



ARDENT[®] 50 SC

Reg No L 7284 Act / Wet 36 of 1947
N-AR 0978

A suspension concentrate contact and translaminar fungicide for the control of diseases in apples, pears, grapes, barley, cucurbits and tomatoes as indicated.

'n Suspensiekonsentraat kontak- en translaminêre swamdoder vir die beheer van siektes in appels, pere, druie, gars, pampoengewasse en tamaties soos aangedui.

FUNGICIDE GROUP CODE 11	SWAMDODER GROEPKODE 11
-------------------------	------------------------

ACTIVE INGREDIENT / AKTIEWE BESTANDDEEL

Kresoxim-methyl (strobilurin) 500 g / ℓ Kresoksiem-metiel (strobilurien)

NET VOLUME / NETTO VOLUME

.....

REGISTRATION HOLDER / REGISTRASIEHOUER

Makhteshim-Agan SA (Pty) Ltd

Co. Reg. No. / Mpy Reg. Nr 1992/001741/07

21 Viben Street

PO Box 498

Brackenfell 7560

Tel: 021 – 982 1460

Fax: 021 – 982 5810

Batch number Lotnommer

Date of manufacture Vervaardigingsdatum

UN No: 3082



Class III

Blue band

ARDENT[®] is the registered trade mark of Makhteshim-Agan, Israel
ARDENT[®] is die geregistreerde handelsmerk van Makhteshim-Agan, Israel

WARNINGS

Withholding periods: (Minimum number of days between last application and harvest)

Apples and pears.....	45 days
Table and wine grapes.....	14 days
Barley.....	50 days
Cucurbits.....	4 days
Tomatoes.....	14 days

- Handle with care.
- Harmful to animals and toxic to fish.
- Store in a cool, dry place away from food and feed.
- Keep out of reach of children, uninformed persons and animals.

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 disease against the remedy concerned as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal or for lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS

- When handling the concentrate, wear gloves and face shield.
- Do not inhale fumes or spray mist.
- Avoid prolonged contact with skin and eyes.
- Wash contaminated clothing daily.
- Wash with soap and water after use or accidental skin contact.
- Do not eat, drink or smoke while mixing, applying or before washing hands and face.
- Clean spray equipment after use and dispose of wash water where it will not contaminate crops, grazing, rivers or dams.
- 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.
- Destroy the empty container by perforation and never use for any other purpose.
- Avoid drift of spray mist to other crops, grazing, rivers, dams and areas not under treatment.
- Prevent contamination of food, feed, drinking water and eating utensils.

RESISTANCE WARNING

For resistance management, **ARDENT 50 SC** is a group code 11 fungicide. Any fungus population may contain individuals naturally resistant to **ARDENT 50 SC** and other group code 11 fungicides. The resistant individuals can eventually dominate the fungus population if these fungicides are used repeatedly. These resistant fungi may not be controlled by **ARDENT 50 SC** or any other group code 11 fungicide.

To delay fungicide resistance:

- Avoid exclusive repeated use of fungicides from the same fungicide group code. Alternate or tank-mix with products from different fungicide group codes.
- For tank mixing or alternation with products in fungicide group code X or Y, refer to applicable individual product labels.
- Integrate the control methods (chemical, cultural, biological) into fungicide control programmes.

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

ARDENT 50 SC should always be applied as a preventive treatment. Not less than two or more than three consecutive applications must be done in a block application in any crop per season. The first and the last treatments in a spray programme must never be done with ARDENT 50 SC.

DIRECTIONS FOR USE

Use only as indicated.

Compatibility:

ARDENT 50 SC is compatible with mancozeb and light narrow range mineral oils. It is advisable to always carry out a physical compatibility test prior to application when **ARDENT 50 SC** is tank mixed with other fungicides or insecticides.

Mixing instructions:

Half fill the spray tank with water. Add the required volume of **ARDENT 50 SC** to the spray tank while agitating. Fill the spray tank with water while continuously agitating. When **ARDENT 50 SC** is tank mixed with other products, these products should be added to the spray tank shortly prior to application.

