

BARMAC
COPPER OXYCHLORIDE
Fungicide

ACTIVE CONSTITUENT:
500g/kg Copper (Cu) present as Copper Oxychloride

IMPORTANT: Read the Attached Booklet before use.



BARMAC INDUSTRIES PTY LTD
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DIRECTIONS FOR USE**RESTRAINTS:**

DO NOT apply this product when hot conditions (35°C) or frosts are likely to occur as damage can result.

DO NOT apply to copper shy varieties

DO NOT apply to wet foliage

DO NOT use this product during poor drying conditions

CROP	DISEASE	STATE	RATE/100L	CRITICAL COMMENTS
Apricots	Shothole (<i>Stigmina carpophila</i>), Freckle (<i>Venturia carpophila</i>)	All states	250g or (3kg/ha)	Apply at bud swell but before the earliest sign of leaf bud development. Apply a minimum of 1 post-harvest spray.
Cherries, Peaches, Nectarines, Plums	Shothole (<i>Stigmina carpophila</i>)	All states	250g or (3kg/ha)	Apply when buds are swelling BUT BEFORE AND WITHIN ONE WEEK OF BUD OPENING.
Almonds		Qld, Vic, Tas, SA & WA only		
Apricots, Cherries	Bacterial gummosis (<i>Pseudomonas syringae</i>)	Qld, Vic, Tas, SA & WA only	250g	Autumn: Apply at 25-50% leaf fall and again at 90-100% leaf fall. Winter: Apply in mid winter. Spring: Apply at first sign of bud movement and repeat application 7-10 days later.
		NSW, Vic, Tas, SA & WA only	150g	Apply 1 week after petal fall and repeat application 7-10 days later. These sprays control the leaf population of bacteria in mid to late spring.
Nectarines, Peaches	Leaf Curl (<i>Taphrina deformans</i>)	All states	250g or (3kg/ha)	Apply when buds are swelling but BEFORE AND WITHIN ONE WEEK OF BUD OPENING. Note: 1 Time of bud opening varies on varietal difference and seasonal conditions. 2 Monitoring bud movement is therefore essential so as to identify precise/correct timing of application. 3 Blocks containing more than 1 variety should be treated more than once and in line with correct timings for each variety. 4 For leaf curl spray times are: Autumn - apply at leaf fall Spring - first sign of bud swell and repeat 7 days later. CORRECT TIMING IS CRITICAL FOR EFFECTIVE CONTROL.
Almonds		QLD, VIC, Tas, SA & WA only		
Apples Pears	Black spot (scab) (<i>Venturia inaequalis</i>) Black Spot (scab) (<i>Venturia pirina</i>)	All states	250g or (3Kg/ha) & winter oil	Spray at green tip and spur burst (where necessary). Repeat 10-14 days later if conditions favour infection. i.e., extended wet weather. Consult Department of Agriculture spray charts for specific recommendations on timing, rates and precautions that may be necessary. Do not use on Copper shy varieties.
Avocados	Anthracnose (<i>Glomerella conglutata</i> var.minor)	NSW, Qld, SA, Vic, NT only	250g or (3kg/ha)	Apply at 28 day intervals from flowering to harvest. In prolonged wet weather reduce intervals to 14 days. When using low water volume sprayers do not use less than 300L/Ha.
Bananas	Cercospora Leaf Spot (<i>Cercospora musae</i>)	NSW, QLD, and WA only	250g + 600ml Summer Oil or (3Kg/ha)	Apply at 3-4 week intervals commencing December to May when weather conditions favour disease outbreak. Use sufficient water to ensure thorough coverage.

