RLP
APPROVED

Product Name: **GROCHEM BORDEAUX WG BACTERICIDE/FUNGICIDE**
APVMA Approval No: **62430/114805**

Label Name:	GROCHEM BORDEAUX WG BACTERICIDE/FUNGICIDE

Signal Headings:	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Constituent Statements:	200 g/kg COPPER (CU) PRESENT AS TRIBASIC COPPER SULPHATE

Mode of Action:	**GROUP** **M1** **FUNGICIDE**

Statement of Claims:	A water dispersible granular fungicide for the control of fungal and bacterial diseases of fruit, as per Directions for Use table.

Net Contents:	15kg 1kg 20kg

Restraints:	RESTRAINTS: DO NOT spray this product when hot conditions (>35°C) or frosts occur as damage may result. DO NOT use this product on copper sensitive crops or varieties. DO NOT apply when slow drying conditions prevail. DO NOT apply to wet crops. DO NOT apply if rain is likely before the spray is dry. DO NOT use in spray solutions less than pH 6.5

Directions for Use:	This section contains file attachment.

Other Limitations:	

Withholding Periods:	WITHHOLDING PERIOD ALL CROPS: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.

Trade Advice:	

General Instructions:	GENERAL INSTRUCTIONS: Grochem Bordeaux WG Fungicide is a dry flowable fungicide that provides a pH neutral spray mix. Before opening, carefully read Directions for Use, Precautionary Statements, Safety Directions, and First Aid. This product is a protectant fungicide for the control of certain fungus and bacteria diseases in fruit, vegetables and nut crops. MIXING: The recommended quantity may be added directly to water in spray tank with the agitators running. DO NOT attempt to premix Grochem Bordeaux WG in water before adding to the spray tank. • Remove the sieve. • Fill two thirds of the spray tank with water. • Turn the agitators on. • Add Grochem Bordeaux WG Fungicide directly to water in the spray tank with the agitators running. Finish by filling the spray tank with water while the agitators are running. Keep agitating during use and agitate thoroughly after stoppage and before recommencing spraying. APPLICATION: Apply sufficient spray volume to wet leaf surfaces to the point of runoff. The spray equipment should be adjusted so that the spray is evenly distributed, thoroughly covering all plant surfaces. Hand-held spraying equipment should be avoided as it could result in an excessive application of sprayed product. Tree Crops and Grape Vines: (Refer to Directions for Use Table for Specific Application Rates) All rates for tree and vine crops are for dilute spraying. For concentrate spraying refer to the Mixing/Application section. Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods. Dilute Spraying • Use a sprayer designed to apply high volumes of water up to the point of run-off and matched to the crop being sprayed. • Set up and operate the sprayer to achieve even coverage throughout the crop canopy. Apply sufficient water to cover up the crop to the point of run-off. Avoid excessive run-off. • The required water volume may be determined by applying different test volumes, using different settings on the sprayer, from industry guidelines or expert advice. • Add the amount of product specified in the Directions for Use table for each 100L of water. Spray to the point of run-off. • The required dilute spray volume will change and the sprayer set up and operation may also need to be changed as the crop grows. Concentrate Spraying • Use a sprayer designed and set up for concentrate spraying (that is a sprayer which applies water volumes less than those required to reach the point of run-off) and matched to the crop being sprayed. • Set up and operate the sprayer to achieve even coverage throughout the crop canopy using your chosen water volume.

