



# SHARDA DIFLUBENZURON 480 SC

Reg. No. L 9486, Act No. 36 of 1947 | Reg. Nr. L 9486, Wet Nr. 36 van 1947

A suspension concentrate insect growth regulator for the control of potato tuber moth larvae in potatoes, pine brown tail moth larvae in pine plantations and wattle bag worm in wattle plantations.

## INSECTICIDE GROUP CODE A15

### ACTIVE INGREDIENT

Diflubenzuron (benzoylurea) - 480 g/l

Registration Holder | Registrasiehouer

Sharda International Africa cc

(Reg. No. 2006/186705/23)

P O Box 82021, Southdale 2135, RSA

Tel: 031 266 3264

Fax: 086 641 2325

'n Suspensie konsentraat insekgroeireguleerder vir die beheer van aartappel-mot larwes in aartappels, denne-bruinwasmot larwes in denneboom-plantasies en wattelsakwurm larwes in wattleplantasies.

## INSEKDODERGROEPKODE A15

### AKTIEWE BESTANDEEL

Diflubenzuron (bensoielureum) - 480 g/l

BATCH NUMBER LOT NOMMER	
DATE OF MANUFACTURE DATUM VAN VERVAARDIGING	

Net Volume /  
Netto Volume

5ℓ

UN No. 3082



CAUTION  
VERSIGTIG



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#### WARNINGS

- Withholding Period: Potatoes: Allow a minimum of 9 days between the last application and harvest.
- Handle with care.
- May cause slight eye irritation.
- Keep out of reach of children, uninformed persons and animals.
- Store in a cool dry place away from food, feed and drinking water.
- Re-entry Interval: Do not enter the treated area until the spray deposit has dried unless wearing protective clothing.
- 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 insecticide has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions because the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions; quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of the pest against this insecticide, as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment, or harm to man or animal or for lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

#### PRECAUTIONS

- Do not eat drink or smoke whilst handling this product.
- Prevent contamination of food, feed, drinking water and eating utensils.
- Wear rubber gloves and a face shield when handling the concentrate.
- Avoid inhalation of spray mist when spraying.
- Avoid contact with eyes and skin.
- In the case of eye contact, immediately rinse eyes with clean water for at least 15 minutes.
- In the case of skin contact, wash thoroughly with soap and water.
- In the case of contaminated clothes, remove them and wash thoroughly.
- Avoid spray drift onto other crops, grazing, rivers, dams or areas not under treatment.
- Rinse the empty 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.
- Destroy the container in the prescribed manner by flattening and perforation and do not use for any other purpose.

#### Mode of Action

"Sharda Diflubenzuron 480 SC" is a stomach insecticide specific to larvae. It prevents development from one growth stage to the next. The effect is slow. Apply before or when adults are laying eggs on the crop. "Sharda Diflubenzuron 480 SC" does not control adult moths but can have an ovicidal effect on female moths. It has no effect on insect parasites and predators.

#### Resistance Warning

For resistance management, "Sharda Diflubenzuron 480 SC" is a group code A15 insecticide. Any insect population may contain individuals naturally resistant to "Sharda Diflubenzuron 480 SC" and other group code A15 insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by "Sharda Diflubenzuron 480 SC" or any other group code A15 insecticide.

To delay insecticide resistance:

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

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

**DIRECTIONS FOR USE** – Use only as directed.

#### Compatibility

It is recommended to test the compatibility of "Sharda Diflubenzuron 480 SC" with other products before using on a large scale.

Tree Crops: a non-phytotoxic crop oil or light narrow range mineral oil can be used as a carrier and to prevent evaporation.

#### Mixing Instructions

Shake the container thoroughly before use. Half fill the spray tank with clean water. Add the required quantity of "Sharda Diflubenzuron 480 SC". Fill the spray tank. Agitate during mixing and spraying.

#### Application

Ensure that spray equipment is correctly calibrated.

Apply as a full foliage cover spray.

Avoid spraying during the heat of the day.

Once "Sharda Diflubenzuron 480 SC" has dried on the crop, it will be rainfast.

#### Potato Spray Programme

Apply "Sharda Diflubenzuron 480 SC" as part of an overall insecticide programme from early flowering to desiccation/die-back. Use alternate insecticides before and after this period.

Apply 3 "Sharda Diflubenzuron 480 SC" sprays as indicated below. When pest pressure is high, an additional application may be necessary.

Do not apply more than 4 times to a crop.

#### Ground Application

Use not less than 600 ℓ spray volume per ha.

