SOPRANO C

Reg No L 8079 Act / Wet No 36 / 1947

A suspension concentrate systemic fungicide for the control of diseases as listed on barley, groundnuts, maize and wheat.	'n Suspensiekonsentraat sistemiese swamdoder vir die beheer van siektes soos aangedui op gars, grondbone, koring en mielies.

HRAC FUNGICIDE GROUP CODE	1 & 3	HRAC SWAMDODER GROEPKODE

ACTIVE INGREDIENT / AKTIEWE BESTANDDEEL

Epoxiconazole (triazole)	125 g / ℓ	Epoksikonasool (triasool)
Carbendazim (benzimidazole)	125 g / ℓ	Karbendasim (bensimidasool)

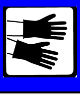
NETT VOLUME / NETTO VOLUME

……………..

REGISTRATION HOLDER / REGISTRASIEHOUER
Makhteshim-Agan SA (Pty) Ltd
Co.Reg. No 1992/001741/07
21 Viben Street
Brackenfell
7560
Tel (021) 982 1460

Batch number — Lotnommer

Date of manufacture — Datum van vervaardiging



CAUTION
VERSIGTIG

WARNINGS:

Allow the following number of days between last application and harvest or grazing and / or feeding:

Barley (do not graze)……………………………………………. 60 days
Groundnuts (hay)………………………………………………... 56 days
Maize (seed)…………………………………………………… 30 days
Maize (foliage)………………………………………………… 60 days
Wheat (do not graze)……………………………………………60 days

- Handle with care
- Store away from food, feed and drinking water
- Keep under lock and key out of reach of children, uninformed persons and animals
- **Aerial application:** Notify all inhabitants in the immediate vicinity of the area to be treated and issue the necessary warnings. Do not spray over water or adjacent areas or allow the spray mist to drift over it.
- **Re-entry interval:** Do not enter treated field until spray deposit has dried 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 my 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 of for lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS:

- Do not inhale spray mist
- Do not eat, drink or smoke while the product is handled.
- Avoid contamination of food, feed, drinking water and eating utensils
- Avoid contact with the skin and eyes. Wear rubber gloves and a face shield when the concentrate is handled. If it comes into the eyes, rinse immediately with water. If skin is contacted, wash off immediately. If it is spilled on clothes, take it off and wash immediately.
- Prevent spray drift onto other crops, grazing, rivers or dams.
- Invert the empty container over the spray tank and allow to drain at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water of at least 10 % of the container. Add the rinsings to the contents of the tank before destroying the container by perforating and flattening it.
- After use clean the applicator thoroughly and dispose of wash water where it will not contaminate other crops, grazing, rivers or dams.

RESISTANCE WARNING:

For resistance management **SOPRANO C** is a group code 1 and 3 fungicide. Any fungal population may contain individuals naturally resistant to **SOPRANO C** and other group code 1 and 3 fungicides. The resistant individuals can eventually dominate the fungal population if these fungicides are used exclusively and repeatedly in programs. These resistant fungi may not be controlled by **SOPRANO C** or any other group code 1 and 3 fungicides. To delay fungicide resistance:

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

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

DIRECTIONS FOR USE
Use only as directed

COMPATIBILITY

SOPRANO C is compatible with BROMOTRIL P 500 SC (Reg No L7019) and MAKHRO MCPA (Reg No L7809) .The compatibility of **SOPRANO C** can be influenced by the quality of dilution water and the products it is mixed with. It is therefore advisable to test for compatibility by mixing small amounts before it is mixed in the spray tank.

APPLICATION
Ground application

SOPRANO C can be applied by any suitable medium or high volume spray apparatus provided it is equipped with an efficient agitation mechanism, is able to distribute the spray mixture evenly over the target area and is calibrated correctly.

AERIAL APPLICATION

Aerial application of **SOPRANO C** may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SANS Code 0118 (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 30 ℓ / ha 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: 25 - 35 droplets / cm^2 must be recovered at the target area.
- Droplet size: A droplet spectrum with a VMD of 280 - 300 micron is recommended. Limit the production of fine droplets less than 150 micron (high drift and evaporation potential) to a minimum.
- Flying height: Maintain the height of the spray boom at 3 - 4 m above the target. Do not spray when aircraft is diving, climbing 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 - 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:
  a) reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
  b) damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target field.
- Ensure that the Aerial Spray Operator knows exactly which fields to spray.
- Obtain an assurance from the Aerial Spray Operator that the above requirements will be met and that relevant data will be compiled in a logbook and kept for future reference.