CROP	DISEASE	STATE	RATE/100L	CRITICAL COMMENTS
Beans	Common Blight (Xanthomas campestris pv. phaseoli)	SA, Tas, Vic, and WA only	250g or (2.5kg/ha)	Apply at first signs of infection or as a preventative spray. Repeat at 10 to 14 day intervals as necessary.
	Bacterial Brown Spot (Pseudomonas syringae pv. syringae)	All states	250g or (2.5kg/ha)	Apply the first spray within three weeks of emergence and repeat every 10 to 14 days.
	Halo Blight (Pseudomonas syringae pv. phaseolicola)	SA, Tas, Vic and WA only	250g or (2.5kg/ha)	Apply at the first sign of disease or as a preventative spray. Repeat at 10 to 14 days.
		NSW, Qld and NT only	250-300g or (2.5-3kg/ha)	Apply at 10 to 14 day intervals from the time the crop is 15cm to 30cm high. Use higher dose when conditions favour infection.
	Rust (Uromyces spp.)	SA, Vic and WA only	250g or (2.5kg/ha)	Apply at first sign of disease and repeat at 10 to 14 day intervals if necessary.
	Chocolate Spot (Botrytis spp.)			
Beans Faba Beans	Rust (Uromyces spp.)	All states	250g or (2.5kg/ha)	Apply at the first sign of disease and repeat at 10 to 14 day intervals while conditions allow infection.
	Chocolate Spot (Botrytis spp.)	Qld, NSW, Tas, SA & WA only		
Brassicas	Black Spot (Xanthomas campestris)	All states	250g or (2.5kg/ha)	Spray at first sign of disease and repeat at 10 to 14 day intervals when conditions favour disease. Cabbages. This product must not be applied to cabbages when frosts are likely to occur.
	Peppery leaf spot (Pseudomonas syringae pv. Maculicola)			
	Ring spot (Mycosphaerella brassicicola)			
	Downy Mildew (Peronospora parasitica)			
Capsicums	Bacterial Spot (Xanthomas vesicatoria)	All states	250g or (2.5kg/ha)	Seed-beds: Apply every 7 days during wet weather. Field-crops: Apply at the first sign of disease and repeat at 7 to 14 day intervals. Use the shortest interval when conditions favour infection. These applications will reduce the spread of bacteria canker but will not control seed or soil-borne infection.
	Bacterial canker (Corynebacterium michiganense)	QLD, SA, WA, Tas & NSW only		
Carrots	Leaf Spot (Alternaria carcarpora)	All states	250g or (2.5kg/ha)	Apply when disease first appears. Repeat at 7- 14 day intervals whilst conditions favour infection.
Celery	Leaf Spot (Seporia apiicola)	All states	250g or (2.5kg/ha)	Apply when disease first appears. Repeat at 7-14 day intervals. Use shorter interval when conditions favour infection.
	Early Blight (Cercospora apii)	NSW, Vic, SA, WA & NT only		
Citrus	Black Spot (Phoma citricarpa)	NSW, SA, Vic & WA only	175g plus Summer Oil	Apply at 50-75% petal fall. Use higher rate in coastal districts. Caution: Do not use on copper shy varieties.
	Melanose (Phoma citri)			

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Citrus	Black Spot (Phoma citricarpa)	Qld & NT only	200-300g plus 600ml Summer oil	
	Melanose (Phoma citri)			
	Smoky Blotch (Gloeodes pomigena)			
	Scab (lemons) (Elsinoe fawcetri)			
Cucurbits i.e., Rockmelon Watermelon Cucumber	Angular Leaf Spot (Pseudomonas syringae pv. tachrymans)	All states	250g or (2.5kg/ha)	Apply when disease first appears and repeat at 10 to 14 day intervals whilst conditions favour infections.
	Bacterial Leaf Spot (Xanthomonas campestris pv. cucurbitae)			
Guavas	Anthrachnose (Collectrichum psidii) Algal Leaf Spot (Cephaleuros virescens)	NSW and NT only	250g or (3kg/ha)	Good coverage of crop and foliage is essential. Apply to trees after hedging has occurred in October.
Lettuce	Downy Mildew (Bremia lactucae)	All states	250g or (2.5kg/ha)	Spray thoroughly at first sign of disease and repeat every 7-10 days as necessary. Alternate with Mancozeb. Caution: do not apply if frosts are expected. Apply on 7-10 day schedule.
	Bacterial Leaf Spot (Xanthomas campestris pv. vitians)	All states		
	Anthrachnose (Marssonina panationiana)	SA, Tas, Vic, WA and NSW only		
Litchi	Parasitic algae (Cephaleuros viriscens)	Qld and NSW only	400g plus 20ml of a 100% wetting agent, (or 4kg/ha)	Apply to affected trunk and limbs until runoff occurs. Apply monthly during the wet season.
Macadamias	Husk Spot (Cercoseptoria spp.)	QLD, NSW and NT only	250g (3kg/ha)	Good spray penetration of foliage is essential. Apply from nut set (late September) to December. Apply at least 3 sprays at 3-4 week intervals.
	Anthrachnose Husk Rot (Collectrichicum spp.)			Good coverage inside the tree is essential. Spray from early summer (December) to May at monthly intervals.
	Pink Limb Blight (Corticium salmonicolor)			Good coverage of infected limbs is essential. Spray from early summer (December) to May at monthly intervals.
Mangoes	Bacterial Black Spot	QLD, NSW, WA only	250g (3kg/ha)	Ensure good coverage. Apply every 4 weeks from early flowering to fruit set. DO NOT apply from a misting machine as coverage may not be adequate.
Onions	Downy Mildew (Peronospora destructor)	All states	250g (2.5kg/ha)	Apply when disease first appears and repeat at 10 day intervals.
Ornamentals (Flowers & Shrubs)	Fungal Leaf Spots Downy Mildew	All states	300g (3kg/ha)	Apply when disease first appears. Repeat at 7-14 day intervals as required. Small scale phytotoxicity tests are recommended as some varieties may be sensitive under certain conditions.