APPLICATION RATES

CROP / DISEASE	DOSAGE	REMARKS
Apples and pears Scab (<i>Venturia spp.</i>)	6,5 ml / 100 l water	Preventive application: Commence application as early as possible from the greentip stage to 75 % petal fall. Apply at least two consecutive applications, but not more than three at 7 – 10 day intervals. Use the shorter intervals for high infections or where climatic conditions are favourable for the development of the disease. Do

CROP / DISEASE	DOSAGE	REMARKS
	10 ml / 100 l water	<p>not apply more than three ARDENT 50 SC applications in a year. Apply as a high volume application according to the tree row volume (TRV) as described by Unrath (Deciduous Fruit Grower, Nov. 1986)</p> <p>Curative application: Commence application within two days only after infection has taken place as an addition to a preventive programme with other registered products. Apply as a high volume application.</p> <p>IMPORTANT: Do not apply ARDENT 50 SC after end December to avoid the possibility of high residue levels.</p>
<p>Apples Powdery mildew (<i>Podosphaera leucotricha</i>)</p>	6,5 ml / 100 l water	Apply as a preventive application at the pink stage and repeat at 7 – 14 day intervals. Do not apply less than two or more than three consecutive applications per season. Applications for scab will also control powdery mildew.
<p>Barley (only to be used under the recommendation of SAB MALTING) Net Blotch (<i>Pyrenophora teres</i>)</p>	<p>300 ml ARDENT 50 SC Plus 450 ml ORIUS 200 EW Or 360 ml ORIUS 250 EW</p>	<p>Apply preventative or at the very first sign of infection. Repeat the application 21 – 28 days later. A third application may be necessary 21 days later under very high pressure conditions to protect the flag leaf. Apply in 200 – 400 l water / ha for ground application and in 30 – 40 l water / ha for aerial application.</p> <p>If diseases like Leaf spot (<i>Rhynchosporium secalis</i>), Leaf rust (<i>Puccinia hordei</i>) and Powdery mildew (<i>Erisiphe graminis</i>) is present at time of application, it will also be controlled by the combination of Ardent and Orius.</p>
<p>Cucurbits Powdery mildew (<i>Sphaerotheca fuliginea</i>)</p>	200 ml / ha	Apply preventative or at the very sign of the first infection. Repeat after 14 days. Use at least 500 l water / ha and ensure good coverage of the target area: Do not apply more than 33 % of the total number of sprays for powdery mildew with Ardent or any other Group II fungicide (Refer to Resistance Warning)
<p>Grapes Table and wine grapes Powdery mildew (<i>Oidium tuckeri</i>)</p>	15 ml / 100 l water (0,05 – 0,23 l / ha)	Start application when shoots are about 25 mm long. As a high volume application apply at 350 – 1 500 l spray mixture / ha depending on the leaf surface area present. As a low volume application

CROP / DISEASE	DOSAGE	REMARKS
		apply at least 250 l mixture / ha, but increase the ARDENT 50 SC concentration to the same level as for high volume application. At least 3 sulphur applications should be done in the normal spray programme. Repeat applications at 10 – 14 day intervals as a block of 2 but not more than 3 consecutive applications.
Tomatoes Powdery mildew (<i>Leveillula taurica</i>) and/or (<i>Oidium lycopersicum</i>)	20 ml / 100 l water	Apply as a preventative or at the very first signs of the disease. Repeat every 7 – 10 days while weather conditions favour the development of the disease with a maximum of four applications per field per season. Alternate with other registered products with a different FRAC Group Coding. Ensure a thorough wetting of the target area and apply 500 – 1000 l spray mixture per ha.

High volume:

The water volume to be applied / ha must be calculated according to the TRV formula:

$$l / ha = \frac{\text{Tree height} \times \text{Tree diameter} \times 937}{\text{Row width}}$$

The TRV is calculated as the water volume needed when trees are in full leaf.

Water requirements / ha in other growth stages.

Growth stage	% High volume water requirement / ha
From greentip to ± 30 % blossom	60 %
From ± full blossom to ± mid November	80 %
From ± start December	100 %

WAARSKUWINGS:

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

Appels en pere	45 dae
Tafel- en wyndruive.....	14 dae
Gars.....	50 dae
Pampoengewasse.....	4 dae
Tamaties.....	14 dae

- Hanteer versigtig.
- Skadelik vir diere en giftig vir visse.
- Berg in 'n koel, droë plek weg van voedsel en voer.
- Hou buite bereik van kinders, oningeligte persone en diere.

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- en bergingstoestande, kwaliteit van verdunningswater, verenigbaarheid met ander stowwe wat nie op die etiket aangedui is nie en die voorkoms van weerstand van die siekte teen die betrokke middel sowel as die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie verantwoordelikheid vir skade aan gewasse, plantegroei, die omgewing of vir nadelige effek op mens of dier of vir 'n gebrek aan prestasie van die betrokke middel as gevolg van die versuim van die gebruiker om etiketaanwysings na te kom of as gevolg van die ontstaan van toestande wat nie kragtens die registrasie voorsien kon word nie. Raadpleeg die verskaffer in die geval van enige onsekerheid.

