i>Plutella xylostella</i>)	60 mℓ Marksman 240 SC	<ol style="list-style-type: none">1. Dien toe as 'n voldekbespuiting sodra die plaag vir die eerste keer waargeneem word.2. Indien nodig kan 'n opvolg toediening van Marksman 240 SC toegedien word.3. Dien toe in 500 – 1000 ℓ/ha.4. 'n Geregistreerde benatter kan bygevoeg word indien nodig.5. 'n Enkele korrektiewe Marksman 240 SC toediening is die doeltreffendste wanneer dit teen die vroeë instar larwes toegedien word. <p><u>Weerstandsbestuur:</u> Moenie Marksman 240 SC meer as drie (3) maal per seisoen toedien nie. Gebruik insekdoders met 'n ander werkingswyse as verdere beheer benodig word.</p>
KERNVRUGTE Appels en Pere Kodlingmot (<i>Cydia pomonella</i>)	60 mℓ Marksman 240 SC	<ol style="list-style-type: none">1. Dien toe as 'n hoë volume voldekbespuiting. Die gebruik van boomry volume (BRV) berekening soos onder aangegee word aanbeveel.2. Toedienings van Marksman 240 SC moet aan die begin van 'n mot generasie, of in die geval van die eerste generasie, by ¾ blomblaarval in aanvang neem. Herhaal toediening na 14 dae. <p><u>Weerstandsbestuur:</u> Moenie Marksman 240 SC meer as twee (2) maal per seisoen toedien nie. Gebruik Marksman 240 SC in 'n program met geregistreerde insekdoders met 'n ander werkingswyse. Alhoewel Marksman 240 SC op enige generasie van kodlingmot aangewend kan word, sal die posisionering van Marksman 240 SC in 'n spuitprogram bepaal word deur die spesifieke beheerstrategie wat gevolg word. Alhoewel nie noodwendig nie, kan dit oorweeg word om Marksman 240 SC gedurende die tweede generasie toe te dien.</p>