#### Aerial application

Aerial application of "Sharda Diflubenzuron 480 SC" may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SABS 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 material during application is restricted to a minimum. It is therefore essential that the following criteria be met:

- Volume: A spray mixture volume of 30ℓ 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 cm<sup>2</sup> must be recovered on the target area.
- Droplet size: A droplet spectrum with a VMD of 250 to 280 microns is recommended. Limit the production of fine droplets of 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).
  - 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.

POTATOES	DOSAGE RATE	REMARKS
Potato Tuber Moth Larvae <i>Phthorimaea operculella</i>	300 mℓ/ha	First Application: at budding, before first flowers open. Second Application: soon after first flowers open. Third Application: 14 days after the second application. Under high pest pressure, a fourth application can be made 14 days later.
Note: It is important to ridge at least twice during the growth period.		

PINE PLANTATIONS	DOSAGE RATE	REMARKS
Pine Brown Tail Moth Larvae <i>Euproctis terminalis</i>	160 mℓ/ha + 0.7-1.0ℓ spray oil*	Aerial Application. Apply when larvae are in the 1st and 2nd instar growth stage.
WATTLE PLANTATIONS	DOSAGE RATE	REMARKS
Wattle Bag Worm <i>Chalopsis junodi</i> <i>Kotochalla junodi</i>	160 mℓ/ha + 0.7-1.0ℓ spray oil*	Aerial Application. Apply when larvae are in the 1st and 2nd instar growth stage during November and December.
* Use a registered crop oil or a light narrow range mineral oil.		

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'n Suspensie konsentraat insekgroeireguleerder vir die beheer van aartappelmot larwes in aartappels, dennebruinwasmot larwes in denneboomplantasies en wattelsakwurm larwes in wattleplantasies.

## INSEKODERGRÖEPKODE A15

**AKTIEWE BESTANDEEL**  
Diflubenzuron (bensoiëureum) - 480 g/l

Registrasiehouer  
**Sharda Internasionaal Africa cc**  
Maatskappy Reg. Nr. 2006/186705/23  
Posbus 82021, Southdale 2135.  
Tel: 031 266 3264  
Faks: 086 641 2325

## VN No. 3082

### WAARSKUWINGS

- Onthoudingsperiode: Aartappels: Laat 'n minimum van 9 dae toe tussen die laaste toediening en oes.
- Hanteer versigtig.
- Mag ligte oogirritasie veroorsaak.
- Hou buite die bereik van kinders, ongeligte persone en diere.
- Berg in 'n koel, droë plek weg van voedsel, voer en drinkwater.
- Herbetreding: Moet nie die behandelde area betree alvorens die spuitneerslag droog is nie, tensy beskermdende klerasie gedra word.
- 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 aangrensende gebiede of water spuit of toelaat dat spuitnewel dit besoedel nie.

Alhoewel hierdie insekdoder 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 bergingtoestande; kwaliteit van verdunningswater, verenigbaarheid met ander stowwe wat nie op die etiket aangedui is nie, en die voorkoms van weerstand van die plaag teen die betrokke middel, sowel as die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie verantwoordelikheid vir skade aan gewasse, plantegroei, die omgewing of vir nadelige effek op mens of dier, of vir 'n gebrek aan prestasie 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 kan word nie.

Raadpleeg die verskaffer in geval van enige onsekerheid.

### VOORSORGMATREËLS

- Moenie eet, drink of rook tydens hantering van hierdie produk.
- Voorkom besoedeling van voedsel, voer, eetgerei en drinkwater.
- Dra rubberhandskoene en gesigskerm wanneer die konsentraat hanteer word.
- Vermoed die inaseming van sproeiwater tydens toediening.
- Vermoed kontak met oë en vel.
- In die geval van oogkontak, spoel die oë met skoon water vir ten minste 15 minute uit.
- In die geval van toevallige velkontak was deeglik met seep en water.
- In die geval van besoedelde kler, verwyder en was deeglik.
- Voorkom die oorwaai van spuitmis na ander gewasse, weiding, riviere, damme of gebiede wat nie onder behandeling is nie.
- Spoel die leë houder driekeer uit met 'n volume water gelykstaande aan 'n minimum van 10% van die houder. Gooi die spoelwater by die inhoud van die spuit.
- Vernietig die leë houder deur dat daarin te maak en plat te slaan en moet vir geen ander doel gebruik nie.

### Weerstandswaarskuwing

"Sharda Diflubenzuron 480 SC" is 'n groepkode A15 insekdoder. Enige populasie van 'n spesifieke insek mag individue insluit wat 'n natuurlike weerstand teen "Sharda Diflubenzuron 480 SC" of enige ander groepkode A15 insekdoders het. Indien hierdie insekdoders herhaaldelik aangewend word, kan die weerstandbiedende individue uiteindelik die insekpopulasie oorheers. Hierdie weerstandbiedende insekte sal waarskynlik nie deur "Sharda Diflubenzuron 480 SC" of enige ander groepkode A15 insekdoder beheer word nie.

