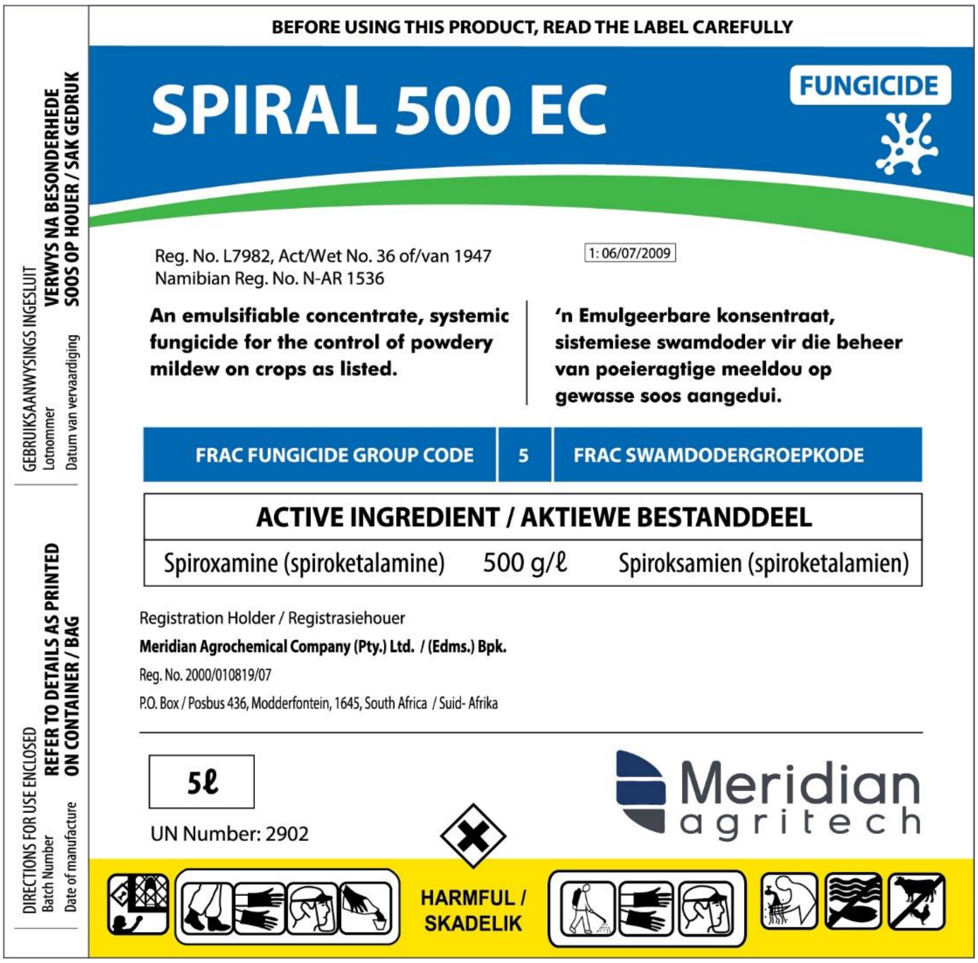
SPIRAL 500 EC



WARNINGS

Allow the following number of days between last treatment and harvest or use as food or feed:

Grapes……………………………………………………………………………………………………21 days

IMPORTANT: The recommended withholding period between last application and harvest meets local residue requirements, but may not meet export requirements.

- Poisonous when swallowed.
- Toxic to fish and wildlife.
- Store in a cool place.
- Store away from food, feed, fertilizer and other agricultural products.
- Keep out of reach of children, uninformed persons and animals.
- **Re-entry** – Do not enter treated area within one day of application unless wearing protective clothing.
- **Spiral 500 EC** has been tested on the most important commercial cultivars without any phyto toxic effects. More susceptible cultivars may be released in future which need to be tested; for this apply **Spiral 500 EC** to a limited test area before commercial applications are made.

Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be effective under all conditions. The activity 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 disease against the remedy, 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 by 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 fumes or spray mist.
- Avoid skin and eye contact by adequate wearing protective clothing when mixing the product.
- Wash with soap and water after use and accidental skin contact as well as contaminated clothing.
- Wash contaminated clothing after use.
- Do not eat, drink or smoke while mixing or applying the product or before washing hands and face.
- Avoid drift of spray mist onto other crops, grazing, rivers, dams and areas not under treatment.
- Clean applicator after use. Dispose of rinsate where it will not contaminate crops, grazing, rivers, dams and boreholes.
- Rinse 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 before destroying the empty container by perforation and flattening.
- Do not use the empty container for any other purpose.
- Prevent contamination of food, feeds, drinking water and eating utensils.