		Indien Marksman 240 SC vir die beheer van die laaste generasie van die seisoen aangewend word, moet 'n middel met 'n ander werkswyse vir die beheer van die eerste generasie in die daaropvolgende seisoen gebruik word.
<p>Water volume (ℓ) per hektaar benodig vir voldekbepuiting volgens boomry volume (BRV) berekening: Boomhoogte en Boomwydte moet gedurende die somer, wanneer bome in volblad is, bepaal word.</p> <ul style="list-style-type: none"> • BRV (Groenpunt tot Volblom) $\ell \text{ water/ha} = [(\text{Boomhoogte} \times \text{Boomdeursnit} \times 937) / \text{Rywydte}] \times 60 \%$ • BRV (75 % Blomblaarval tot Een Maand Later – Midseisoen) $\ell \text{ water/ha} = [(\text{Boomhoogte} \times \text{Boomdeursnit} \times 937) / \text{Rywydte}] \times 80 \%$ • BRV (Midseisoen tot ná-oes, Voor Blaarval) $\ell \text{ water/ha} = [(\text{Boomhoogte} \times \text{Boomdeursnit} \times 937) / \text{Rywydte}]$ <p>Gebruik die water volume per hektaar om die hoeveelheid Marksman 240 SC per hektaar benodig, te bepaal. Dit is belangrik dat die korrekte hoeveelheid Marksman 240 SC per hektaar toegedien word.</p>		
<p>NEUTBOME Makadama-, Pekan-, Amandel-, Pistachio en Haselneute</p> <p>Vals Kodlingmot (<i>Thaumatotibia leucotreta</i>)</p>	60 mℓ Marksman 240 SC	<ol style="list-style-type: none"> 1. Dien Marksman 240 SC toe as 'n hoë volume toediening. 2. Begin met toedienings wanneer gewasse vatbaar is, gewoonlik vanaf begin November tot aan die einde van Desember. 3. Gebruik erkende moniteringspraktyke om teenwoordigheid van plaag te bepaal. <p><u>Weerstandsbestuur:</u> Moenie Marksman 240 SC meer as drie (3) maal per seisoen toedien nie. Gebruik insekdoders met 'n ander werkingswyse as verdere beheer benodig word. Indien Marksman 240 SC vir die beheer van die laaste generasie van die seisoen aangewend word, moet 'n middel met 'n ander werkswyse vir die beheer van die eerste generasie in die daaropvolgende seisoen gebruik word.</p> <p><u>Vir residubestuur:</u> Marksman 240 SC moet nie meer as drie (3) keer per seisoen, in 'n spuitprogram met vier-weke tussenposes toegedien word nie. Die laaste toediening moet nie nader as 14 dae voor oes wees nie.</p>
<p>PAMPOENGWASSE (PAMPOENE)</p> <p>Afrika/Amerika Bolwurm (<i>Helicoverpa armigera</i>)</p>	60 mℓ Marksman 240 SC	<ol style="list-style-type: none"> 1. Dien toe as 'n voldekbepuiting sodra die plaag vir die eerste keer waargeneem word. 2. Indien nodig kan 'n opvolg toediening van Marksman 240 SC toegedien word. 3. Dien toe in 500 – 1000 ℓ/ha. 4. 'n Geregistreerde benatter kan bygevoeg word indien nodig. 5. 'n Enkele korrektiewe Marksman 240 SC toediening is die doeltreffendste wanneer dit teen die vroeë instar larwes toegedien word. <p><u>Weerstandsbestuur:</u> Moenie Marksman 240 SC meer as drie (3) maal per seisoen toedien nie. Gebruik insekdoders met 'n ander werkingswyse as verdere beheer benodig word.</p>
<p>RISSIES</p> <p>Afrika/Amerika Bolwurm (<i>Helicoverpa armigera</i>)</p>	60 mℓ Marksman 240 SC	<ol style="list-style-type: none"> 6. Dien toe as 'n voldekbepuiting sodra die plaag vir die eerste keer waargeneem word. 7. Indien nodig kan 'n opvolg toediening van Marksman 240 SC toegedien word. 8. Dien toe in 500 – 1000 ℓ/ha. 9. 'n Geregistreerde benatter kan bygevoeg word indien nodig. 10. 'n Enkele korrektiewe Marksman 240 SC toediening is die doeltreffendste wanneer dit teen die vroeë instar larwes toegedien word. <p><u>Weerstandsbestuur:</u> Moenie Marksman 240 SC meer as drie (3) maal per seisoen toedien nie. Gebruik insekdoders met 'n ander werkingswyse as verdere beheer benodig word.</p>
<p>SPINASIE</p> <p>Afrika/Amerika Bolwurm (<i>Helicoverpa armigera</i>)</p>	60 mℓ Marksman 240 SC	<ol style="list-style-type: none"> 1. Dien toe as 'n voldekbepuiting sodra die plaag vir die eerste keer waargeneem word. 2. Indien nodig kan 'n opvolg toediening van Marksman 240 SC toegedien word. 3. Dien toe in 500 – 1000 ℓ/ha. 4. 'n Geregistreerde benatter kan bygevoeg word indien nodig. 5. 'n Enkele korrektiewe Marksman 240 SC toediening is die doeltreffendste wanneer dit teen die vroeë instar larwes toegedien word. <p><u>Weerstandsbestuur:</u> Moenie Marksman 240 SC meer as drie (3) maal per seisoen toedien nie. Gebruik insekdoders met 'n ander werkingswyse as verdere beheer benodig word.</p>
<p>SITRUS</p> <p>Vals Kodlingmot (<i>Thaumatotibia leucotreta</i>)</p> <p>Sitrusblommot (<i>Prays citri</i>)</p>	60 mℓ Marksman 240 SC	<p><u>Weerstandsbestuur:</u> Moenie Marksman 240 SC meer as twee (2) maal per seisoen op sitrus toedien nie. Gebruik insekdoders met 'n ander werkingswyse as verdere beheer benodig word.</p> <p>Vals Kodlingmot</p> <ol style="list-style-type: none"> 1. Dien toe as 'n hoë volume, voldekbepuiting. 2. Dien Marksman 240 SC toe 8 en 4 weke voor oes.