VOORSORGMATREËLS:

- Dra rubberhandskoene en gesigskerm wanneer die konsentraat hanteer word.
- Moet nie dampe of spuitnewel inasem nie.
- Vermyn langdurige kontak met vel en oë.
- Was besoedelde klere daaglik.
- Was met seep en water na gebruik of na toevallige velkontak.
- Moet nie eet, drink of rook tydens vermenging, toediening of voordat hande en gesig gewas is nie.
- Maak die toediener deeglik skoon na gebruik en moet nie waswater gooi waar dit gewasse, weiding, riviere of damme kan besoedel nie.
- Keer die leë houer om oor die spuit- of mengtenk 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 10 % van die inhoud van die houer. Gooi die spoelwater by die inhoud van die spuittenk voordat die houer vernietig word.
- Vernietig die leë houer deur gate daarin te maak. Moet dit vir geen ander doel hergebruik nie.
- Voorkom dat die spuitnewel wegdryf na ander gewasse, weiding, riviere, damme en ander gebiede wat nie behandel moet word nie.
- Voorkom besoedeling van voedsel, voer, drinkwater en eetgerei.

WEERSTANDSWAARSKUWING:

ARDENT 50 SC is 'n groepkode 11 swamdoder. Enige populasie van 'n spesifieke swam mag individueel insluit wat 'n natuurlike weerstand teen **ARDENT 50 SC** of enige ander groepkode 11 swamdoder

het. Indien hierdie swamdoders herhaaldelik aangewend word, kan die weerstandbiedende individue uiteindelik die swampopulasie oorheers. Hierdie weerstandbiedende swamme sal waarskynlik nie deur **ARDENT 50 SC** of enige ander groepkode 11 swamdoder beheer word nie.

Om weerstand teen swamdoders te vertraag:

- Vermy die eksklusiewe herhaaldelike gebruik van swamdoders met dieselfde groepkode. Wissel af met, of gebruik tenkmengsels van produkte in verskillende swamdodergroepkodes.
- Raadpleeg toepaslike individuele produketikette wanneer daar afgewissel word, of tenkmengsels gemaak word, met produkte in swamdodergroepkodes X of Y.
- Integreer ander beheermaatreëls (chemies, verbouing, biologies) in swamdoderprogramme.

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

ARDENT 50 SC moet altyd as 'n voorkomende behandeling toegedien word. Moet nie minder as twee, maar meer as drie agtereenvolgende toedienings in 'n blokbespuiting in enige gewas per seisoen toedien nie. Die eerste en die laaste toedienings in 'n spuitprogram moet nooit met ARDENT 50 SC gemaak word nie.

GEBRUIKSAANWYSINGS:

Gebruik slegs soos aangedui.

Verenigbaarheid:

ARDENT 50 SC is verenigbaar met mankoseb en ligte smalbestek minerale olies. Daar word aanbeveel dat 'n fisiese verenigbaarheidstoets altyd eers uitgevoer word voor toediening wanneer **ARDENT 50 SC** in 'n tenkmengsel saam met ander swam- of insekdoders toegedien word.

Menginstruksies:

Maak die spuittenk halfvol met water. Voeg die benodigde hoeveelheid **ARDENT 50 SC** in die tenk terwyl die spuitmengsel geroer word. Vul die tenk met water terwyl aanhoudend geroer word. Indien **ARDENT 50 SC** met ander produkte gemeng word, moet hierdie produkte net voor toediening begin, bygevoeg word.

TOEDIENINGSHOEVEELHEDE:

GEWAS / SIEKTE	DOSIS	OPMERKINGS
Appels en pere Skurfsiekte (<i>Venturia spp.</i>)	6,5 ml / 100 l water	Voorkomende toediening: Begin toediening so vroeg as moontlik vanaf die groenpuntstadium tot by 75 % blomblaarval. Dien ten minste twee, maar nie meer as drie agtereenvolgende toedienings met 7 – 10 dae tussenposes toe. Gebruik die korter tussenposes waar hoë infeksies voorkom of waar weerstoestande bevorderlik is vir die ontwikkeling van die siekte. Moet nie meer as drie ARDENT 50 SC toedieningsper jaar toedien nie. Dien toe as 'n hoëvolume toediening volgens die boomryvolume (BRV) soos beskryf deur UNRATH (Deciduous Fruit Grower, Nov. 1986)