APPLICATION RATES

CROP/ DISEASE	DOSAGE RATE ℓ / ha	REMARKS
BARLEY Leaf spot (*Rhyncosporium secalis*)	**Ground application:** 0,8 ℓ **Aerial application:**	Commence application as soon as the first signs of an infection is noticed when plants are between the seven leaf and flag leaf stages. Apply in 200 – 400 ℓ water / ha. Apply as above in at least 30 ℓ water / ha.
GROUNDNUTS Leafspot (*Cercospora arachidicola)* Leaf blotch (*Phoma arachi)* Rust (*Puccinia arachidis*)	**Ground application:** 0,4 ℓ / ha **Aerial application:** 0,5 ℓ	Commence application as soon as an infection is noticed in 500 ℓ water / ha. Repeat application every 10 – 14 days when weather conditions favours the development of the disease. Apply as above in at least 30 ℓ water / ha
MAIZE Grey leaf spot *(Cercospora zeaemydis*)	**Ground application:** 1,0 – 1,2 ℓ + Adjuvants at registered rate	Commence application when the disease symptoms are noticed on the basal 3 to 5 leaves or before the infection level reaches 5 % of the total leaf surface. A second application 3 – 4 weeks after the first may be necessary if the first application was done in an early development stage of the crop. Apply in 200 – 500 ℓ water / ha by means of tractor mounted sprayer or in 50 – 60 ℓ water / ha, by means of a hand held boom of a knapsack sprayer. Use the higher dosage rate where a high disease pressure is experienced or where a susceptible cultivar is treated. The addition of a suitable adjuvant based on a mineral oil at the registered rate is recommended.

Northern Leaf Blight (*Exserohilum turcicum, Helminthosporium turcicum*)	**Aerial application:** 1,0 – 1,2 ℓ + adjuvant at registered rate **Ground application:** 1,0 ℓ + adjuvant registered rate **Aerial application:** 1,0 ℓ + adjuvant at registered rate	Apply as above in at least 40 ℓ water / ha. The addition of a suitable adjuvant based on a mineral oil at the registered rate is recommended. Commence application when the disease symptoms are noticed on the basal 3 to 5 leaves or before the infection level reaches 5% of the total leaf area. A second application may be necessary 3 – 4 weeks after the first if the first application was done in the early development stages if the crop. Apply in 300 – 500 ℓ water. The addition of a suitable adjuvant based on a mineral oil at the registered rate is recommended. Apply as above in at least 40 ℓ water / ha. The addition of a suitable adjuvant based on a mineral oil at the registered rate is recommended.
* Consult registration holder for advice on compatible adjuvants		
WHEAT Eye spot (*Pseudocercosporella herpotrichoides)*	**Ground application:** 0,8 – 1,0 ℓ **Aerial application:** 0,8 – 1,0 ℓ	Apply between the 5 – 7 leaf stages in 200 – 400 ℓ water / ha. Apply as above in at least 30 ℓ water / ha.
Glume blotch and Speckled leaf blotch (*Septoria spp)*	**Ground application:** 0 – 9-1,0 ℓ **Aerial application:** 0,9 – 1,0 lt	Apply as soon as the first sign of the disease is noticed in 200 – 400 ℓ water / ha. Apply as above in at least 30 ℓ water / ha.
Yellow rust (Stripe rust) (*Puccinia striiformis*)	**Ground application:** 0,9 – 1,0 ℓ water **Aerial application:** 1,0 ℓ	Commence application as soon as the first sign of the disease is noticed in 200 – 400 ℓ water / ha. If necessary repeat the application 3 – 5 weeks later. Apply as above in at least 30 ℓ water / ha at the higher dosage rates.

WAARSKUWINGS:

Laat die volgende aantal dae toe tussen die laaste toediening en oes en voer en / of beweiding:

Gars (moet nie bewei)……………………………60 dae
Grondbone (hooi)………………………………...56 dae
Mielies (saad)…………………………………… 30 dae
Mielies (blare)……………………………………30 dae
Koring (moet nie bewei)…………………………60 dae

- Hanteer versigtig
- Berg weg van voedsel, voer en drinkwater
- Berg onder slot en grendel buite bereik van kinders, oningeligte persone en diere
- **Lugtoediening:** Stel alle inwoners in die onmiddelike omgewing wat behandel gaan word in kennis en reik die nodige waarskuwings uit. Moet nie oor water of aangrensende gebiede spuit of toelaat dat die spuitnewel daaroor dryf nie.
- **Herbetredingsinterval:** Moet nie behandelde gebied binnegaan voordat die spuitneerslag droog is nie tensy beskermende klere 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 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 geval van enige onsekerheid.