<p>Lemoenvlinder (larwes) (<i>Papilio demodocus</i>)</p>		<p>Sitrusblommot</p> <ol style="list-style-type: none"> 1. Die mees effektiefste periode om beheermiddels toe te dien is voordat die eiers op vrugte gelê word. Met ander woorde, voor motaktiwiteit 'n piek bereik. 2. Dien Marksman 240 SC by ballonstadium toe, met 'n opvolg spuit 4 weke daarna. <hr/> <p>Lemoenvlinder (larwes)</p> <ol style="list-style-type: none"> 1. Dien toe as 'n ligte dekbespuiting sodra larwes op die blare waargeneem word. 2. Dien 'n opvolg spuit na 10 – 14 dae toe, indien herinfestaie plaasvind.
<p>VRUGTE MET ONEETBARE SKILLE</p> <p>Vals Kodlingmot (<i>Thaumatotibia leucotreta</i>)</p> <p>Avokado's en Lietsjies</p> <p>Granate</p>	<p>60 mℓ Marksman 240 SC</p>	<ul style="list-style-type: none"> • Gebruik erkende moniteringspraktyke om teenwoordigheid van plaag te bepaal. • Dien Marksman 240 SC toe aan die begin van die piek mot vlugte of voor maksimum eierlegging verwag word. • Dien Marksman 240 SC toe as 'n hoë volume voldekbespuiting. <p>Weerstandsbestuur: Gebruik geregistreerde insekdoders met verkillende werkingswyse in die beheerprogram. Indien Marksman 240 SC vir die beheer van die laaste generasie van die seisoen aangewend word, moet 'n middel met 'n ander werkswyse vir die beheer van die eerste generasie in die daaropvolgende seisoen gebruik word.</p> <ol style="list-style-type: none"> 1. Dien Marksman 240 SC 8 en 4 weke voor oes toe, of wanneer vals kodlingmot infestaties verwag word. 2. Moenie Marksman 240 SC meer as drie (3) maal per seisoen toedien nie. <ol style="list-style-type: none"> 1. Gebruik die boomry volume (BRV) berekening (sien Kern Vrugte) om toedienings volume te bepaal. 2. Indien nodig, dien 'n opvolgtoediening 14 dae later toe. 3. Twee (2) bloktoedienings met 'n 70 dag interval tussen die blokke en 'n interval van 14-dae tussen twee toedienings binne 'n blok aanwending, kan toegedien word binne 'n beheerprogram met ander geregistreerde insekmiddels met ander werkswyses. 4. Moenie Marksman 240 SC meer as vier (4) maal per seisoen toedien nie.

^a Gebruik slegs geregistreerde produkte in spuitprogram

MARKSMAN 240 SC

Act No. 36 of 1947

SA Reg. No. L10389 / NAM Reg. No. N-AR 1884 / BWA Reg. No. W1301281

A suspension concentrate, selective contact and stomach insecticide for the control of certain insect pests, on crops as listed.

ACTIVE INGREDIENT:

Methoxyfenozone (diacylhydrazine) 240 g/ℓ

REGISTERED BY:

ICA International Chemicals (Pty) Ltd Reg. No. 2001/013319/07
28 Planken Street • Plankenbrug Industrial • Stellenbosch • 7600 • South Africa
Tel. +27-21 886 9812 • www.icaonline.co.za

WARNINGS

May be harmful if swallowed
May be harmful in contact with skin
Cause mild skin irritation
May cause an allergic skin reaction
Cause eye irritation
Harmful if inhaled
Very toxic to aquatic life with long lasting effects

WITHHOLDING PERIODS (Minimum number of days between last application and harvest):

- ▶ Apples 10 Days
- ▶ Avocados 30 Days
- ▶ Brassica/Cruciferae vegetables (cabbage, cauliflower and broccoli) 7 Days
- ▶ Citrus 30 Days
- ▶ Cucurbits (pumpkins) 7 Days
- ▶ Fruit with inedible peel (litchis and pomegranates) 14 Days
- ▶ Pears 10 Days
- ▶ Peppers 3 Days
- ▶ Spinach 14 Days
- ▶ Tree nuts (macadamias, pecans, almonds, pistachios and hazelnuts) 14 Days

Compliance with these withholding periods and application methods will ensure that residues do not exceed local maximum residue limits (MRL) but may not meet the import requirements of other countries. If the crop to be treated is intended for export, consult the relevant importer or exporting body regarding the use of this product, MRL and recommended withholding periods. Although **MARKSMAN 240 SC** is regarded as crop-safe on most of the important cultivars, this does not mean that a more sensitive cultivar might be available in future. **MARKSMAN 240 SC** must be tested on new cultivars prior to usage over big areas.