	• Determine an appropriate dilute spray volume (See Dilute Spraying above) for the crop canopy. This is needed to calculate the concentrate mixing rate. • The mixing rate for concentrate spraying can be then calculated in the following way: EXAMPLE ONLY 1. Dilute spray volume as determined above: For example 1000 L/ha 2. Your chosen concentrate spray volume: For example 250 L/ha 3. The concentration factor in this example is: 4 X (i.e. 1000 L/250L = 4) 4. If the dilute label rate is 250 mL/100L, then the concentrate rate becomes 4 x 250, that is 1 L/100L of concentrate spray. 5. The chosen spray volume, amount of product per 100 L of water, and the sprayer set up and operation may need to be changed as the crop grows. For further information on concentrate spraying, users are advised to consult relevant industry guidelines, undertake competency training and follow Industry Best Practices. Deciduous Fruit Apply as a dilute or up to 2 times concentrate spray. Apply with an air-blast spray calibrated to deliver the required spray volume. The equipment should be adjusted so that the spray is evenly distributed through the trees. Preferably apply using a sprayer fitted with cone nozzles. Concentrate sprays should only be applied with sprayers specifically designed for this purpose. Citrus and Litchi Citrus and Litchi canopies are difficult to penetrate and application using an oscillating boom sprayer is preferable to an air-blast sprayer. Apply only as a dilute spray. The spray equipment should be calibrated to deliver the required spray volume. The equipment should be adjusted so that the spray is evenly distributed through the trees. Vines Apply sufficient volume to wet all leaf surfaces to the point of run-off. Apply as a medium to fine spray preferably using cone nozzles. Air-blast sprayers are recommended for application to vines with very dense foliage. COMPATIBILITY This product is compatible with formulations of most commonly used fungicides, insecticides and miticides.

Resistance Warning:	FUNGICIDE RESISTANT WARNING Grochem Bordeaux WG Fungicide is a member of the Multi-site activity group of fungicides. For fungicide resistance management Grochem Bordeaux WG Fungicide is a group M1 fungicide. Some naturally occurring individual fungi resistant to Grochem Bordeaux WG Fungicide and other Group M1 Fungicides may exist through normal genetic variability in any fungal population. The resistant individuals can eventually dominate the fungi population if these fungicides are used repeatedly. These resistant fungi will not be controlled by Grochem Bordeaux WG Fungicide and other Group M1 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, Grochem Australia Pty Ltd Limited accepts no liability for the losses that may result from the failure of Grochem Bordeaux WG Fungicide to control resistant fungi.

Precautions:	

Protections:	PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT DO NOT contaminate streams, rivers or waterways with the chemical, or used containers.

Storage and Disposal:	STORAGE AND DISPOSAL Store in the closed, original container in a cool, well-ventilated area out of direct sunlight and away from children, animals, food, feedstuffs, seed and fertilisers. Shake empty bags into the spray tanks. Single rinse before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. Puncture or and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

Safety Directions:	SAFETY DIRECTIONS Harmful if swallowed. May irritate the eyes and skin. Avoid contact with eyes and skin. When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow length chemical resistant gloves and if dust is present half face piece respirator with dust cartridge or canister. Wash hands after use. After each day's use, wash gloves, respirator and contaminated clothing. If rubber wash with detergent and warm water.

First Aid Instructions:	FIRST AID If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia: 13 11 26). If skin contact occurs, remove contaminated clothing and wash skin thoroughly. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

First Aid Warnings:	