VOORSORGMAATREELS:

- Moenie spuitmis inasem nie
- Moet nie eet, drink of rook terwyl die produk hanteer word nie.
- Verhoed besoedeling van voedsel, voer, drinkwater en eetgerei.
- Vermy kontak met die vel en oë. Dra rubberhandskoene en 'n gesigskerm as die konsentraat hanteer word. Indien dit in die oë kom spoel onmiddellik met water uit. Indien dit met die vel in aanraking kom, was dit onmiddellik af. Indien dit op klere gemors het, trek dit uit en was dit onmiddellik.
- Verhoed dat die spuitnewel oorwaai na ander gewasse, weiding, riviere of damme.
- Keer die leë houer om oor die spuit- of mengtenk en laat vir ten minste 30 sekondes dreineer nadat die vloei tot 'n gedrup verander het. Spoel daarna die leë houer drie keer uit met 'n volume water gelykstaande aan minstens 10% van die volume van die houer. Gooi die spoelwater in die tenk voordat die leë houer vernietig word deur dit te perforeer en plat te druk.
- Maak die toediener deeglik skoon na gebruik en gooi die waswater uit waar dit nie gewasse, weidings, riveiere of damme sal besoedel nie.

WEERSTANDSWAARSKUWING:

Vir weerstandsbestuur in **SOPRANO C** ‘n groepkode 1 en 3 swamdoder. Enige swampopulasie mag individue hê wat ‘n natuurlike weerstand teen **SOPRANO C** en ander groepkode 1 en 3 swamdoders het. Die weerstandbiedende individue kan uiteindelik die swampopulasie domineer indien hierdie swamdoders eksklusief en aanhoudend gebruik word in programme. Hierdie weerstandbiedende swamme mag nie deur **SOPRANO C** en ander groepkode 1 en 3 swamdoders beheer word nie. Om die voorkoms van weerstand te vertraag, kan die volgende gedoen word.

- Vermy die eksklusiewe aanhoudende gebruik van swamdoders in dieselfde swamdodergroepkodes. Wissel af of maak tenkmengsel met swamdoders van ander swamdodergroepkodes.
- Integreer ander beheermetodes (chemiese, bewerking, biologies) in swamdoder beheerprogramme.

Vir spesifieke inligting rakende weerstandsbestuur, skakel die registrasiehouer van hierdie produk.

GEBRUIKSAANWYSINGS:
Gebruik slegs soos aangedui

VERENIGBAARHEID:

SOPRANO C is verenigbaar met BROMOTRIL P 500 SC (Reg No L 7019), en MAKHRO MCPA (Reg No L 7809). Die verenigbaarheid van **SOPRANO C** kan beinvloed word deur die kwaliteit van verdunningswater en die produkte waarmee dit vermeng word. Dit word dus aanbeveel dat klein hoeveelhede eers vooraf vermeng word voor dit in die spuittenk vermeng word.

TOEDIENING:

Grondtoediening:

SOPRANO C kan deur middel van enige geskikte medium- of hoë volume spuitapparaat toegedien word, mits dit toegerus is met ‘n doeltreffende roermeganisms, in staat is om die spuitmengsel eweredig oor die teikenoppervlak te versprei en korrek gekalibreer is.

Lugtoediening:

SOPRANO C kan slegs deur ‘n geregistreerde Lugbespuitingsoperateur met ‘n korrek gekalibreerde, geregistreerde vliegtuig volgens die instruksies van SANS Kode 0118 (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:

· <u>Volume</u>: ‘n Spuitmengsel volume van 30 ℓ / ha word aanbeveel. Hierdie produk is nie teen ‘n verlaagde volume getoets nie. Die registrasiehouer kan nie effektiwititeit waarborg, of verantwoordelik gehou word vir enige nadelige effekte indien hierdie produk teen ‘n laer volume, as hierbo aanbeveel, toegedien word nie.

· <u>Druppelbedekking:</u> 25 - 35 druppels / cm² moet op die teikenarea herwin word.

- Druppelgrootte: ‘n Druppelspektrum met ‘n VMD van 280 - 300 mikron word aanbeveel. Beperk die produksie van druppels kleiner as 150 mikron (hoë drywing en verdampingspotensiaal) tot ‘n minimum.
- Vlieghoogte: Handhaaf die hoogte van die spuitbalk bo die teiken op 3 - 4 m. Moet nie spuit wanneer die vliegtuig duik, uitklim of draai nie.
- Gebruik geskikte atomiseringsapparaat wat die vereiste druppelgrootte en bedekking sal produseer, maar die minste verlies van produk verseker. Die spuitstelsel moet ‘n druppelspektrum met die kleinste moontlike Relatiewe Span produseer.
- Plaas al die atomiseerders in die binnste 60 - 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 swaaihigrometer, moet nie 8 °C oorskry nie.
- Stop bespuiting indien die windspoed 15 km / u 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:
  a) verlaagde doeltreffendheid aangesien die druppels as ‘n wolk in die lug bly hang en moontlik verdamp (onvoldoende bedekking op teiken).
  b) 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.