RE-ENTRY INTERVAL: Do not enter treated area for one day after application, 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 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, and the environment or harm to man/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

If medical advice is needed, have product container or label at hand.
Avoid breathing mist, vapours and spray.
Wash hands and face thoroughly after handling. Do not touch eyes.
Do not eat, drink, or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves, protective clothing, eye and face protection.
IF SWALLOWED: Get medical help.
IF ON SKIN: Wash with plenty of soap and water. Get medical help.
If skin irritation or rash occurs: Get medical help.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical help.
For specific treatment, see first aid measures on this label.
Take off contaminated clothing and wash before reuse.
Collect spillage.
Store locked up.
Dispose of contents and container in accordance with national regulations.

TRIPLE RINSE THE EMPTY CONTAINER AS FOLLOWS: Invert empty container over mix or spray tank and allow draining for at least 30 seconds until flow has slowed to a drip. Triple rinse the empty container with clean water equal to a minimum of 30 % of the volume of the container. Add rinsing to the contents of the spray tank. Offer container for recycling or puncture and dispose of at authorised landfill (www.croplife.co.za). Do not use container for any other purpose.

RELEVANT SUBSTANCES:

Methoxyfenozide (Cas no: 161050-58-4) Aquatic Acute Category 1, H400; Aquatic Chronic Category 1, H410 (24 % w/v).

1,2-benzisothiazol-3-one (Cas no: 2634-33-5) Acute Oral Toxicity Category 4, H302; Skin Irritation Category 2, H315; Eye Damage Category 1, H318; Skin Sensitization Category 1, H317; Aquatic Acute Category 1, H400; Aquatic Chronic Category 1, H410 (< 10 % w/v).

Ethoxylated Polyarylphenol Phosphate Amine Salt (Cas no: 105362-40-1) Eye Irritation Category 2, H319; Skin Irritation Category 2, H315 (< 10 % w/v).

FIRST AID TREATMENT

In case of accident or if you feel unwell seek medical advice immediately and show this LABEL where possible.

- INHALATION:**
- Remove the victim from immediate source of exposure. Move victim to fresh air, if it can be done safely, and keep comfortable.
 - If victim's breathing has stopped, perform artificial respiration.
 - Administer oxygen if victim's breathing is difficult or irregular. Get medical help.
- SKIN:**
- Remove and isolate contaminated clothing, shoes, and leather goods and take a shower.
 - Rinse affected areas with non-abrasive soap or mild detergent and large amounts of running water. Wash contaminated clothing before reuse. Get medical help if irritation develops and persists.
- EYES:**
- Rinse eyes cautiously with clean running water for at least 15 minutes, while holding eyelids apart. Remove contact lenses after 5 minutes if present and easy to do.
 - Continue rinsing while holding eyelids apart. Seek medical help if irritation continues.
- INGESTION:**
- If swallowed, rinse mouth, DO NOT induce vomiting, unless instructed to do so by poison control center or doctor.
 - Have person sip a glass of water if able to swallow. Never give anything by mouth to an unconscious person.
 - If vomiting does occur, keep on giving fluids. Get medical help.
- NOTE TO PHYSICIAN:**
- There is no specific antidote. All treatments should be based on observed signs and symptoms of distress in the patient.
- POTENTIAL HEALTH EFFECTS:**
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

RESISTANCE WARNING

For resistance management purposes, **MARKSMAN 240 SC** is an IRAC group code (18) diacylhydrazine insecticide. Any insect population may contain individuals naturally resistant to **MARKSMAN 240 SC** and other Group (18) insecticides. If these insecticides are used repeatedly, the resistant individuals may eventually dominate the pest insect population. These resistant insects may not be controlled by **MARKSMAN 240 SC** or by other Group (18) insecticides. For further information on resistance management and advice on IRM programmes contact your local distributor.

It is recognised that resistance of insects and mites to insecticides and acaricides can also result from enhanced metabolism, reduced penetration or behavioural changes that are not linked to groupings. Alteration with compounds from different chemical classes is an anti-resistance management technique.

