

CORROSIVE

ECOTOXIC

KEEP OUT OF REACH OF CHILDREN

COPPER STAR

FUNGICIDE

A protectant fungicide for the control of a range of fungal and bacterial diseases of fruit and vegetables

Contains 300 g/kg copper as copper hydroxide in the form of a water dispersible granule (WG)



Registered pursuant to the ACVM Act 1997 No: P9387
See www.foodsafety.govt.nz for registration conditions.
Approved pursuant to HSNO Act 1996 No HSR000739
See www.epa.govt.nz for approval conditions

Date of manufacture:
Batch no:
Net Contents: 10kg

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HSNO CLASS: 6.1D, 6.3B, 6.5B, 6.9B, 8.3A, 9.1A, 9.3C.

TOXICITY

- **DANGER:** This product is corrosive and may cause eye damage
- **HARMFUL:** May be harmful if swallowed, inhaled or absorbed through the skin
May cause organ damage from repeated oral exposure at high doses.
May cause skin irritation
May cause sensitisation from prolonged skin contact

ECOTOXICITY

- **WARNING:** Very toxic to aquatic organisms with long lasting effects. Not to be applied directly onto or into water. **Avoid contamination of any water supply with product or empty container.**
- Harmful to terrestrial vertebrates.

APPROVED HANDLER

- This product must be under the control of an approved handler when it is applied in a wide dispersive manner or used by a commercial contractor.
- This product must not be used for any purpose or in any manner contrary to this label unless authorised under appropriate legislation

PRECAUTIONS

- KEEP OUT OF REACH OF CHILDREN
- Avoid contact with skin, eyes and inhalation of spray mist.
- When handling, wear eye protection, waterproof gloves, boots and overalls.
- Remove protective clothing and wash hands and face thoroughly before meals and after work.
- Do not eat, drink or smoke while using.

STORAGE

- Store in the original container in a cool well-ventilated area away from foodstuffs. Avoid storage at temperatures below 5°C and above 35°C
- Storage must be in accordance with the current version of NZS 8409 Management of Agrichemicals.

DISPOSAL

- Dispose of product only by using according to the label or at an approved landfill.
- Triple rinse empty container and add rinsate to the spray tank.
- Recycle empty container. Otherwise crush and bury empty container in suitable landfill. Do NOT use the container for any other purpose.
- Avoid contamination of any water supply with chemical or empty container.

SPILLAGE

- Wear appropriate protective clothing and prevent material from entering waterways. Sweep up spilled material, collect and store in properly labelled, sealed drums for safe disposal. Avoid creating dust. If spray mixture is spilled, contain the spill by damming, recover spilt product by absorbing with sawdust or an inert absorbent material and collect in drums as above then transfer the recovered spilt material to a properly labelled container. Dispose of waste safely in an approved landfill. If contamination of drains, streams, watercourses etc is unavoidable, warn the local water authority.

RECORD KEEPING

- Records of use as described in NZS 8409 – Management of Agrichemicals must be kept.

FIRST AID

If swallowed do NOT induce vomiting. If splashed in eyes, hold eyelids apart and flush the eye continuously for at least 15 minutes. If skin or hair contact occurs, remove contaminated clothing and wash with soap and running water. If inhaled, move the victim to fresh air immediately, give artificial respiration, preferably mouth to mouth. **For advice, contact the National Poisons Centre 0800 POISON (0800 764766) or a doctor immediately.**

GENERAL INSTRUCTIONS

COPPER STAR fungicide/bactericide is a stable form of copper hydroxide in an easy to pour free flowing dry formulation. Particle size is fine for ease of dispersion and stable spray suspensions. COPPER STAR has high activity to control a variety of plant diseases.

COPPER STAR is formulated for application from all types of spray equipment. The spray volume applied per hectare will depend on the spray equipment used, the specific crop and stage of crop growth. For dilute high volume sprays, use 200 litres (air assisted booms) to 800 litres (hydraulic booms) of water per hectare on most vegetable crops, up to 2500 litres per hectare on mature kiwifruit and grape vines, up to 3000 litres per hectare on mature citrus and up to 6000 litres per hectare on mature avocados and fruit orchards. **FOR LOW VOLUME SEMI CONCENTRATE SPRAYS ADJUST THE SPRAY TANK CONCENTRATION TO APPLY THE SAME QUANTITY OF COPPER STAR PER HECTARE AS FOR DILUTE SPRAYS.**

FROST INJURY PROTECTION (Bacterial Ice Nucleation Inhibitor)

Application of COPPER STAR made to all crops listed on the label at the rates indicated, 2-5 days prior to anticipated frost conditions, will afford control of ice nucleating bacteria (*Pseudomonas, syringae, Erwinia herbicola* and *Pseudomonas fluorescens*) and may therefore provide protection against light frost. Not recommended for geographical areas where weather conditions favour severe frost

MIXING

COPPER STAR is not water soluble, it is dispersible and must have direct contact with water to disperse. Always pour COPPER STAR slowly into water while stirring. No additional surfactants are required.