TOEDIENINGSHOEVEELHEDE:

GEWAS / SIEKTE	DOSIS ℓ / ha	OPMERKINGS
GARS Blaarvlek (*Rhyncosporium secalis*)	**Grondtoediening:** 0,8 ℓ **Lugtoediening:** 0,8 ℓ	Toediening moet ‘n aanvang neem sodra die eerste tekens van ‘n besmetting waargeneem word as die plante in die sewende tot die vlagblaarstadium is. Dien in 200 – 400 ℓ water / ha toe. Dien toe soos hier bo in tenminste 30 ℓ water / ha.
GRONDBONE Blaarvlek (*Cercospora arachidicola*) Spatselvlek (*Phoma arachidicola*) Roes (*Puccinia arachidis*)	**Grondtoediening:** 0,4 ℓ **Lugtoediening:** 0,5 ℓ	Toediening moet ‘n aanvang neem sodra die eerste simptome van die siekte waargeneem word in 500 ℓ water / ha. Herhaal die toediening elke 10 – 14 dae as klimaatstoestande die ontwikkeling van die siekte bevorder. Dien toe soos hier bo in ten minste 30 ℓ water / ha.
MIELIES Grys blaarvlek (*Cercospora zeamydis*)	**Grondtoediening:** 1,0 – 1,2 ℓ + benatters teen geregistreerde dosisse	Dien toe sodra die eerste simptome op die basale 3 – 5 blare waargeneem word of voor die besmettingsvlak 5 % van die blaaroppervlakte bereik het. ‘n Tweede toediening 3 – 4 weke na die eerste mag nodig wees veral as die eerste

	Lugtoediening: 1,0 – 1,2 ℓ + benatters teen geregistreerde dosisse	toediening in die vroeë ontwikkelingstadium van die gewas gedoen is. Gebruik 200 – 500 ℓ water / ha waarvan ‘n trekkergemonteerde spuitapparaat gebruik gemaak word of 50 – 60 ℓ water / ha waarvan ‘n rugsakspuit met ‘n handstang gebruik gemaak word. Gebruik die hoër toedieningshoeveelheid waar ‘n hoë infeksiedruk ondervind word of waar ‘n vatbare cultivar aangeplant is. Die gebruik van ‘n geskikte bevorderingsmiddel gebasseer op ‘n minerale olie, word teen die geregistreerde dosis aanbeveel. Dien toe soos hier bo in ten minste 40 ℓ water / ha Die gebruik van ‘n geskikte bevorderingsmiddel gebasseer op ‘n minerale olie, word teen die geregistreerde dosis aanbeveel.
NOORDELIKE BLAARSKROEI (*Exserohilum turcium Helminthosporium turcicum)*	**Grondtoediening:** 1,0 ℓ + benatters teen geregistreerde dosisse **Lugtoediening:** 1,0 ℓ + benatters teen geregistreerde dosisse	Dien toe sodra die eerste simptome op die basale 3 – 5 blare opgemerk word of voor die infeksiedruk 5 % van die totale blaaroppervlakte bereik het. ‘n Tweede toediening, 3 – 4 weke na die eerste mag nodig wees veral as die eerste toediening voreg in die ontwikkelinstadium van die gewas gedoen is. Dien in 300 – 500 ℓ water / ha toe. Die gebruik van ‘n geskikte bevorderingsmiddel gebasseer op ‘n minerale olie, word teen die geregistreerde dosis aanbeveel. Dien toe soos hierbo in ten minste 40 ℓ water / ha. Die gebruik van ‘n geskikte bevorderingsmiddel gebasseer op ‘n minerale olie, word teen die geregistreerde dosis aanbeveel.
* Raadpleeg die registrasiehouer vir advise oor geskikte benatters		
KORING Oogvlek (*Pseudocercosporella herpotricoides*)	**Grondtoediening:** 0,8 – 1,0 ℓ **Lugtoediening:** 0,8 – 1,0 ℓ	Dien toe tussen die 5 – 7 blaar stadium van die gewas in 200 – 400 ℓ water / ha. Dien toe soos hierbo in ten minste 40 ℓ water / ha.
Bruinaarsiekte en Vaalblaar (*Sptoria spp*)	**Grondtoediening:** 0,9 – 1,0 ℓ **Lugtoediening:**	Dien toe sodra die eerste simptome van die siekte waargeneem word in 200 – 400 ℓ water / ha. Dien toe soos hier bo in minstens 30 ℓ water / ha.

Geelroes (Streeproes) (*Puccinia striiformis*)	0,9 – 1,0 ℓ **Grondtoediening:** 0,9 – 1,0 ℓ **Lugtoediening:** 1,0 ℓ	Dien toe sodra die eerste simptome waargeneem word in 200 – 400 ℓ water / ha. Indien nodig moet die toediening 3 – 5 weke later herhaal wod. Dien toe soos hier bo in minstens 30 ℓ water / ha teen die hoër toedieningshoeveelheid.