To delay insecticide resistance:

- ▶ Avoid the exclusive repeated use of insecticides from the same chemical subgroup.
- ▶ Do not use less than recommended label rates of any insecticides.
- ▶ Target applications preferably against early instar larvae and eggs of the pest whenever possible.
- ▶ Include proven cultural and biological control practices within an Integrated Pest Management Programme.
- ▶ **MARKSMAN 240 SC** should be applied when field scouting indicates that the population density of target pests has reached the economic threshold as described under recommendations.
- ▶ If **MARKSMAN 240 SC** is tank mixed with an insecticide that reduces the selectivity in preserving beneficial predatory insects, then the full benefit of **MARKSMAN 240 SC** to the integrated pest management programme may decrease.

For specific information on resistance management, contact the registration holder of this product. Since the occurrence of resistance cannot be predicted, users are advised to keep treated plants under close observation. If treatment is not effective following the use of **MARKSMAN 240 SC** as recommended, a resistant strain may be present. If a resistant strain is positively identified, consideration should be given to prompt use of an insecticide with a different mode of action for which there is no record of resistance.

It is best to apply **MARKSMAN 240 SC** preventively. The best positioning of **MARKSMAN 240 SC** applications are at the beginning of peak moth flight, before egg hatch where degree day models are followed (e.g., codling moth) or before egg hatch of peak moth flights. This will ensure that the majority of eggs are laid on the treated surfaces and the emerging larvae are exposed to **MARKSMAN 240 SC** before any damage is caused.

MODE OF ACTION

MARKSMAN 240 SC is an ecdysone receptor agonist which mimics the moulting hormone ecdysone, inducing a precocious moult, causing moulting acceleration and is effective mainly upon ingestion up to L2 larval stages for the control of codling moth (*Cydia pomonella*) with minimal contact effect on the eggs. Methoxyfenozide mimics the activity of the moulting hormone of lepidopterous larvae in the L1 – L2 stages and is different from other insect growth regulators such as chitin-biosynthesis-inhibitors or juvenile-hormone mimic products. Following ingestion, the larval stages of the order Lepidoptera undergo an incomplete and lethal premature moult. After ingestion, larvae cease feeding within 4 – 8 hours and subsequently die, as a result of their inability to feed and complete the moulting process.

USE RESTRICTIONS

The mode of action of the active ingredient Methoxyfenozide therefore requires thorough spray coverage of the plant surface with **MARKSMAN 240 SC**.

INTEGRATED PEST MANAGEMENT (IPM) PROGRAMME:

MARKSMAN 240 SC can be recommended for IPM programmes in crops. **MARKSMAN 240 SC** should be applied as preventative sprays when field scouting and/or monitoring indexes indicate that the target pest will reach economic thresholds. The best positioning of **MARKSMAN 240 SC** applications are at the beginning of peak moth flight or before egg hatch where degree day models are followed (e.g., codling moth) or before egg hatch of peak moth flights. This will ensure that the majority of eggs are laid on treated surfaces and emerging larvae are exposed to **MARKSMAN 240 SC** before any damage is caused.

MARKSMAN 240 SC is a selective insecticide and only controls the larval stage of insects of the Lepidoptera group. **MARKSMAN 240 SC** used under good agricultural practice (GAP), does not have a significant impact on certain parasitic or predaceous insects and mites, including ladybirds, lacewings, assassin bugs, predatory mites, etc.

Effects on beneficial organisms:

Bees and young bees – relatively harmless

Parasitoids – relatively harmless

Predatory insects and mites – relatively harmless

DIRECTIONS FOR USE - use only as directed

COMPATIBILITY:

MARKSMAN 240 SC compatibility with other agricultural chemicals can be influenced by factors such as dilution water quality and product formulations. It is therefore recommended to always first perform a physical compatibility test (jar test) prior to application. **MARKSMAN 240 SC** is generally compatible with other crop protection chemicals.

pH: **MARKSMAN 240 SC** is stable in a water suspension with a pH of 4.0 – 9.0.