Add one half of the required quantity of water to the spray tank. With the agitation system running, add the product slowly while adding the remaining water. Maintain agitation while spraying.

Spreaders, stickers, insecticides and nutrients etc should be added last, only after the COPPER STAR has been thoroughly mixed. Observe all cautions and limitations on the labels of all products being used in mixtures. If compatibility is in question, use the compatibility jar test before mixing. For optimum effect the spray mix should have a pH between 7.0 and 9.0. A pH below 6.5 may cause phytotoxicity and a pH above 9.0 may result in reduced disease control. COPPER STAR can be measured volumetrically.

COMPATIBILITY

COPPER STAR is compatible with most commonly used fungicides and insecticides as a tank mix. Do not mix with Attack[®] for use on glasshouse crops. **DO NOT MIX** with diazinon or with strongly alkaline or acidic materials.

APPLICATION

Apply using well maintained and accurately calibrated spray equipment. Ensure complete spray coverage. Do not use less than the recommended dosage rate. Under heavy disease pressure or favourable disease conditions, use the higher rate and shorter spray interval specified for each crop. In addition use the higher rates for larger mature tree crops and dense foliage.

RESISTANCE MANAGEMENT

GROUP	M1	FUNGICIDE
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COPPER STAR is a member of the inorganic group of fungicides and is classified as a Group M1 fungicide.

Some naturally occurring individual fungi resistant to Group M1 fungicides may exist through normal genetic variability in any fungal population. The resistant individuals can eventually dominate the fungal population if these fungicides are used repeatedly. To minimize this risk use strictly in accordance with label instructions. For further information see www.resistance.nzpps.org.

DIRECTIONS FOR USE

It is an offence for users of this product to cause residues exceeding the relevant MRL in the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards.

CROP	DISEASE	RATE g/100 litres	TIME OF APPLICATION
Apples	Blackspot	110 (minimum 2.2 kg/ha)	Apply as a full cover spray between silver-tip and green-tip. CAUTION: Late application may cause phytotoxicity.
Asparagus	Stemphyllium leaf spot	230-375 (minimum 2.5 kg/ha)	Commence spraying at first signs of disease after closing up. Repeat at 14 day intervals. Ensure good plant coverage. Under high disease pressure a programme of up to six applications may be necessary.
Avocado	Anthracoise	70-90 (minimum 2.0kg/ha)	Apply at monthly intervals from flowering to harvest. Use the higher rate when conditions favour disease. During prolonged wet weather, reduce spray intervals to 14 days.
Beans	Bacterial blight (Halo and common)	250-310 (minimum 1.36 kg/ha)	Apply as a protective spray at 7-14 day intervals when plants are 15 cm high.
Bushfruit cane	Cane wilt, cane spot, spur blight, leaf spot	70-90 (minimum 0.65 kg/ha)	Apply at bud burst and green tip and as a seasonal spray at 10-14 day intervals. Use the higher rate early season or under high disease pressure.
Brassica crops: Broccoli, brussel sprouts, cabbage, cauliflower	Downy mildew	70-90 (minimum 0.3 kg/ha)	Apply at 10-14 day intervals following emergence, or after setting out transplants.
Celery	Septoria leaf spot	90 (minimum 0.44 kg/ha)	Apply as soon as the plants are set in the field, then at 5-7 day intervals depending on disease severity and environmental conditions. Spray oil may be added at 1 litre /100 litres of spray mix.
Citrus	Melanose, Verrucosis	45-90 (minimum 1.75 kg/ha – mature trees)	Apply during pre and post-bloom periods.
	Brown rot	90-110 (minimum 1.75 kg/ha for mature trees)	Apply in autumn and continue as needed. Apply to skirts of trees to a height of at least 1 metre. Apply also to bare ground 0.5 metres beyond the skirt. Use higher rates when conditions favour disease. Copper marking may occur on sensitive varieties or under slow drying conditions.
Cucurbits	Angular leaf spot, downy mildew	70-130 (minimum 0.65 kg/ha)	Apply at 7 day intervals after plants have started to vine.