DIRECTIONS FOR USE

TREE AND VINE CROPS

Crop	Disease	State	Rate	Critical Comments
Almonds, Nectarines, Peaches	Leaf curl *(Taphrina deformans)*	All States	280 g / 100 L	CORRECT TIMING IS CRITICAL FOR EFFECTIVE CONTROL. Apply when buds are swelling but BEFORE AND WITHIN ONE WEEK OF BUD OPENING. Apply as a dilute or concentrate spray. For a given variety, the timing of bud opening will vary from year to year, depending on the weather and in any year it will vary between varieties. Thus the bud development of each variety in the orchard should be monitored each year to determine the correct time of application. Blocks containing more than 1 variety may need to be treated more than once, to treat each variety at the correct time. Where Leaf Curl is or is likely to be a severe problem, based on previous experience, the following program should be followed: 1. AUTUMN apply at leaf fall. 2. Apply at the FIRST SIGN of BUD SWELL and REPEAT ONE WEEK LATER PRIOR TO SIGNS OF BUD OPENING.
Almonds	Shothole *(Stigmina carpophila)*			Apply when buds are swelling but BEFORE AND WITHIN ONE WEEK OF BUD OPENING. Apply as a dilute or concentrate spray.
Apples	Black spot *(Venturia inaequalis)*			Spray at green tip and repeat 10 to 14 days later if conditions allow infection ie. extended wet weather. Consult local Department Spray Charts or authorities for specific recommendations on timing, rates and precautions that may be necessary. Before applying to recently introduced varieties ascertain their tolerance of copper sprays from relevant authorities. Apply as a dilute or concentrate spray.
Apricots	Shothole *(Stigmina carpophila)* Freckle *(Venturia carpophila)*			Apply at bud swell but before the earliest sign of leaf bud development. Apply at least 1 post-harvest spray. Apply as a dilute or concentrate spray.
Apricots, Cherries	Bacterial gummosis *(Pseudomonas syringae)*	Vic, Tas, SA, WA, NT, Qld only	350 g/ 100 L	**Autumn:** Apply at 25% to 50% leaf fall. Apply again at 90% to100% leaf fall. **Winter:** Apply in mid winter. **Spring:** Apply at first sign of bud movement. Repeat application 7 to 10 days later. Apply as a dilute or concentrate spray.
		NSW only	280 g/ 100 L	
		NSW, Vic, Tas, SA, WA only	185 g/ 100 L	Apply 1 week after petal fall. Repeat application 7 to 10 days later. These sprays control the leaf population of bacteria in mid to late spring. Apply as a dilute or concentrate spray.
Avocados	Anthracnose *(Glomerella cingulata* var. *minor)*	All States	280 g/ 100 L Aerial Application 2.8 - 4.2 kg/ha	Spray every 4 weeks from the end of flowering to harvest. During extended wet weather, spray every 14 days. Apply as a dilute or concentrate spray.

Avocados, Citrus, Kiwi-Fruit, Litchi, Macadamias, Nectarines, Passionfruit, Plums, Peaches, Pecans, Tropical Fruit	Phytophthora stem canker	All States	Stem Application 140 g/ 1 L of water or water based paint	Mix to a smooth consistency. Apply only to stems of trees or vines wherever cankers appear, after removing dead tissue. Repeat applications up to a maximum of 5 per season until natural healing is commenced. Application with paint carrier may only require 1 or 2 treatments in a season.
Cherries, Peaches, Nectarines, Plums	Shothole *(Stigmina carpophila)*		280 g/ 100 L	Apply when buds are swelling but BEFORE AND WITHIN ONE WEEK OF BUD OPENING. Apply as a dilute or concentrate spray.
Citrus	Black spot *(Guignardia citricarpa),* Melanose *(Diaporthe citri),* Smoky Blotch *(Gloeodes pomigena),* Scab (lemons) *(Elsinoe fawcettii)*		280-420 g/ 100 L	Apply at petal fall. Use higher rates in coastal districts. Add 600ml/ha of miscible summer oil when or if necessary. Apply as a dilute application only.
Hazelnuts	Hazelnut Blight (*Xanthomonas corylina*)		280 g/ 100 L	Apply after harvest at 10, 30 and 75-100% leaf fall. Repeat application in mid-winter and again in spring before bud swell. Apply after pruning in winter to provide protection to new exposed cuts. If heavy rains occur soon after spraying, re-application will be required to maintain protective treatment. Apply a maximum 6 spray treatments each year, with a minimum re-treatment interval of 7 days between consecutive applications. Apply to the point of run-off, ensuring thorough coverage of all foliage. Use a recommended spray volume of between 1,500 – 1,800 L per hectare for mature plantations. Select suitable spray volume to match tree maturity and expansiveness of canopy.
Litchi	Parasitic algae *(Cephaleuros virescens)*	Qld, NSW only	560 g/ 100 L plus Spraymate Activator	Apply to affected trunk and limbs to runoff. Apply monthly during the wet season. Apply as a dilute application only

