

Miravis[®] Neo

syngenta

Reg. No. L11102 Act No. 36 of 1947

A suspo-emulsion systemic fungicide for the preventative control of diseases in crops as indicated.

GROUP 7, 11 & 3 FUNGICIDE

Active Ingredients:
ADEPIDYN™ (pydiflumetofen).... 75 g/l
azoxystrobin..... 100 g/l
propiconazole (triazole)..... 125 g/l

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DANGER

Hazard statements: Harmful if swallowed or if inhaled. Causes serious eye irritation. Suspected of damaging fertility or the unborn child. Very toxic to aquatic life with long-lasting effects.

Precautionary statements: Keep out of reach of children. Do not eat, drink, or smoke when using this product. **Prevention:** Obtain special instructions before use. Avoid breathing mist or vapours. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. **Response:** If exposed or concerned, get medical advice/attention. Collect spillage. **Storage:** Store locked-up. **Disposal:** Dispose of contents/container to an approved waste disposal plant.

EMERGENCY TEL NO.:
+27 82 446 8946 (Griffon)

UN 3082

Registration holder
Syngenta South Africa (Pty) Ltd
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1. WARNINGS:

Hazard statements: Harmful if swallowed or if inhaled. Suspected of damaging fertility or the unborn child. Causes serious eye irritation. Very toxic to aquatic life with long-lasting effects.

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

| | |
|--------------------|---------|
| BARLEY..... | 28 days |
| GRAIN SORGHUM..... | 50 days |
| MAIZE..... | 70 days |
| OATS..... | 28 days |
| RYE..... | 28 days |
| SWEETCORN..... | 50 days |
| TRITICALE..... | 28 days |
| WHEAT..... | 56 days |

NOTE: Compliance with these withholding periods will ensure that residues do not exceed local maximum residue limits (MRL), but the import tolerances of other countries might possibly be exceeded. If the crop to be treated is intended for export, consult the relevant importer or exporting body regarding the use of this product, MRL's and recommended withholding periods.

- Read safety instructions before opening or using.
- To avoid risk to humans and the environment, comply with the instructions for use.
- May be harmful when inhaled or swallowed.
- Irritating or harmful to eyes and skin.
- Toxic to fish and other aquatic organisms with long-lasting effects. Avoid contact with aquatic environments.
- Keep out of reach of children, uninformed persons and animals.
- Store in the closed, original container in a cool, well-ventilated area. Place away from food, feeds, fertilisers and other chemicals. Avoid temperatures below 0°C and above 35°C.
- Do not eat, drink, or smoke while handling this product.
- Prevent contamination of food, feed, drinking water and

eating utensils.

- **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 adjacent areas or water.
- **Re-entry:** Do not enter treated area 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 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 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 people 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, that could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

First Aid and Medical Treatment

If poisoning occurs, contact a doctor or the **Tygerberg Poison Information Centre** at **+27 861 555 777** or **Griffon Poison Centre** at **+27 82 446 8946**. In case of poisoning, have the product container and label ready when calling a poison control centre or doctor, or when seeking treatment.

Note to doctor: There is no specific antidote available. Treat symptomatically and do not induce vomiting. The product contains petroleum distillates and/or aromatic solvents.

- **Ingestion:** Call a poison control centre or doctor immediately for treatment advice. Do NOT induce vomiting unless instructed to do so by the poison control centre or doctor. Do not give liquids to the person. Do not give anything by mouth to an unconscious person.
- **Skin contact:** Remove contaminated clothing

immediately. Wash skin immediately with soap and rinse skin with plenty of water for 15 - 20 minutes. Call a poison control centre or doctor for treatment advice. Wash contaminated clothing before re-use.

- **Inhalation:** Move person to fresh air. If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth to mouth, if possible. Keep patient warm and at ease. Call a poison control centre or doctor for further treatment advice.
- **Eye contact:** Hold eye open and rinse slowly and gently with plenty of water inside and under the eyelids for 15 - 20 minutes. Remove contact lenses, if present, after the initial 5 minutes, then continue rinsing the eye. Call a poison control centre or doctor for immediate treatment advice.

