

BEFORE USING THIS PRODUCT READ THE LABEL CAREFULLY!

Fungicide



COPPER OXYCHLORIDE WP

Reg. No. L 6231 Act/Wet No. 36 of/van 1947
N-AR 1879 / W 130952

1:08/05/00-Jan2019

A wettable powder fungicide for the control of various diseases on a wide range of crops as indicated.

'n Benatbare poeier swamdoder vir die beheer van verskillende siektes op 'n wye reeks gewasse soos aangedui.

ACTIVE INGREDIENT / AKTIEWE BESTANDDEEL

copper oxychloride	850 g/kg	koper oksiechloried
(metallic copper equivalent)	500 g/kg	(metaalkoper ekwivalent)

FRAC FUNGICIDE GROUP CODE **M1** FRAC SWAMDODER GROEPEKODE

kg

villa

Registration holder / Registrasiehouer:

Villa Crop Protection (Pty) Ltd.

Co. Reg. No. / Mpy. Reg. Nr. 1992/002474/07

PO Box / Posbus 10413, Aston Manor, 1630

Tel: 011 396 2233

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UN Number: 2775

Willow Set & Print 011 394-4486



**CAUTION
VERSIGTIG**



GEBRUIKSAANWYSINGS INGESLUIT

VERWYS NA BESONDERHEDE
GEDRUK OP HOUER/SAK

Date formulated:

Formuleringsdatum:

DIRECTIONS FOR USE ENCLOSED

REFER TO DETAILS PRINTED
ON CONTAINER/BAG

Batch number:

Lotnummer:

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Registration holder / Registrasiehouer:

VILLA CROP PROTECTION (PTY) LTD.

Co. Reg. No. 1992/002474/07 Mpy. Reg. Nr.

PO Box / Posbus 10413, KEMPTON PARK, 1620

Tel. (011) 396 2233

CAUTION / VERSIGTIG**WARNINGS**

Minimum time between last application and harvest or feeding:	
Celery	1 day
Tomatoes, Beans, Cucurbits, Granadilla, Cruciferae and Peppers	3 days
Apples, Pears, Peaches, Potatoes, Plums, Citrus, Coffee, Guavas, Apricots, Avocados, Mangoes, Olives, Boysenberries, Youngberries, Cherries and Strawberries	14 days
Wine grapes	21 days
Table grapes (do not apply after berries have reached pea size, as this may cause tarnishing)	28 to 42 days

IN THE CASE OF CROPS INTENDED FOR EXPORT, CONFIRM WITHHOLDING PERIODS WITH THE RELEVANT EXPORT ORGANISATION. IF THIS PRODUCT IS USED ACCORDING TO THE RECOMMENDATIONS ON THIS LABEL, LOCAL MRL VALUES WILL NOT BE EXCEEDED. HOWEVER, VILLA CROP PROTECTION (PTY) LTD. CANNOT ACCEPT RESPONSIBILITY FOR EXPORTED CROPS EXCEEDING THE IMPORT TOLERANCES OF OTHER COUNTRIES.

- Handle with care.
- May irritate skin and eyes.
- Toxic when swallowed.
- Toxic to fish and wildlife.
- Store the product inside the original container/bag and always keep it tightly closed.
- Store in a cool, dry, well-ventilated place, away from food, seed and feedstuffs.
- Keep out of reach of children, animals and uninformed persons.
- Re-entry: Do not enter treated area until spray deposit has dried unless wearing protective clothing.

Aerial application:

Notify all inhabitants of the immediate area to be sprayed and issue the necessary warnings. Do not spray over or allow drift to contaminate water and adjacent areas.

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 to the remedy concerned, as well as by the method, time and accuracy of application. The registration holder further 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 event of any uncertainty.

PRECAUTIONS

- Do not inhale the dust or spray mist.
- Wear protective clothing, mask and rubber gloves while handling and applying the product.
- Wash contaminated clothes after use.
- Wash thoroughly with soap and water after application and accidental skin contact.
- In case of eye contamination, rinse the eyes thoroughly with plenty of clean, cold water for at least 15 minutes. If irritation persists obtain medical attention.