SYMPTOMS OF HUMAN POISONING

No known symptoms.

FIRST AID

Eyes: Flush eyes with plenty of clean water for at least 15 minutes. Get medical attention if irritation persists.
Skin: Strip off all contaminated clothing and thoroughly wash body with soap and water. Get medical attention if irritation occurs.
Ingested: If diluted mixture has been swallowed, induce vomiting by tickling the back of the throat. If concentrate has been swallowed, first give copious amounts of either beaten egg, white starch solution or Milk of Magnesia before inducing vomiting. Repeat this until vomit fluid is clear and free from smell of poison. Administer artificial respiration and/or closed chest massage if necessary. Do not apply direct mouth to mouth respiration. Never give anything by mouth to an unconscious person. Call a physician and show this label to him or her.

NOTE TO PHYSICIAN

No specific antidote. Symptomatic treatment and supportive therapy.

RESISTANCE WARNING

For resistance management, **Spiral 500 EC** is a group code 5 fungicide. Any disease population may contain individuals naturally resistant to **Spiral 500 EC** and other group code 5 fungicides. The resistant individuals can eventually dominate the disease population if these fungicides are used repeatedly. These resistant weeds may not be controlled by **Spiral 500 EC** or any other group code 5 fungicide.

To delay fungicide resistance:

- Avoid the exclusive repeated use of fungicides from the same fungicide group code. Alternate or tank mix with registered products from different fungicide group codes.
- A spray programme of mixtures or alternations with remedies with a different mode of action, such as triazoles or strobilurins, may delay resistant strain build-up. To avoid resistance buil-up, do not apply more than 3 times per season per crop..
- Integrate other control methods (chemical, cultural, biological) into disease control programmes.

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

USE RESTRICTIONS

- The uptake and activity of systemic compounds can be reduced when crops are under severe drought and/or nutrient stress conditions. Therefore do not apply **Spiral 500 EC** under such conditions.
- Spray programmes with **Spiral 500 EC** should commence before disease/s become established.
- Do not apply **Spiral 500 EC** to any crop or situation not mentioned in this instruction leaflet.
- Only apply **Spiral 500 EC** using an accurate and safe application technique.
- If **Spiral 500 EC** is used in a tank mix with other recommended products, consideration should be given to the restrictions of those respective products.

DIRECTIONS FOR USE
Use only as directed.

MIXING INSTRUCTIONS

Half-fill the spray tank with suitable water, then add the required amount of **Spiral 500 EC** to the water in the tank while agitating. Fill the spray tank to the desired volume. Do not use brackish water. Should tank mixtures with other products be made, follow the respective manufacturers' label recommendations. **Tank mixtures must be sprayed out immediately and not allowed to stand in the spray tank**. Spraying equipment must be thoroughly flushed out at the end of the spraying operation.

COMPATIBILITY

The compatibility of **Spiral 500 EC** with other products depends on the formulations of the respective products as well as the quality of the spray water to be used. As formulations change from time to time it is recommended that a physical compatibility test be done prior to the tank mixture being made.

APPLICATION METHODS

Ensure that the equipment is correctly calibrated and is checked regularly during application to ensure even and accurate application. **Spiral 500 EC** can be applied with conventional tractor boom sprayers in 300 – 500 ℓ water/ha as well as high volume mist blowers. **Constant agitation throughout the spray operation is essential**. Only clean water should be used.

NOTE:

High volume application on grapes

Spray to the point of run-off, ensuring even coverage. Depending on leaf area present, 300 – 1 500 ℓ water/ha should be applied as follows:

Growth stage	Water volume / ha	
	Wine grapes	**Table grapes**
Shoots 2,5cm long and up to and including just prior to blossom	300 – 750	500 – 1 000
Flowering up to pea-size of the berries	750 – 1 000	1000 – 1200
Berries at pea-size up to harvest	1 000	1200 - 1500

Low volume application on grapes

Spiral 500 EC can be applied as a low volume application. The volume of product needed per hectare should be calculated from the corresponding high volume application. The concentration of the spray mix should not exceed four times (4X). Apply in at least 250 ℓ water/ha. Ensure even coverage.