2. PRECAUTIONS:

Precautionary statements: Keep out of reach of children. Do not eat, drink, or smoke when using this product.
Prevention: Obtain special instructions before use. Avoid breathing mist or vapours. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. **Response:** If exposed or concerned, get medical advice/attention. Collect spillage. **Storage:** Store locked-up. **Disposal:** Dispose of contents/container to an approved waste disposal plant.

- Keep out of reach of children and inexperienced persons.
- Do not transport or store with food.
- Avoid contact with eyes and skin.
- DO NOT inhale spray mist.
- While spraying, avoid contact with the spray as much as possible.
- Avoid spray drift onto other crops, grazing, rivers, or dams. Do not apply when the wind speed is more than 15 km/h or during periods of temperature inversions.
- Clean applicator thoroughly after use and dispose of wash water where it will not contaminate crops, grazing, rivers or dams.
- If clothing becomes contaminated with product or wet with spray, remove and wash clothing immediately. Wash yourself.
- Workers should use protective clothing. When preparing spray and using the prepared spray, wear: cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC gloves, goggles and a disposable mist mask covering mouth and nose.
- After use and before eating, drinking, or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, goggles and contaminated clothing.
- **Triple rinse:** 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 (3) times with a volume of water equal to a minimum of 10% of that of the container. Add the rinsate to the contents of the spray tank before destroying the container in the prescribed manner.
- Never use empty container for any other purpose.

3. RELEVANT SUBSTANCES:

| Chemical name | Concentration (% w/w) |
|---------------------|-----------------------|
| propiconazole (ISO) | ≥ 10 - < 20 |
| Chemical name | Concentration (% w/w) |
| azoxystrobin | ≥ 2,5 - < 10 |
| Chemical name | Concentration (% w/w) |
| pydiflumetofen | ≥ 3 - < 10 |

4. RESISTANCE MANAGEMENT:

MIRAVIS NEO is classified as a group code 7, 11 and 3 fungicide. Any fungus population may contain individuals naturally resistant to **MIRAVIS NEO** and other group code 7, 11 and 3 fungicides. The resistant individuals can eventually dominate the fungus population if these fungicides are used repeatedly and exclusively in programs. These resistant fungi may not be controlled by **MIRAVIS NEO** or any other group code 7, 11 and 3 fungicides. As the product owner cannot foresee the development of resistance, the company assumes no liability for any damage or loss resulting from the lack of activity of **MIRAVIS NEO** against these possible resistant strains.

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.
- Refer to individual product labels when alternating products or when using tank mixtures.
- Integrate other control methods (chemical, cultural, biological) into disease control programs.
- For specific information on resistance management, contact the registration holder of this product (Syngenta South Africa) or visit the FRAC website at <http://www.frac.info/frac/index.html>.

5. DIRECTIONS FOR USE: Use only as indicated.

Thorough, uniform coverage is essential for effective disease control.

5.1 General

MIRAVIS NEO is a systemic fungicide for the preventative control of foliar diseases in various crops. It combines the action of a new active ingredient ADEPIDYN™ (pydiflumetofen), from the chemical group of carboxamides, with propiconazole, from the chemical group of triazoles, and azoxystrobin, from the chemical group of strobilurins. Combined in a single treatment, the three active ingredients provide improved efficacy and benefits over any of the active ingredients applied solo, particularly in the broadacre crops where limited applications will occur over a season. The SDHI (succinate dehydrogenase inhibitor) component is enhanced by the addition of the triazole and supplemented by the addition of azoxystrobin. In addition to improved performance, this combination provides favourable fungicide resistance management and stewardship.