- Do not eat, drink or smoke whilst applying or mixing or before washing hands and face or change of clothing.
- Prevent drift onto other crops, grazing, rivers, dams and areas not under treatment.
- Clean applicator after use and dispose of wash water where it will not contaminate food, grazing, rivers or dams.
- Containers/bags and packages must be completely emptied before being disposed of. Shake out thoroughly into the mixing tank and destroy the empty container/bag thereafter and bury it.
- **Do not** re-use the empty container/bag for any other purpose.
- **Do not** burn the empty container/bag.
- Prevent contamination of food, feeds, drinking water and eating utensils.

RESISTANCE WARNING

COPPER OXYCHLORIDE WP is a group code M1 fungicide. Any fungus population may contain individuals naturally resistant to **COPPER OXYCHLORIDE WP** and other group code M1 fungicides. The resistant individuals can eventually dominate the fungus population if these fungicides are used repeatedly. These resistant fungi may not be controlled by **COPPER OXYCHLORIDE WP** or any other group code M1 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 M, refer to applicable individual product labels,
- integrate other control methods (chemical, cultural, biological) into disease control programmes.

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

DIRECTIONS FOR USE: Use only as directed.

Compatibility:

COPPER OXYCHLORIDE WP may be sprayed together with most commonly used insecticides, fungicides and trace elements. Not compatible with lime sulphur, DNOC and thiram. It is recommended **not** to tank mix **COPPER OXYCHLORIDE WP** with other pH sensitive products. **Do not** buffer the water to below pH 6, when **COPPER OXYCHLORIDE WP** is used. **It is not recommended to use a buffer with COPPER OXYCHLORIDE WP.**

Mixing and application instructions:

Mix the required quantity with a little water into a thin paste and add to the water in the spray tank, while stirring. Stir continuously, to ensure a homogenous mix. Keep agitating whilst applying. The application rates below apply to high volume spraying (1000 litres or more spray mixture per hectare).

APPLICATION

Ground application:

- **COPPER OXYCHLORIDE WP** can be applied with conventional high volume spray equipment.
- It is important that the sprayer be calibrated prior to application, to ensure that the correct delivery rate and even distribution of the spray mixture is obtained.

Aerial application:

Aerial application of **COPPER OXYCHLORIDE WP** may only be done by a registered aerial application operator using a correctly calibrated, registered aircraft according to the instructions of SANS 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 30 to 40 litres 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 aurally at a lower volume rate than recommended above.
- Droplet coverage: 50 to 70 droplets per cm² must be recovered at the target area.
- Droplet size: A droplet spectrum with a VMD of 200 to 250 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 to 4 meters above the target. Do not spray when aircraft is diving, climbing or when banking.

- Use suitable atomizing 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 atomizers 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 per hour.
- 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	Remarks
<u>Apples & Pears</u> Scab	250 g / 100 ℓ water	Use only at early green tip stage on apples and early green tip, to advanced green tip on pears. Do not use on Doyenne du Comice, Josephine de Malines and Kieffer pear cultivars.
<u>Avocados</u> Fruit spot (<i>Pseudocercospora purpurea</i>) & Anthracnose	300 g / 100 ℓ water	Apply 3 full cover sprays. First application in middle/end November and repeat at four-week intervals.
<u>Beans</u> Bacterial blight	400 g / 100 ℓ water	Apply regularly at 7 to 14 day intervals depending on the weather.
<u>Boysenberries and Youngberries</u> Anthracnose	600 g / 100 ℓ water	Apply from budburst until shoots are 2 cm long.
<u>Carnations</u> Leaf spot & Rust	500 g / 100 ℓ water	Start applications when the plants are well established and repeat at weekly intervals as long as necessary.
<u>Celery</u> Leaf spot	400 g / 100 ℓ water	Apply COPPER OXYCHLORIDE WP as a full cover spray. Apply up to 2000 litres spray mixture per hectare, depending on the plant size. Repeat applications every 7 to 14 days, depending on the weather.
<u>Cherries</u> Bacterial canker	400 g / 100 ℓ water	First application at bud swell. Repeat the application after harvest, beginning of leaf drop, 3 weeks later and again when all the leaves have dropped.
<u>Citrus</u> Black spot & Melanose	200 g / 100 ℓ water	Normal season: Apply 3 sprays of COPPER OXYCHLORIDE WP at 30 to 35 day intervals. Start applications before the end of October and before the rain season starts. Wet season: Apply 4 applications at 30 to 35 day intervals. Start applications at 100 % petal drop.
Brown rot	200 g / 100 ℓ water	Apply 3 weeks before harvesting on all fruit up to 100 cm above the soil surface. Spray also on the stem and soil surface underneath trees.
Scab	200 g / 100 ℓ water	Apply to commercial lemons and/or limes, when nearby orange trees have dropped 75 to 100 % of their petals.