MIXING INSTRUCTIONS:

Pour the correct quantity of **MARKSMAN 240 SC** to half of the required water in the spray tank while agitating to form a homogenous emulsion. Fill the spray tank with rest of the water while agitating. When preparing a tank mixture: while agitating the spray tank water, add the products to ½ of the water in the following sequence – wettable powders, water dispersible granules, **MARKSMAN 240 SC** and other suspension concentrates, emulsifying concentrates and soluble concentrates last. Top up the mixing tank with the required quantity of clean water whilst agitating. Agitate constantly before and during application. Use the spray mixture immediately, do not leave in spray tank for a length of time, e.g., overnight. Clean all equipment thoroughly after use and dispose of wastewater without polluting the environment.

ADJUVANT:

Use with registered adjuvants if the fruit/product surface to be treated is waxy or difficult to wet.

APPLICATION TABLE		
CROP and PEST	DOSAGE per 100 ℓ water	REMARKS
BRASSICA/CRUCIFERAE VEGETABLES Cabbage, Cauliflower and Broccoli African/American Bollworm <i>(Helicoverpa armigera)</i> Diamond Back Moth <i>(Plutella xylostella)</i>	60 mℓ Marksman 240 SC	1. Apply a full cover application at the first sighting of the pest. 2. If necessary, apply a follow-up Marksman 240 SC application. 3. Apply in 500 – 1000 ℓ/ha. 4. A registered wetter may be added if required. 5. A single corrective application of Marksman 240 SC is most effective when applied against early instar larvae. <u>Resistance management:</u> For resistance management, Marksman 240 SC should not be applied in total more than three (3) times per season. Use registered insecticides with a different mode of action for further control measures.
CITRUS False Codling Moth <i>(Thaumatotibia leucotreta)</i> Citrus Flower Moth <i>(Prays citri)</i> Orange dog (larvae) <i>(Papilio demodocus)</i>	60 mℓ Marksman 240 SC	<u>Resistance management:</u> Do not apply Marksman 240 SC more than two (2) times per season. Use registered insecticides with a different mode of action for further control measures. <hr/> False Codling Moth 1. Apply as a high volume full cover spray. 2. Apply Marksman 240 SC 8 and 4 weeks prior to harvest. <hr/> Citrus Flower Moth 1. The most effective time to apply control agents is before egg laying commences on the fruit. In other words, before moth activity reaches its peak. 2. Commence Marksman 240 SC at balloon stage and follow up 4 weeks later. <hr/> Orange dog (larvae) 1. Apply as a light cover foliar application as soon as larvae is observed on the foliage. 2. If re-infestation occurs, apply a follow-up application after 10 to 14 days.
CUCURBITS (PUMPKINS) African/American Bollworm <i>(Helicoverpa armigera)</i>	60 mℓ Marksman 240 SC	1. Apply a full cover application at the first sighting of the pest. 2. Apply a follow-up Marksman 240 SC application if required. 3. Apply in 500 – 1000 ℓ/ha spray mixture. 4. A registered wetter may be added.