CROP	DISEASE	STATE	RATE/100L	CRITICAL COMMENTS
Passionfruit	Brown Spot (<i>Alternaria passiflorae</i>)	Qld only	200g (2kg/ha)	Apply every 2 weeks (4 in NSW) from October to May and 3-4 weeks (2 months in NSW) during winter.
	Septoria Spot (<i>Septoria passiflorae</i>)	NSW, Vic, SA, WA, Tas, & NT only	300-400g (3-4kg/ha)	
	Phytophthora Blight (<i>Phytophthora Nicotianae</i>)	Qld & NSW	100g/L	Mix to smooth consistency. Apply to infected area after removing dead tissue. Repeat frequently until healing commences.
Parsnips	Leaf Spot (<i>Septoria</i> spp.)	SA, Vic & WA only	250g (2.5kg/ha)	Apply when disease first appears and repeat at 10-14 day intervals while conditions favour infection.
Peas	Ascochyta Blight (<i>Ascochyta</i> spp.) Bacterial Blight (<i>Pseudomonas Syringae</i> pv. <i>syringae</i>)	All states	250g (2.5kg/ha)	Apply when disease first appears and repeat at 10-14 day intervals.
Potatoes	Target Spot (<i>Alternaria solani</i>) Irish Blight (<i>Phytophthora infencions</i>)	All states	220-250g/100L (2.5 kg/ha)	Apply from crop emergence to crop maturity at 7-14 day intervals. Use the higher rate when conditions are particularly favourable to disease development.
Red Beet	Downy Mildew (<i>Peronospora fasinosa</i>) Rust (<i>Uromyces betae</i>)	All states	250g (2.5kg/ha)	Apply at 10 to 14 day intervals, from seeding stage until maturity, while conditions allow infection.
Rhubarb	Crown rot (<i>Phytophthora</i> spp.) Downy Mildew (<i>Peronospora jacpiana</i>)	All states	250g (2.5kg/ha)	Apply at 14 day intervals while conditions allow infection.
Silver beet, spinach	Downy Mildew (<i>Peronospora fasinosa</i>)	All states	250g (2.5kg/ha)	Apply at 10 to 14 day intervals, from the seedling stage until maturity while conditions allow infection.
Stone Fruit	Blossom Blight, Freckle, Rust.	NSW, VIC, SA WA, TAS only	400g	Apply from late budswell to early blossom.
	Leaf Curl Shot Hole	NSW, VIC, SA WA, TAS only	400g	Apply at early budswell. Additional sprays in autumn when leaves begin to fall will improve control.
	Bacterial Spot, Bacterial Canker Leaf Curl Shot Hole	Qld only	750g	Apply at early bud movement, 7-10 days later (pink stage in apricots) and on plums only, at blossoming.
Apricots		Qld only	500g	
Tobacco seed beds	Wildfire, angular leaf spot (<i>Pseudomanas Syringae</i> pv. <i>tabaci</i>)	Qld, NSW and Vic only	400g/100L	Apply every 7 days from the seedling stage, when weather conditions favour disease development. Apply when algae first appears.
	Algae	Qld only		
Tomatoes	Bacterial Spot (<i>Xanthomonas campestris</i> pv. <i>vesicatoria</i>)			Commence spray applications at first sign of disease and repeat every 7 to 10 days depending on weather conditions and severity of disease.
	Bacterial Speck (<i>Pseudomanas syringae</i> pv. <i>tomato</i>)			Apply each 7 to 14 days depending on weather conditions and severity of disease.