Om weerstand teen insekdoders te vertraag:

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

### Werking

"Sharda Diflubenzuron 480 SC" is 'n maagsekdoder spesifiek teen larwes. Dit verhoed die ontwikkeling van een larwale groeistadium tot die volgende stadium. Die werking is stadig. Dien toe voor of tydens eierlegging deur die volwasse motte.

"Sharda Diflubenzuron 480 SC" het geen uitwerking op volwasse motte maar kan 'n effek op eierlegging deur die wyfemotte hê. Dit het geen effek op insek parasiete en predatore nie.

**GEBRUIKSAANWYSING** – Gebruik slegs soos aangedui.

### Vereenigbaarheid

Dit word aanbeveel dat die vereenigbaarheid van "Sharda Diflubenzuron 480 SC" met ander produkte getoets word voordat dit op grootskaal gebruik word.

Boomgewasse: 'n nie-fitotoksiese plantolie of 'n ligte noureeksminerale olie kan as 'n draer gebruik word en om verdamping van druppels te verhoed.

### Menginstruksies

Skud die houder deeglik voor gebruik. Maak die spuittenk met skoon water halfvol. Voeg die benodigde hoeveelheid "Sharda Diflubenzuron 480 SC" by die water. Maak die spuittenk vol. Roer gedurig tydens meng en toediening.

### Toediening

Verseker dat die spuittoerusting korrek gekalibreer is.

Dien toe as 'n volle dekbespuiting. Vermoed toediening gedurende die hitte van die dag.

Sodra "Sharda Diflubenzuron 480 SC" op die plant droog geword het, is dit reënvas.

### Aartappel Spuitprogram

Dien "Sharda Diflubenzuron 480 SC" toe as deel van 'n algehele insekmiddelprogram vanaf die vroeë blomgroei stadium tot die uitdroog/afsterwe stadium. Gebruik alternatiewe insekdoders voor en na hierdie periode.

Dien "Sharda Diflubenzuron 480 SC" drie keer toe soos hieronder aangewys. Indien die plaag druk hoog is, mag 'n bykomende bespuiting nodig wees.

Moet nie meer as 4 keer per groeiseisoen, per gewas toedien nie.

### Grondtoediening

Gebruik ten minste 600 l spuit volume per ha.

### Lugtoediening

"Sharda Diflubenzuron 480 SC" kan slegs deur 'n geregistreerde Lugbespuitingsoperateur 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 30l 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 effekte indien hierdie produk teen 'n laer volume, as hierbo aanbeveel, toegedien word nie.
- Druppel bedekking: 30 tot 40 druppels per cm<sup>2</sup> 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 binneste 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 swaaihgrometer, moet nie 8°C oorskry nie.
- Stop bespuiting indien die windspoed 15 km/uur 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 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 nie-teiken gewasse of sensitiewe areas as gevolg van wegdrywing van die spuitwolk na nie-teiken area.
- Verseker dat die Lugbespuitingsoperateur presies weet watter lande bespuit moet word.
- Dit is noodsaaklik om 'n versekering van die Lugbespuitingsoperateur te verkry dat aan al die bogenoemde vereistes voldoen sal word en dat data van belang in 'n logboek saamgevat is vir toekomstige verwysing.

AARTAPPELS	DOSIS	OPMERKINGS
Aartappelmot Larwes <i>Phthorimaea operculella</i>	300 ml/ha	Eerste Toediening: tydens bot, voordat die eerste blomme oopgaan. Tweede Toediening: kort nadat die eerste blomme oopgaan. Derde Toediening: 14 dae na tweede toediening. Ingeval van hoë plaagdruk, kan 'n vierde toediening 14 dae later gespuit word.
Nota: Dit is belangrik om ten minste twee keer tydens die groei tydperk te spuit.		

DENNEBOOMPLANTASIES	DOSIS	OPMERKINGS
Dennebruinwasmot Larwes <i>Euproctis terminalis</i>	160 ml/ha + 0.7-1.0l spuitolie*	Lugtoediening. Dien toe wanneer die larwes in die 1ste en 2de instar groeistadium is.
DENNEBOOMPLANTASIES	DOSIS	OPMERKINGS
Wattelsakwurm <i>Chalopsis junodi</i> <i>Kotichalla junodi</i>	160 ml/ha + 0.7-1.0l spuitolie*	Lugtoediening. Dien toe wanneer die larwes in die 1ste en 2de instar groeistadium is. Gewoonlik gedurende November en Desember.
* Gebruik 'n geregistreerde plantolie of 'n ligte noureeksminerale olie.		