Crop / Disease	Dosage	Remarks
Apricots Bacterial canker	400 g to 500 g / 100 ℓ water	Depending on the severity of infection the previous season, apply one or two sprays at 50 % and/or 75 % leaf drop. If twig and bud infection was observed before bud movement, apply an additional spray at bud movement. Use the higher concentration in autumn and the lower at bud movement. Add 200 g Spray lime per 100 litres spray mixture to all sprays.
Bacterial spot	100 g to 400 g / 100 ℓ water	Post harvest at 75 % leaf drop: Apply 200 g plus 200 g Spray lime per 100 litres water. Dormant period: Apply 400 g per 100 litres water. 90 to 100 % Petal fall: Apply 100 g plus 400 g Spray lime per 100 litres water.
Gum spot	400 g to 500 g / 100 ℓ water	75 % Leaf drop: Apply 400 g to 500 g plus 200 g Spray lime per 100 litres water, when infection was light or heavy, the previous season. Bud movement: Apply 400 g to 500 g COPPER OXYCHLORIDE WP plus 200 g Spray lime per 100 litres water.
Coffee Rust	750 g / 100 ℓ water	Full cover application, commencing before rust symptoms appears. Apply 4 to 5 sprays at 4 week intervals. Apply at least 1000 litres spray mixture per hectare, depending on plant size and density.
Cotton – Acid delinted seed only.		
Seedling Diseases: Damping-off, Anthracnose, Sore shin (<i>Rhizoctonia solani</i>) & Bacterial blight	650 g / 100 kg seed	Mix thoroughly with seed by means of a dry or slurry treatment.
Cruciferae Bacterial spot	400 g / 100 ℓ water	Apply every 7 to 14 days, thoroughly wetting the entire plant. The use of a suitable wetting agent is recommended.
Seedbeds: Downy mildew & Bacterial spot	400 g / 100 ℓ water	Spray seedlings every 7 to 14 days. Ensure complete light coverage of the seedlings.
Cucurbits Downy mildew	300 g / 100 ℓ water	Start applications at first signs of disease. Repeat the applications weekly as long as weather favours development of disease. Depending on foliage cover, apply up to 1500 litres spray mixture per hectare. Ensure coverage of both upper and lower leaf surfaces.
Granadillas Leaf- & Fruit spot	300 g / 100 ℓ water	Apply at first sign of disease and repeat 14 days later. Depending on plant size, apply up to 2000 litres spray mixture per hectare.
Guavas Lumpy disease & Blossom-end rot	200 g / 100 ℓ water	Apply COPPER OXYCHLORIDE WP as a full cover spray in the early stage, until fruit begins to swell. Apply at 30 day intervals, for protection against Lumpy disease.
Wilting disease	250 g / 100 ℓ water	Disinfect lugboxes in the COPPER OXYCHLORIDE WP suspension, to prevent the disease spreading to uninfected parts of the orchard.