RECOMMENDATIONS

CROP/DISEASE	APPLICATION RATE/ha or as indicated	REMARKS
Table grapes Powdery mildew (*Oidium tuckerii*)	10 – 14 day programme 60 m ℓ/100 ℓ water (300 – 600 mℓ/ha)	Apply as part of a spray programme in sufficient spray volume to ensure thorough coverage at all times (to point of run-off). Commence spraying when shoots are 100 – 250 mm long and repeat as indicated. Apply no more than 3 sprays per season. Also make use of other registered fungicides to control powdery mildew.
Wine grapes Powdery mildew (*Oidium tuckerii*)	10 – 14 day programme 60 m ℓ/100 ℓ water (180 – 900 mℓ/ha) 18 – 21 day programme 90 m ℓ/100 ℓ water (270 – 1 350 mℓ/ha)	Apply as part of a spray programme in sufficient spray volume to ensure thorough coverage at all times (to point of run-off). Commence spraying when shoots are 100 – 250 mm long and repeat as indicated. Apply no more than 3 sprays per season. Also make use of other registered fungicides to control powdery mildew.

- It is recommended to include contact fungicides such as sulphur containing formulations for the control of powdery mildew in grapes.
- Do not exceed the recommended spray interval and include alternative remedies in the total spray programme which will effectively control downy mildew.

Mangoes Powdery mildew (*Oidium mangiferae*)	60 mℓ /100 ℓ water	Start application at first signs of infection and repeat at 10 – 14 day intervals up to 100% petal drop. The first application will usually be at approximately 50% flowering and will usually be followed by another 2 – 3 sprays depending weather conditions and uniformity of flowering. Apply as a full cover spray and ensure adequate coverage of all flower panicles.

WAARSKUWINGS

Laat die volgende aantal dae toe tussen laaste toediening en oes, of vir gebruik as voedsel of voer:

Druiwe………..………………………………………………………………………………………… 21 dae

BELANGRIK: Die aanbevole onthoudingsperiode tussen laaste toedieing en oes voldoen aan die vereistes vir plaaslike residuvlakke, maar mag dalk nie aan die vereistes vir uitvoer voldoen nie.

- Giftig wanneer die produk ingesluk word.
- Giftig vir visse en wild.
- Bêre in 'n koel plek.
- Bêre weg van voedsel, voer, kunsmis en ander landbou produkte.
- Hou buite bereik van kinders, oningeligte persone en diere.
- **Herbetreding** – Moet nie behandelde gebiede binne een dag na toediening betree nie, tensy beskermende oorklere gedra word.
- **SPIRAL 500 EC** is sonder enige fitotoksisiteitskade op die mees belangrikste kommersiële kultivars getoets. Meer vatbare kultivars mag in die toekoms vrygestel word wat eers getoets moet word; hiervoor moet **SPIRAL 500 EC** eers op 'n klein toetsoppervlakte aangewend word, alvorens groot kommersiële bespuitings gemaak 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. Die werking en doeltreffendheid daarvan kan beïnvloed word deur faktore soos abnormale grond-, klimaats- en bergingstoestande; kwaliteit van verdunningswater, verenigbaarheid met ander stowwe wat nie op die etiket aangedui word nie en die voorkoms van weerstand van die siekte teen die betrokke middel, sowel as die metode, tyd en akkuraatheid van die toediening. Verder aanvaar die registrasiehouer nie verantwoordelikheid vir skade aan gewasse, plantegroei, die omgewing of vir nadelige invloede 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.

VOORSORGMAATREËLS

- Vermy die inaseming van dampe en spuitnewel.
- Vermy kontak met die vel en oë deur beskermende oorklere te dra wanneer die produk gemeng word en gedurende toediening.
- Was met seep en koue water onmiddellik na gebruik en toevallige velkontak.
- Was besoedelde klere onmiddellik na gebruik.
- Moet nie eet, drink of rook tydens vermenging of toediening van die produk of voordat hande en gesig gewas is nie.
- Vermy wegdrywing van spuitnewel op ander gewasse, weiding, riviere, damme en plekke wat nie behandel moet word nie.
- Maak toedieningsapparaat skoon na gebruik. Uitspoelwater moet nie gewasse, weiding, riviere, damme en boorgate besoedel nie.
- Voorkom die besoedeling van voedsel, voer, drinkwater en eetgerei.
- Spoel leë houer **drie keer** uit met 'n volume water gelykstaande aan 'n minimum van 10% van die houer. Gooi die spoelwater by die inhoud van die spuittenk voordat die houer vernietig word deur gate daarin te maak en dit plat te slaan.
- Vernietig die leë houer, moet vir geen ander doel gebruik nie

SIMPTOME VAN VERGIFTIGING
Simptome is nie bekend nie.