GEWAS / SIEKTE	DOSIS	OPMERKINGS
	10 ml / 100 l water	<p>Kuratiewe toediening: Begin toediening binne twee dae, slegs na 'n infeksie plaasgevind het, as 'n addisionele behandeling tot 'n voorkomende program met ander geregistreerde middels. Dien toe as 'n hoëvolume toediening.</p> <p>BELANGRIK: Moet nie ARDENT 50 SC later as einde Desember toedien nie om die moontlikheid van onaanvaarbare residuvlakke te vermy.</p>
<p>Appels Poeieragtige skimmel (Witroes) (<i>Podosphaera leucotricha</i>)</p>	6,5 ml / 100 l water	<p>Dien toe as 'n voorkomende bespuiting tydens pienkknopstadium en herhaal met 7 – 14 dae tussenposes. Moet nie minder as twee, maar meer as drie, agtereenvolgende toedienings per jaar toedien nie. Toedienings vir die beheer van skurfsiekte, sal ook poeieragtige skimmel (witroes) beheer.</p>
<p>Druive Tafel- en wyndruive Poeieragtige skimmel (Witroes) (<i>Oidium tuckeri</i>)</p>	15 ml / 100 l water (0,05 - 0,23 l / ha)	<p>Begin toediening sodra die lote ongeveer 25 mm lank is. Dien toe as 'n hoëvolume toediening teen 250 – 1 500 l spuitmengsel / ha afhangende van die blaaroppervlakte wat teenwoordig is. Indien van 'n laevolume toediening gebruik gemaak word, moet ten minste 250 l spuitmengsel / ha toegedien word. In hierdie geval moet die ARDENT 50 SC konsentrasie egter verhoog word na dieselfde vlak as wat vir hoëvolume toediening gebruik sou word. Ten minste drie swaelbespuitings moet in die normale spuitprogram toegedien word. Herhaal toediening met 10 – 14 dae tussenposes as 'n blokbespuiting van minstens twee, maar nie meer as drie agtereenvolgende toedienings nie.</p>
<p>Gars (slegs vir gebruik volgens die aanbevelings van SAB MOUTSTERS) Netvlek (<i>Pyrenophora teres</i>)</p>	300 ml ARDENT 50 SC Plus 450 ml ORIUS 200 EW Of 360 ml ORIUS 250 EW	<p>Dien voorkomend of by die eerste simptome van besmetting toe. Herhaal die toediening 21 – 28 dae later. Onder toestande van uiterste hoë siektedruk, kan 'n derde bespuiting 21 dae later uitgevoer word om die vlagblaar te beskerm. Dien in 200 – 400 l water / ha toe vir grondbespuiting en 30 – 40 l water / ha vir lugbespuiting.</p> <p>Indien siekte soos blaarvlek (<i>Rhynchosporium secalis</i>), blaarroes (<i>Puccinia hordei</i>) en Poeieragtige meeldou (<i>Erisiphe graminis</i>) voorkom tydens toediening sal dit ook beheer word deur die kombinasie van Ardent en Orius.</p>

GEWAS / SIEKTE	DOSIS	OPMERKINGS
Pampoengewasse Poeieragtige skimmel (<i>Sphaerotheca fuliginea</i>)	200 ml / ha	Dien voorkomend of by die eerste simptome van 'n besmetting toe. Herhaal die toediening 14 dae later. Gebruik ten minste 500 l water / ha en verseker deeglike bedekking van die teikengebied. Moet nie meer as 33 % van die totale aantal bespuitings vir poeieragtige meeldou met Ardent of enige ander Groepkode II swamdoder toedien nie. (sien Weerstandswaarskuwing)
Tamaties Poeieragtige meeldou (<i>Leveillula taurica</i>) En/of (<i>Oidium lycopersicum</i>)	20 ml / 100 l water	Dien as 'n voorkomende of by die eerste tekens van die siekte toe. Herhaal toediening elke 7 – 10 dae terwyl klimaatstoestande die siekte bevoordeel. Moet nie meer as vier bespuitings op dieselfde land in 'n seisoen toedien nie. Wissel af met ander geregistreerde produkte wat in 'n ander FRAC Groepkode val. Verseker 'n deeglike benatting van die teikengebied en dien 500 – 1500 l spuitmengsel per ha toe.

Hoëvolume:

Die watervolume wat / ha toegedien moet word, word volgens die BRV formule bepaal:

$$l / ha = \frac{\text{Boomhoogte} \times \text{Boomdeursnee} \times 937}{\text{Rywydte}}$$

Die BRV word bereken as die watervolume wat nodig word as die boom in vol blad is.

Water benodig / ha in ander groeistadiums

Groeistadium	% Hoëvolume water behoefte / ha
Van groenpunt tot ± 30 % blom	60 %
Van ± volblom tot ± middel November	80 %
Van ± begin Desember	100 %