		<p>5. A single corrective application of Marksman 240 SC is most effective when applied against early instar bollworm larvae.</p> <p><u>Resistance management:</u> For resistance management, Marksman 240 SC should not be applied in total more than three (3) times per season. Use registered insecticides with a different mode of action for further control measures.</p>
<p>FRUIT WITH INEDIBLE PEEL</p> <p>False Codling Moth (<i>Thaumatotibia leucotreta</i>)</p> <p>Avocados and Litchis</p> <p>Pomegranates</p>	60 mℓ Marksman 240 SC	<ul style="list-style-type: none"> Use recognized monitoring practices to determine presence of pest. Apply Marksman 240 SC at the beginning of peak moth flight or before maximum egg laying is expected. Apply Marksman 240 SC as a high-volume application. <p><u>Resistance management:</u> Use registered insecticides with a different mode of action in the spray programme. If Marksman 240 SC is used to control the last generation in a season, products with a different mode of action must be used for the control of the first generation the following season.</p> <ol style="list-style-type: none"> Apply Marksman 240 SC at 8 and 4 weeks prior to harvest or when false codling moth infestations are expected to occur. Do not apply Marksman 240 SC more than three (3) times per season. <ol style="list-style-type: none"> Use the TRV calculation (see Pome Fruit) to calculate application volume. Apply a follow-up application 14 days after the first application if necessary. Can be applied in two (2) block applications within a spray programme with other registered products with different modes of action, with a 14-day interval between applications within a block and 70 days interval between the two (2) block applications. Do not apply Marksman 240 SC more than four (4) times per season.
<p>PEPPERS</p> <p>African/American Bollworm (<i>Helicoverpa armigera</i>)</p>	60 mℓ MARKSMAN 240 SC	<ol style="list-style-type: none"> Apply a full cover application at the first sighting of the pest. If necessary, apply a follow-up Marksman 240 SC application. Apply in 500 – 1000 ℓ/ha. A registered wetter may be added if required. A single corrective application of Marksman 240 SC is most effective when applied against early instar bollworm larvae. <p><u>Resistance management:</u> For resistance management, Marksman 240 SC should not be applied in total more than three (3) times per season. Use registered insecticides with a different mode of action for further control measures.</p>
<p>POME FRUIT</p> <p>Apples and Pears Codling Moth (<i>Cydia pomonella</i>)</p>	60 mℓ Marksman 240 SC	<ol style="list-style-type: none"> Apply as a high volume full cover spray. Preferably use the tree row volume (TRV) calculation below. First application of Marksman 240 SC at the beginning of a moth generation, or in the case of the first generation, at ¾ petal fall. Repeat after 14 days. <p><u>Resistance management:</u> For resistance management, Marksman 240 SC should not be applied in total more than two (2) times per season. Use in a spray programme with other registered products with different modes of action. Marksman 240 SC can be used on any generation of codling moth. The positioning of Marksman 240 SC in a spray programme will be determined by the control strategy followed. As a guide, Marksman 240 SC can be considered for the control of the 2nd generation. If Marksman 240 SC is used to control the last generation in a season, products with a different mode of action must be used for the control of the first generation the following season.</p>
<p>Water volume (ℓ) per hectare required for full cover spray using tree row volume (TRV) calculation: Tree height and diameter to be measured in summer when trees are in full flush.</p> <ul style="list-style-type: none"> TRV (Bud Break to Full Blossom) ℓ water/ha = [(Tree Height X Tree Diameter X 937)/Row Width] X 60 % TRV (75 % Petal Fall to One Month Later – Mid Season) ℓ water/ha = [(Tree Height X Tree Diameter X 937)/Row Width] X 80 % TRV (Mid-Season to Post Harvest, Before Leaf Drop) ℓ water/ha = [(Tree Height X Tree Diameter X 937)/Row Width] <p>Use the water volume per hectare to calculate the required amount of Marksman 240 SC required per hectare. It is important that the correct amount of Marksman 240 SC per hectare is applied.</p>		
<p>SPINACH</p> <p>African/American Bollworm</p>	60 mℓ Marksman 240 SC	<ol style="list-style-type: none"> Apply a full cover application at the first sighting of the pest. If necessary, apply a follow-up Marksman 240 SC application. Apply in 500 – 1000 ℓ/ha.

<i>(Helicoverpa armigera)</i>		<p>4. A registered wetter may be added if required.</p> <p>5. A single corrective application of Marksman 240 SC is most effective when applied against early instar bollworm larvae.</p> <p><u>Resistance management:</u> For resistance management, Marksman 240 SC should not be applied in total more than three (3) times per season in a spray programme. Use registered insecticides with a different mode of action for further control measures.</p>
<p>TREE NUTS Macadamias, Pecans, Almonds, Pistachios and Hazelnuts</p> <p>False Codling Moth <i>(Thaumatotibia leucotreta)</i></p>	60 ml Marksman 240 SC	<p>1. Apply Marksman 240 SC as a high volume application.</p> <p>2. Start first application in susceptible period, usually beginning of November to end of December.</p> <p>3. Use recognized monitoring practices to determine presence of false codling moth.</p> <p><u>Resistance management:</u> For resistance management, Marksman 240 SC should not be applied in total more than three (3) times per season. Use registered insecticides with a different mode of action for further control measures. If Marksman 240 SC is used to control the last generation in a season, a product with a different mode of action must be used for the control of the first generation the following season.</p> <p><u>For residue management:</u> Marksman 240 SC should not be applied more than three (3) times per season in a spray programme with four-week intervals. Last application not closer than 14 days before harvest.</p>

^a Only use registered products as registered in spray programmes

SANB-MT008