MIRAVIS NEO is a broad-spectrum fungicide belonging

to chemical group 7: SDHI (FRAC). This inhibits Complex II of respiration where SDHI acts. ADEPIDYN™ does not possess cross-resistance with triazoles (DMI) or strobilurins (QoI), hence mixing with these chemicals is recommended for better management of resistance. ADEPIDYN™ has extended residual effect that protects the leaves and delays senescence.

Propiconazole (triazole) is a preventative fungicide belonging to chemical group 3: Inhibitors of membrane sterol biosynthesis (DMI) (FRAC). It significantly inhibits the subcuticular development of the mycelium of the fungi and prevents the development of the symptoms of the diseases. It has local systemic properties and translaminar capacity.

The mode of action of azoxystrobin (strobilurin) is to prevent the respiration of fungi due to the disruption of the electron transport chain, preventing ATP synthesis (this occurs as the azoxystrobin binds to the QoI site of Complex III within the mitochondrion). It belongs to chemical group 11.

MIRAVIS NEO degrades quickly in the environment, ensuring that there are no negative effects on germination and the establishment of successive crops in rotation.

5.2 Mixing Instructions

MIRAVIS NEO is a suspo-emulsion fungicide formulation that must be diluted in water. For proper preparation, observe the following instructions:

- Verify proper functioning and correct calibration of the equipment before starting the application.
- Half-fill the spray tank with clean water; shake the **MIRAVIS NEO** container thoroughly immediately before use.
- Use only **clean** water and buffer with a registered buffer if needed. Use preferably borehole water free from silt and clay particles and not water from contaminated rivers or dams. Contamination includes clay, sewage and pollution.
- Add the required volume of **MIRAVIS NEO** to the spray tank. Replace cap after pouring.
- If tank mixtures are made, add the products to the tank in the following sequence (as applicable): buffers, water dispersible granules or bags, wettable powders, suspension concentrates, emulsifiable concentrates, soluble liquid formulations (**MIRAVIS NEO** and other emulsifiable concentrates/suspo-emulsions) and adjuvants.
- Fill the spray tank with water to the required level while maintaining agitation to ensure thorough mixing of the spray mixture before spraying commences.
- Maintain agitation while spraying.
- Prepared spray mixture must not be left in the spray tank for more than six (6) hours, as effectiveness may be reduced due to degradation of the product.

5.3 Compatibility

If **MIRAVIS NEO** is used in tank mix combinations, mix small quantities of the chemicals with water to test the physical

compatibility of the components. The products should be added separately to the bulk water in the spray tank. Add these together while agitating and check for any signs of incompatibility, e.g., flocculation. Whenever products are tank mixed with **MIRAVIS NEO**, full cognisance must be taken of all WARNINGS, PRECAUTIONS and DIRECTIONS FOR USE on the relevant product labels

MIRAVIS NEO is compatible with BRAVO® and COMPLEMENT® SUPER, and can be tank mixed at registered label rates in a disease control program.

5.4 Application

It is recommended that **MIRAVIS NEO** be applied preventatively only for the control of diseases on all crops.

5.4.1 Ground application

- **MIRAVIS NEO** must be applied as a full-cover preventative spray for the control of the disease mentioned.
- When applying **MIRAVIS NEO**, ensure good coverage of the leaves of the crop.
- Check that the spray equipment is in good working condition and that the spray boom is adjusted to a height of 50 cm above the target to ensure complete coverage.
- Ensure good coverage of the whole plant (the stems and both surfaces of the leaves) by using enough water, and spraying equipment that can maintain high pressure.
- Avoid evaporation and drift.
- **MIRAVIS NEO** may be applied with any medium- or high-volume sprayer that is capable of adequate coverage and even distribution.
- **MIRAVIS NEO** should only be applied using tractor-mounted sprayers, towed boom sprayers or self-propelled high clearance boom sprayers.
- Before use, all equipment must be properly calibrated regarding forward speed, flow rate and evenness of distribution.
- Ensure the equipment (sprayer) has continuous agitation.
- Flat-fan, low-drift nozzle (110°) types at 1.5 - 3 bar pressure are recommended. Consult the mobile application Cropwise Spray Assist.