Crop / Disease	Dosage	Remarks
Grapes Anthracnose	500 g / 100 ℓ water	Winter rainfall region: Apply when shoots are 1 to 2 cm long and again when shoots are 10 cm long and again when 25 cm long. Thereafter apply COPPER OXYCHLORIDE WP at 2 to 3 week intervals. Will also control Bacterial blight, Dead-arm and Downy mildew and <i>Botrytis</i> rot.
Bacterial blight	500 g / 100 ℓ water	Apply when shoots are 1 to 2 cm long. Thereafter 2 to 3 times at 3 week intervals. COPPER OXYCHLORIDE WP will also control Anthracnose, <i>Botrytis</i> rot, Dead-arm and Downy mildew.
<i>Botrytis</i> rot	400 g / 100 ℓ water	Table grapes only. Apply just before bunches start closing tight. Start application six weeks before berries ripen. Repeat application. Apply 500 to 1500 litres spray mixture per hectare (High Volume), to ensure a light complete coverage of berries. Sprays will also control Anthracnose, Dead-arm, Bacterial blight and Downy Mildew. Thorough wetting is important.
Dead-arm	400 to 500 g / 100 ℓ water	Apply when shoots are 1 to 2 cm long. Thereafter 2 to 3 times at 8 to 10 day intervals. Sprays will also control Anthracnose, <i>Botrytis</i> rot, Bacterial blight and Downy mildew. Thorough wetting is important.
Downy mildew	500 g / 100 ℓ water	Pre-blossom: Apply first spray when shoots are 10 cm long. Further sprays at 7 to 10 day intervals, depending on weather conditions. Blossom to 80 % calyx fall: Spray only if the blossoming period is longer than 14 days. Post-blossoming: Apply 2 or more COPPER OXYCHLORIDE WP sprays at 7 to 10 day intervals, depending on the weather conditions. NOTE Table grapes: Do not apply after berries have reached pea-size (4 to 6 weeks prior to harvest), as this may cause tarnishing.
Mangoes Anthracnose	300 g / 100 ℓ water	Apply three weeks after blossoming when fruit are pea- to marble size and again when fruit have reached full development.
Bacterial spot	300 g / 100 ℓ water	Apply from fruit set every 14 to 28 days, depending on weather conditions. Application may cause rusting on some fibreless cultivars. The addition of a wetting agent is advisable.
Post-harvest decay	300 g PLUS 25 g Benomyl (500 g / kg WP) per 100 ℓ water	Full cover application when fruit are marble size. Repeat the application at 3-week intervals, until 14 days prior to harvest. Thereafter dip fruit for 5 minutes in a heated suspension (55 to 57 °C) of 200 g Benomyl per 100 litres water, prior to cool storage. Refer to a Benomyl label for directions of use.
Olives Anthracnose	500 g / 100 ℓ water	First application in autumn before fruit colouring begins. Repeat 2 to 3 times at monthly intervals.
Leaf spot	500 g / 100 ℓ water	Apply in spring just before new growth and again in autumn, before start of winter.