CROP	DISEASE	STATE	RATE/100L	CRITICAL COMMENTS
	Bacterial Canker (<i>Corynebacterium michiganense</i> pv. <i>michiganense</i>)	All states	220-250g/100L or (2.5kg/ha)	This product will reduce the spread of bacterial canker but will not control seed or soil-borne infections.
	Target Spot/Early Blight (<i>Alternaria solani</i>)			Seedbeds: Apply each 7 days under wet weather conditions. Minimize use on seedlings to avoid retardation of growth.
	Septoria Leaf Spot (<i>Septoria</i> spp.) Irish Blight/Late Blight (<i>Phytophthora infestans</i>)			Use the higher rate when conditions are particularly favourable to disease development.
Vines	Downy Mildew (<i>Plasmopara viticola</i>)	WA, NSW, SA, TAS, Vic & Qld only	250g or (2.5kg/ha)	First apply when shoots are 10cm long. Repeat at 10-14 day intervals. Use shorter interval when conditions favour infection.
Walnuts	Walnut Blight (<i>Zanthomonas campestris</i> pv. <i>juglans</i>)	All states	300g/100L plus 175mL Summer Oil or (3kg/ha)	Apply at least three sprays at 7-10 day intervals. Commence application when the calkins are partially opened. Further applications would be necessary if conditions favour infection.

NOT TO BE USED FOR ANY PURPOSE OR IN ANY MANNER CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

WITHHOLDING PERIOD: DO NOT APPLY LATER THAN 1 DAY BEFORE HARVEST

GENERAL INSTRUCTIONS

MIXING:

Mix the required amount of product with a small volume of water then add to the spray tank under agitation. Product can be added to full volume of water if necessary. If the product is to be used in a mixture with an emulsifiable concentrate add the product after making the emulsion. Do not mix with alkaline materials such as lime sulphur.

APPLICATION: High volume Dilute Spray

This product may be applied as a high volume dilute spray to fruit tree crops and some row crops. The spray volume will vary according to the treated crop and should be increased when spraying large or dense plants to ensure thorough coverage. The spray volume should also be increased throughout the growing season as the crop increases in size. Suitable spray volumes for mature crops are as follows: Bananas, Tobacco, Vines and other row crops - 200 to 1100L/ha. Pome and stone fruit - 1100 to 4000L/ha. Citrus 4000 to 8000L/ha.

Concentrate and Ground Application Sprays:

This product may be applied as a concentrate spray through low volume air blast equipment or as a ground application through spray booms. Adjust the rate to ensure that the correct amount is applied per hectare from the particular equipment used. Use the higher rate on larger plants and when weather conditions favour the development of disease.

Compatibility

This product is compatible with a wide range of other fungicides and insecticides. The labels of these other products should be consulted prior to mixing. Do Not mix with alkaline materials such as lime sulphur.

PROTECTION OF LIVESTOCK:

Do not feed grass clippings from treated areas to poultry or other animals.

PROTECTION OF WILDLIFE, FISH, CRUSTACEA AND ENVIRONMENT:

Do not contaminate streams, rivers or waterways with the chemical or used containers.

FUNGICIDE RESISTANCE WARNING:

For fungicide resistance management Barmac Copper Oxychloride Fungicide is a Group Y Fungicide. Some naturally occurring individual fungi dominate the fungi population if these fungicides are used repeatedly. These resistant fungi will not be controlled by Barmac Copper Oxychloride Fungicide and other Group Y fungicides, thus resulting in a reduction in efficacy and possible yield loss. Since the occurrence of resistant fungi is difficult to detect prior to use Barmac Industries Pty Ltd accepts no liability for any losses that may result from the failure of Barmac Copper Oxychloride Fungicide to control resistant fungi.

STORAGE AND DISPOSAL:

Store in the closed, original container in a well ventilated area, as cool as possible. Do not store for prolonged periods in direct sunlight. Single rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. Puncture and bury empty containers in a local landfill. If not available, bury the containers at a depth of 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty containers or product should not be burned.

SAFETY DIRECTIONS:

May irritate the eyes and skin. Avoid contact with eyes and skin. Wash hands after use.

FIRST AID:

If poisoning occurs contact a doctor or Poisons Information Centre. Phone 1311 26

MATERIAL SAFETY DATA SHEET:

Additional information is listed on the Material Safety Data Sheet available from Barmac Industries Pty Ltd or from our internet site www.barmac.com.au.

NOTICE

This product is designed only for the particular purposes indicated on the label. Failure to use the product strictly as directed may be illegal, prove dangerous and render the product ineffective. The buyer or user is responsible for any misuse or negligence in the handling, storage, use of or disposal of this material. Barmac Industries Pty Ltd will not accept any responsibility whatsoever and howsoever arising and whether for consequential loss or otherwise in connection with the supply and use of this product other than those responsibilities mandatorily imposed by Statutes applicable to the sale and supply of these goods.