Macadamias	Husk spot (*Pseudocercospora macadamiae*	Qld, NSW, NT only	280 g/ 100 L	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.
	Anthracnose (*Colletotrichum* spp.)			Good coverage inside the tree is essential. Spray from early summer (December) to May at monthly intervals.
	Pink limb blight (*Cortcium salmonicolor*)			Good coverage of infected limbs from early summer (December) to May at monthly intervals.
Mangoes	Anthracnose *(Glomerella* sp.*)*	NSW, Qld, SA, WA, NT only	420 g/ 100 L or Aerial Application 4.2 kg/ha	Spray every 4 weeks from the end of flowering to harvest. During extended wet weather, spray every 14 days. Apply as a dilute or concentrate spray.
	Bacterial black spot *(Xanthomonas campestris* cv. *mangiferaeindacae)*		280-420 g m/ 100L Aerial Application 3.0 - 4.2 kg/ha	Apply at first sign of infection or as a preventative spray. Repeat at 10 to 14 day intervals while conditions allow infection. Use higher rate when conditions are favourable for infection. Use in rotation with alternate chemistry. Apply as a dilute or concentrate spray.
Pears	Black spot (scab) *(Venturia pirina)*	All States	280 g/100 L	Spray at green tip and repeat 10 to 14 days later if conditions allow infection i.e. extended wet weather. Consult local Department Spray Charts or authorities for specific recommendations on timing, rates and precautions that may be necessary. Before applying to recently introduced varieties ascertain their tolerance of copper sprays from relevant authorities. Apply as a dilute or concentrate spray.
Pistachios	Suppression of bacterial dieback		500-600 g/100 L or 5-6 kg/ha	Apply at bud break/early leaf out (early signs of leaf development). Repeat on a 14-28 day cover schedule when disease pressure is high. Apply using airblast or mister sprayers. Water volumes applied commercially range from 800-1000L per hectare for concentrate spraying or 1800-2000 L per hectare (dilute application).
Vines	Downy mildew *(Plasmopara viticola)*		250-350 g/100 L	**Winter Application:** Apply during mid-winter at the higher rate. **Spring Application:** Apply when shoots are 10cm long and repeat at 10 to 14 day intervals, while conditions allow infection. Use the higher rate when conditions are highly favourable for infection. Leaf damage may occur on 'copper-shy' varieties. Apply as a dilute or concentrate spray.
Walnuts	Walnut blight *(Xanthomonas campestris* pv. *juglans)*		420 g/ 100 L plus 175 ml miscible summer oil	Apply a minimum of three sprays at 7 to 10 day intervals, commencing when the catkins are partially opened. Further applications may be necessary if conditions allow infection. Apply as a dilute application only.