5.4.2 Aerial application

Always avoid chemical drift.

Aerial application of **MIRAVIS NEO** may only be done by a registered aerial application operator using a correctly calibrated, registered aircraft according to the instructions of SANS 10118 (Aerial Application of Agricultural Remedies). It is important to 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.

The use of suitable low-drift nozzles (e.g., straight-stream nozzles) is recommended. In the case of fixed-wing aircraft flying at a speed above 130 mph, the maximum deflection angle of the nozzle or spray stream as measured from a horizontal, straight backwards orientation, may not exceed 30°. In the case of slower flying fixed-wing aircraft, the maximum

deflection angle, as described above, may not exceed 55°. It is therefore essential that the following criteria are met:

a) Application parameters:

- **Volume:** A volume of 25 - 30 ℓ/ha is recommended. As **MIRAVIS NEO** has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy or be held responsible for any adverse effects if the product is applied aerially at a lower volume rate than recommended above.
- **Droplet coverage:** A droplet coverage of 20 - 30 droplets per cm² must be recovered at the target.
- **Droplet size:** A droplet spectrum with a VMD of 350 - 400 microns is recommended. Ensure that the production of fine droplets (less than 150 microns) is restricted to a minimum.
- **Flying height:** The height of the spray boom should be maintained at 3 - 4 metres above the target. Do not spray when aircraft is in a climb, at the top, during a dive, or when banking.

b) Equipment:

- Use suitable atomising equipment (hydraulic nozzles or rotary atomisers) that will produce the desired droplet size and coverage and ensure the minimum loss of product either through endo-drift (within target field) or exo-drift (outside target field).
- The operator must use a set-up that will produce a droplet spectrum with the lowest possible relative span.
- All nozzles/atomisers should be positioned within the inner 60 - 75% of the wingspan to prevent droplets from entering the wingtip vortices.

c) Meteorological conditions:

- 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 or is less than 5 km/h.
- Aerial application of **MIRAVIS NEO** must not be done under turbulent, unstable conditions during the heat of the day when rising thermals and downdraughts occur.
- Also note that the application of **MIRAVIS NEO** under temperature inversion conditions (spraying in or above the inversion layer) and/or high humidity conditions (relative humidity > 80%) 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 the movement of the suspended spray cloud away from the target field.
- Under the following climatic conditions, **MIRAVIS NEO** can cause serious damage as far as 3 - 5 km from the nearest spray path of the aircraft:
 - Cloudy weather with relative humidity above 80% and low air movement of less than 5 km per hour. When such conditions prevail, aerial application should **NOT** be carried out where sensitive crops, crop seedlings, deciduous fruit trees and grape vines in budding or early development stages are present within 5 km of the nearest spray path of the aircraft.

Ensure that the aerial spray operator knows which fields

to spray by pinpointing their location using a map or GPS coordinates. Indicate to the operator adjacent environmentally sensitive areas or sensitive neighbouring crops, beehives or water sources that could be affected by the pesticide.

Obtain assurance from the aerial spray operator that the above requirements will be met and that relevant data will be captured in a logbook and kept for future reference.

6. RECOMMENDATIONS: Use only as recommended.

BARLEY AND OATS

| Pest | Dosage |
|---|--|
| Net blotch (<i>Pyrenophora teres</i>) Rust (<i>Puccinia</i> spp.) Powdery mildew (<i>Blumeria graminis</i> (syn. <i>Erysiphe graminis</i>)) Leaf blotch (<i>Rhynchosporium secalis</i>) | Ground and aerial application 800 - 1 000 ml/ha |
| Barley leaf spot (<i>Ramularia collo-cygni</i>) | Ground and aerial application 800 - 1 000 ml/ha plus BRAVO® at 1 000 ml/ha |
| Remarks <ul style="list-style-type: none"> • Always apply as a preventative spray application at intervals of 21 - 28-days in a program when weather conditions favour disease development. • Use the shorter interval and higher rate when disease pressure is high. • Do no more than two (2) applications during the crop season. • For use in mixtures, apply a maximum of two (2) consecutive applications per block before alternating with fungicides with a different mode of action. • Alternate MIRAVIS NEO spray applications with fungicides with a different mode of action in a season-long disease control program. | |
| Spray volume Ground application: 200 - 300 ℓ water/ha | |