CROP	DISEASE	RATE g/100 litres	TIME OF APPLICATION
Feijoas	Leaf spot (<i>Glomerella sphaceloma</i>)	70-90 (minimum 1.0 kg/ha)	Repeat as necessary.
Forrestry <i>Pinus radiata</i>	Pine needle blight (<i>Dohistroma pini</i>)	2.5-4.4 kg/ha (aerial to plantations)	Apply in 60-100 litres /ha. Make one application in November or early December. Repeat at yearly intervals if necessary.
		1.25-3.1 kg/ha (ground application to nurseries)	Apply with 1% summer oil in 600-1,100 litres of water/ha. Commence spraying in October or November and repeat at monthly intervals until planting out.
Grapes	Black spot, downy mildew	65-130 (minimum 0.9 kg/ha)	Begin application at bud break and continue to apply during the pre and post-bloom periods at 10-14 day intervals until harvest.
Kiwifruit	Leaf spot (Phomopsis sp. and others), Botryosphaeria	70-90 (minimum 0.9 kg/ha) The rate is for dilute spraying only (spray to the point of runoff). For concentrate spraying, adjust dilution rate accordingly.	Apply as post-harvest dormant spray only. Apply after harvest but before leaf fall, after pruning and as two sprays one month apart prior to budburst.
Lettuce	Downy mildew	70-110 (minimum 0.33 kg/ha)	Begin treatment from seed emergence or when transplants are set in the field and repeat every 7-10 days as needed to suppress the disease.
Onions	Downy mildew, bacterial blight	90 (minimum 1.0kg/ha)	Apply when the disease first appears and repeat at 10-14 day intervals while conditions allow infection.
Passionfruit	Septoria spot, brown rot, grease spot	45 (minimum 0.44 kg/ha)	Apply at 2-4 week intervals alternating with mancozeb from November to March. Where grease spot is a problem, 2 week spray intervals may be necessary.
Peas	Downy mildew, leaf spot	70-90 (minimum 0.66 kg/ha)	Apply from seed emergence and repeat at 7-14 day intervals depending on disease severity.
Pears (including Nashi)	Blackspot	110 (minimum 2.2 kg/ha)	Apply as a full cover spray between silver-tip and green-tip. CAUTION: Late application may cause phytotoxicity. Discontinue use when green-tip is 1 cm.
	Fire blight (<i>Erwinia amylovora</i>)	25-45	NON-BEARING TREES: Maintain a protective cover of regular sprays at 14-21 day intervals until active vegetative growth ceases. Reduce the spray interval if wet weather persists. POST-HARVEST: Apply at 110 g/100 litres at 21 day intervals from harvest to leaf fall. Reduce the spray interval if wet weather occurs and vegetative growth is active. SMOOTH SKIN VARIETIES: DO NOT apply between green tip and harvest as russetting may occur.

CROP	DISEASE	RATE g/100 litres	TIME OF APPLICATION
Potato	Early blight, late blight	130-200 (minimum 1.3 kg/ha)	Apply every 7 days from when plants are 15cm high until 2 weeks before harvest.
Strawberries	Leaf spot	70-90 (minimum 0.65 kg/ha)	Begin application when plants are established and continue at weekly intervals throughout the season. Use the higher rate early season or under high disease pressure. NOTE: Discontinue if signs of crop injury occur.
Stone fruit	Leaf curl, shot hole, bladder plum	110 (minimum 2.2 kg/ha)	Correct timing is critical for effective control. Apply when buds are swelling but BEFORE and within ONE WEEK OF BUD OPENING with a second application of 70-90 g/100 litres of water 10-14 days later.
	Bacterial blast	312 (minimum 6.25 kg/ha)	Apply at leaf fall and repeat at monthly intervals throughout the winter until bud movement, then treat as for leaf curl.
Tamarillo	Leaf spot	70 (minimum 0.9 kg/ha)	Apply as necessary.
Tomato	Early blight, late blight, bacterial speck, bacterial spot.	70-130 (minimum 0.8-1.75 kg/ha)	Apply at 7-10 day intervals depending on conditions favourable to the development of disease. Ensure spray volumes are increased as crop reaches maximum growth so that full cover spraying of upper and lower leaf surfaces is obtained. Repeat application after more than 13 mm of rain or irrigation

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CONDITIONS OF SALE

The use of COPPER STAR being beyond the control of the suppliers, no Warranty expressed or implied, beyond that covered under the Fair Trading Act, is given by the manufacturer regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not, and the manufacturer accepts no responsibility whatsoever resulting from the use of this product.