Crop / Disease	Dosage	Remarks
Other Ornamentals Downy mildew, Rust & Leaf spot	500 g / 100 ℓ water	Apply COPPER OXYCHLORIDE WP as a full cover spray. Apply every 7 to 14 days, depending on the weather conditions, favourable for disease. Ensure complete coverage.
Seedbeds: Soil diseases e.g. Damping-off, Seed decay & Root rot	250 g / 100 ℓ water	Apply COPPER OXYCHLORIDE WP at 1.5 litres spray mixture per m ² , as a seedbed treatment
Peaches Bacterial canker & Bacterial spot	400 g to 500 g / 100 ℓ water	Depending on the severity of infection the previous season, apply one or two sprays at 50 % and/or 75 % leaf drop. If twig and bud infection was observed before bud movement, apply an additional spray at bud movement. Use the higher concentration in autumn and the lower at bud movement. Add 200 g Spray lime per 100 litres spray mixture to all sprays.
Gum spot	400 g to 500 g / 100 ℓ water	Bud movement: Apply 400 g to 500 g COPPER OXYCHLORIDE WP per 100 litres water, when twig and buds are infected. 50 % Leaf drop: When infection was heavy in the previous season, apply 400 g plus 200 g Spray lime per 100 litres water. 75 % Leaf drop: Apply 400 g to 500 g plus 200 g Spray lime per 100 litres water, depending on whether disease severity was lighter or heavy, the previous season.
Leaf curl	500 g / 100 ℓ water	Apply a single application at bud swell. This application will assist control of Gum spot. Correct timing of the application is of great importance to obtain good control.
Peppers Bacterial spot	400 g / 100 ℓ water	Apply COPPER OXYCHLORIDE WP as a full cover spray as soon as disease symptoms are noticed. Repeat the application at 7 to 10 day intervals, depending on the weather conditions.
Plums Bacterial canker	400 g to 500 g / 100 ℓ water	Depending on the severity of infection the previous season, apply one or two sprays at 50 % and/or 75 % leaf drop. If twig and bud infections were observed before bud movement, apply an additional spray at bud movement. Use the higher concentration in autumn and the lower at bud movement. Add 200 g Spray lime per 100 litres spray mixture. Do not use on Ruby Nel cultivar.
Bacterial spot	100 g to 400 g / 100 ℓ water	Post harvest at 75 % leaf drop: Apply 200 g COPPER OXYCHLORIDE WP plus 200 g Spray lime per 100 litres water. Dormant period: Apply 400 g per 100 litres water. 90 to 100 % Petal fall: Apply 100 g plus 400 g Spray lime per 100 litres water.
Gum spot	400 g to 500 g / 100 ℓ water	75 % leaf drop: Apply 400 g to 500 g plus 200 g Spray lime per 100 litres water depending on whether disease pressure was light or heavy the previous season. Bud movement: Apply 400 g to 500 g COPPER OXYCHLORIDE WP plus 200 g Spray lime per 100 litres water.

Crop / Disease	Dosage	Remarks
Potatoes Early blight & Late blight	500 g / 100 ℓ water	Apply preventively at intervals of 7 to 10 days, depending on the weather conditions. Depending on plant size, apply sprays at rate of 500 to 1500 litres spray mixture per hectare, to obtain full coverage on upper and lower leaf surfaces. For low volume application, depending on output of the applicator, adjust spray tank concentration to apply not more than 2.5 to 7.5 kg per hectare. Repeat spraying after more than 13 mm of rain or overhead irrigation.
	2.5 to 7.5 kg / ha	Aerial application: Apply in 40 liters of water.
Roses Black spot	300 g / 100 ℓ water	Apply COPPER OXYCHLORIDE WP as a full cover spray. Start applications as soon as the first symptoms are noticed and repeat weekly. Applications may be discontinued during dry periods.
Strawberries Leaf Spot	250 g / 100 ℓ water	Apply every 10 to 14 days, up to 3 weeks before picking, depending on the severity of the disease.
Walnuts Bacterial blight	150 g to 300 g / 100 ℓ water	Apply the first application at early pre-blossom stage, using the higher concentration. Apply the second spray with 200 g per 100 litres water, at late blossom stage. Apply the final spray at full petal drop using the lower concentration.
Tobacco Seedbeds: Damping-off & Wild fire	250 g / 100 ℓ water	Apply COPPER OXYCHLORIDE WP at 12 litres spray mixture per 9 m ² . Ensure full coverage of seedlings.
Tomatoes Bacterial spot, <i>Septoria</i> leafspot, Early- & Late blight	500 g / 100 ℓ water	Start application shortly after transplant when plants are about 15 cm high, well established and before disease appear. Apply every 7 to 10 days depending on the weather conditions. Apply in 500 to 2000 litres water per hectare, depending on the size of the plant and obtain full coverage on both upper and lower leaf surfaces. For low volume application, depending on output of applicator, adjust spray tank concentration to apply not more than 2.5 to 10 kg per hectare. Repeat spraying after more than 13 mm of rain or overhead irrigation.
All other Crops Seedbeds: Soil borne diseases e.g. Damping-off, Seed decay & Root rot	250 g / 100 ℓ water	Apply COPPER OXYCHLORIDE WP at 1.5 litres spray mixture per m ² as a seedbed treatment.