MAIZE, GRAIN SORGHUM AND MILLET

| Pest | Dosage |
|---|---|
| Grey leaf spot (<i>Cercospora zeina</i> (syn. <i>Cercospora zea-maydis</i>), <i>Cercospora sorghi</i>) Northern corn leaf blight (<i>Setosphaeria turcicum</i> (syn. <i>Helminthosporium turcicum</i>)) Rust (<i>Puccinia</i> spp.) Suppression of Eye spot (<i>Kabatiella zea</i> (syn. <i>Aureobasidium zea</i>)) | Ground and aerial application 800 - 1 000 ml/ha |
| Remarks <ul style="list-style-type: none"> • Always apply as a preventative spray application at intervals of 21 - 28-days when weather conditions | |

MAIZE, GRAIN SORGHUM AND MILLET cont.**Remarks**

- Always apply as a preventative spray application at intervals of 21 - 28-days when weather conditions favour disease development.
- Use the shorter interval and higher rate when disease pressure is high.
- Do no more than two (2) applications during the crop season.
- For use in mixtures, apply a maximum of two (2) consecutive applications per block before alternating with fungicides with a different mode of action.
- Alternate **MIRAVIS NEO** spray applications with fungicides with a different mode of action in a season-long disease control program.

Spray volume**Ground application:** 200 - 500 ℓ water/ha**WHEAT, TRITICALE, RYE AND DURUM WHEAT** cont.

season.

- For use in mixtures, apply a maximum of two (2) consecutive applications per block before alternating with fungicides with a different mode of action.
- Alternate **MIRAVIS NEO** spray applications with fungicides with a different mode of action in a season-long disease control program.

Spray volume**Ground application:** 200 - 300 ℓ water/ha**SWEETCORN**

| Pest | Dosage |
|---|---|
| Grey leaf spot <i>(Cercospora zeina (syn. Cercospora zea-maydis), Cercospora sorghi)</i> | Ground and aerial application 800 - 1 000 ml/ha |
| Northern corn leaf blight <i>(Setosphaeria turcicum (syn. Helminthosporium turcicum))</i> | |
| Rust <i>(Puccinia spp.)</i> | |
| Suppression of Eye spot <i>(Kabatiella zea (syn. Aureobasidium zea))</i> | |

Remarks

- Always apply as a preventive spray application when weather conditions favour disease development.
- Do no more than one (1) application during the crop season in alternation with fungicides with a different mode of action.
- Alternate **MIRAVIS NEO** spray applications with fungicides with a different mode of action in a season-long disease control program.

Spray volume**Ground application:** 200 - 500 ℓ water/ha**WHEAT, TRITICALE, RYE AND DURUM WHEAT**

| Pest | Dosage |
|---|--|
| Rust <i>(Puccinia spp.)</i> | Ground and aerial application 800 - 1000 ml/ha |
| Leaf blotch <i>(Stagnospora tritici/ Stagnospora nodorum (syn. Septoria tritici/ Septoria nodorum))</i> | |
| Powdery mildew <i>(Blumeria graminis (syn. Erysiphe graminis))</i> | |

Remarks

- Always apply as a preventative spray application at intervals of 21 - 28-days in a program when weather conditions favour disease development.
- Use the shorter interval and the higher rate when disease pressure is high.
- Do no more than two (2) applications during the crop

MIRAVIS[®], **COMPLEMENT**[®] and **BRAVO**[®] are registered trade marks of a Syngenta Group company. **ADEPIDYN**[™] is the registered tradename of pydiflumetofen (ISO common name).

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