NOODHULP
Oë: Spoel oë met skoon water vir ten minste 15 minute. Verkry mediese advies indien irritasie voortduur.
Vel: Verwyder alle besoedelde klere en was liggaam deeglik met seep en water. Verkry mediese advies indien irritasie voorkom.
Ingesluk: Indien mengsel ingesluk is, induseer braking deur agterkant van keel te kielie. Indien konsentraat ingesluk is, gee eerstens groot hoeveelhede geklitsde eier, wit styseloplossing of Melk van Magnesium in, voordat braking geïnduseer word. Herhaal totdat brakingsvloeistof helder is en nie meer na gif ruik nie. Indien nodig, pas kunsmatige asemhaling en/of borsmassering toe. Moet nie direkte mond-tot-mond asemhaling toepas nie. Moet nooit enige iets per mond aan 'n bewustelose persoon toedien nie. Ontbied 'n geneesheer en toon hierdie etiket aan hom of haar.

NOTA AAN GENEESHEER: Geen spesifieke teenmiddel beskikbaar nie. Simptomatiese behandeling en ondersteuningsterapie.

WEERSTANDSWAARSKUWING
SPIRAL 500 EC is 'n groepkode 5 swamdoder. Enige swampopulasie mag individue insluit wat 'n natuurlike weerstand teen **SPIRAL 500 EC**, of enige ander groepkode 5 swamdoders het. Indien hierdie swamdoders herhaaldelik aangewend word, kan die weerstandbiedende individue uiteindelik die swampopulasie oorheers. Hierdie weerstandbiedende swamme sal waarskynlik nie deur **SPIRAL 500 EC,** of enige ander groepkode 5 swamdoder beheer word nie.

Om weerstand teen swamdoders te vertraag:

- Vermy die eksklusiewe herhaaldelike gebruik van swamdoders met dieselfde metode van werking. Wissel af met, of gebruik tenkmengsels van, produkte in verskillende swamdodergroepkodes.
- 'n Spuitprogram of tenkmengsels met middels met 'n ander metode van werking soos triasole of strobiluriene mag die opbou van weerstandbiedendheid vertraag. Om weerstand te probeer voorkom, mag **SPIRAL 500 EC** nie meer as drie maal per seisoen toegedien word nie.
- Integreer ander beheermaatreels (chemies, verbouing, biologies) in siektebeheerprogramme.

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

GEBRUIKSBEPERKINGS

- Die opname en werking van sistemiese swamdoders kan verlaag word wanneer gewasse onder ernstige droogte- en/of voedingsgebrektoestande verkeer. Wanneer die gewas dus onder hierdie stremmingstoestand verkeer, word 'n toediening van **SPIRAL 500 EC** nie aanbeveel nie.
- Spuitprogamme met **SPIRAL 500 EC** moet in aanvang neem voordat die siekte(s) posvat.
- Moet nie **SPIRAL 500 EC** op enige gewas of situasie toedien wat nie op hierdie etiket verskyn nie.
- Dien **SPIRAL 500 EC** slegs met akkurate en veilige toedieningsmetodes toe.
- As **SPIRAL 500 EC** met ander middels in tenkmengsels gebruik word, moet die gebruiksaanwysings van daardie betrokke produkte gevolg word.

GEBRUIKSAANWYSINGS
Gebruik slegs soos aangedui.

MENGINSTRUKSIES

Maak die spuittenk halfvol met geskikte water en voeg die benodigde hoeveelheid **SPIRAL 500 EC** by terwyl water aanhoudend geroer word. Maak die spuittenk tot die verlangde volume vol. Moenie brakwater gebruik nie. As tenkmengsels gemaak word met ander middels, moet die spesifieke vervaardiger se etiket gevolg word. **Die tenkmengsel moet onmiddellik uitgespuit word en nie toegelaat word om in die spuittenk te staan nie**. Die spuittoerusting moet aan die einde van toediening deeglik uitgewas word.

VERENIGBAARHEID

Die verenigbaarheid van **SPIRAL 500 EC** met ander produkte hang van die formulering van die betrokke produkte af, asook van die kwaliteit van die spuitwater. Omdat formulerings van tyd tot tyd kan verander, word dit aanbeveel om 'n fisiese verenigbaarheidstoets uit te voer voordat die tenkmengsel gemaak word.

TOEDIENINGSMETODES

Maak seker dat die spuittoerusting korrek gekalibreer is en gereeld tydens toediening nagegaan word om te verseker dat die toediening egalig en akkuraat is. **SPIRAL 500 EC** kan toegedien word met 'n gewone trekkerbalkspuit in 300 – 500 ℓ water /ha sowel as 'n hoë-volume newelblaser. **Die mengsel moet aanhoudend en deeglik geroer word tydens toediening.** Gebruik slegs skoon water.

NOTA:

<u>Hoë-volume toediening op druiwe</u>

Spuit tot by punt van afloop en verseker deeglike en egalige bedekking. Afhangend van blaardigtheid, gebruik 300 – 1 500 ℓ water /ha as volg:

Groeistadium	**Water volume / ha**	
	Wyndruiwe	**Tafeldruiwe**
Lote 2,5 cm lank tot en met net voor-blom	300 – 750	500 – 1 000
Blomstadium tot en met ertjiekorrelstadium	750 – 1 000	1 000 – 1 200
Ertjiekorrelstadium tot oes	1 000	1 200 – 1 500

<u>Lae-volume toediening op druiwe</u>

SPIRAL 500 EC kan toegedien word as 'n lae-volume bespuiting. Die volume produk wat benodig word per hektaar, moet bereken word volgens die ooreenstemmende hoë-volume toediening. Die konsentrasie van die spuitmengsel moet nie vier maal (4X) oorskry nie. Dien toe in ten minste 250 ℓ water /ha. Verseker deeglike bedekking.

AANBEVELINGS

GEWAS/SIEKTE	**DOSIS/ha of soos aangedui**	**OPMERKINGS**
Tafeldruiwe Poeieragtige skimmel (*Oidium tuckerri*)	10 – 14 dae intervalle 60 mℓ/100 ℓ water (300 – 600 mℓ/ha)	Dien toe as deel van 'n spuitprogram in voldoende hoeveelhede water om deeglike bedekking te verseker (tot die punt van afloop). Begin die bespuitings wanneer die eerste lote 100 – 250 mm lank is en herhaal soos aangedui. Moet nie meer as 3 bespuitings per seisoen toedien nie. Dien ook ander geregistreerde swamdoders toe in die program vir die beheer van poeieragtige skimmel.
Wyndruiwe Poeieragtige skimmel (*Oidium tuckerri*)	10 – 14 dae intervalle 60 mℓ/100 ℓ water (180 – 900 mℓ/ha) 18 – 21 dae intervalle 90 mℓ/100 ℓ water (270 – 1 350 mℓ/ha)	Dien toe as deel van 'n spuitprogram in voldoende hoeveelhede water om deeglike bedekking te verseker (tot die punt van afloop). Begin die bespuitings wanneer die eerste lote 100 – 250 mm lank is en herhaal soos aangedui. Moet nie meer as 3 bespuitings per seisoen toedien nie. Dien ook ander geregistreerde swamdoders toe in die program vir die beheer van poeieragtige skimmel.

- Dit word aanbeveel dat kontakswamdoders soos swaelbevattende-formulerings ingesluit word in die program vir die beheer van poeieragtige skimmel in druiwe.
- Die aanbevole spuitintervalle moet nie oorskry word nie en sluit ander middels in wat donsige skimmel doeltreffend sal beheer.

Mango's Poeieragtige skimmel (*Oidium mangiferae*)	60 mℓ/100 ℓ water	Dien toe sodra die eerste siekte-simptome verskyn en herhaal elke 10 – 4 dae tot 100%- blaarval. Die eerste toediening sal gewoonlik by omtrent 50% blom wees, gevolg deur nog 2 – 3 bespuitings, afhangende van weerstoestande en egaligheid van die blomperiode. Dien toe as 'n hoë-volume bespuiting en verseker deeglike bedekking van blomtrosse.