VEGETABLES AND FRUIT

Crop	Disease	State	Rate	Critical Comments
Bananas	Cercospora leaf spot *(Cercospora musae)*	Qld, NSW, WA only	280 g/ 100 L plus 600 mL/ ha miscible summer oil	Apply at 3 to 4 weekly intervals from December to May when weather conditions allow disease outbreaks. Add 600 mL/ha of miscible summer oil when or if necessary.
	Phytophthora stem canker	All States	140 g/ 1L water or water based paint	Mix to a smooth consistency. Apply only to stems of trees or vines wherever cankers appear, after removing dead tissue. Repeat applications up to a maximum of 5 per season until natural healing is commenced. Application with paint carrier may only require 1 or 2 treatments in a season.
Beans	Common blight *(Xanthomonas campestris* pv*. phaseoli)*	All States	280 g/ 100 L or 3 kg/ha	Apply at the first sign of infection or as a preventative spray. Repeat at 10 to 14 day intervals while conditions allow infection
	Halo blight *(Pseudomonas syringae* pv*. phaseolicola)*		280-420 g/ 100 L or 3.0 - 3.5 kg/ha	Apply at 10 to 14 day intervals from the time the crop is 15cm to 30cm high, while conditions allow infection. Use the higher rate when conditions are highly favourable for infection.
	Bacterial brown spot *(Pseudomonas syringae* pv*. syringae)*		280 g/ 100 L or 3 kg/ha	Apply the first spray within 3 weeks after emergence and repeat every 10 to 14 days while conditions allow infection
Beans, Faba Beans	Rust *(Uromyces spp.),* Chocolate spot *(Botrytis* spp*.)*		280 g/ 100 L or 3 kg/ha	Apply at the first sign of disease and repeat at 10 to 14 day intervals, while conditions allow infection.
Brassicas	Black rot *(Xanthomonas campestris),* Peppery leaf spot *(Pseudomonas syringae* pv*. maclicola),* Ring spot *(Mycosphaerella brassicicola),* Downy mildew *(Peronospora parasitica)*			Apply at the first sign of disease and repeat at 10 to 14 day intervals, while conditions allow infection. CROP DAMAGE WARNING: Tribasic Copper Sulphate may predispose cabbage to frost damage. Cabbages should not be treated with the product if frosts are likely, since crop damage may occur.
Capsicums	Bacterial spot *(Xanthomonas campestris* pv*. vesicatoria),* Bacterial canker *(Corynebacterium michiganense* pv*. michiganense)*		280 g/ 100 L or 3 kg/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, while conditions allow infection. Use the shortest interval when conditions are highly favourable for infection. These applications will reduce the spread of bacterial canker but they will not control seed or soil-borne infection.
Carrots	Leaf spot *(Alternaria, Cercospora, Septoria)*		280 g/100 L	Apply at the first sign of disease and repeat at 10 to 14 day intervals, while conditions allow infection.
Celery	Leaf spot *(Septoria apiicola),* Bacterial soft rot *(Erwinia carotovora* pv*. carotovora)*		280-390 g/ 100 L	Apply every 7 to 14 days while conditions allow infection. Use the shortest interval when conditions are highly favourable for infection ie. cool and wet.

Cucurbits	Angular leaf spot *(Pseudomonas syringae* pv. *lachrymans),* Bacterial leaf spot *(Xanthomonas campestris* pv*. cucurbitae)*	All States	280 g/ 100 L	Apply when the disease first appears and repeat at 10 to 14 day intervals while conditions allow infection.
Lettuce	Downy mildew *(Bremia lactucae),* Bacterial leaf spot *(Xanthomonas campestris* pv*. vitians),* Anthracnose *(Marssonina panattoniana)*	All States	280 g/ 100 L or 3 kg/ha	Apply at the first sign of disease and repeat every 7 to 10 days while conditions allow infection. Alternation with Penncozeb 750 DF is desirable. CROP DAMAGE WARNING: Tribasic Copper Sulphate may predispose lettuce to frost damage. Lettuce should not be treated with the product if frosts are likely, since crop damage may occur.
Onions	Downy mildew *(Peronospora destructor)*			Apply when the disease first appears and repeat at 10 to 14 day intervals while conditions allow infection.
Parsnips	Leaf spot *(Septoria* spp.*)*			Apply when the disease first appears and repeat at 10 to 14 day intervals while conditions allow infection.
Peas	Ascochyta blight *(Ascochyta* spp.*),* Bacterial blight *(Pseudomonas syringae* pv*. syringae)*	All States	280 g/ 100 L or 3 kg/ha	Apply when the disease first appears and repeat at 10 to 14 day intervals while conditions allow infection.
Potatoes	Target spot/early blight *(Alternaria solani),* Irish blight/late blight *(Phytophthora infestans)*			Apply from crop emergence to maturity at 7 to 10 day intervals, while conditions allow infection. May reduce yield if applied under dry conditions.
Red Beet	Downy mildew *(Peronospora farinosa),* Rust *(Uromyces betae)*			Apply at 10 to 14 day intervals, from the seedling stage until maturity, while conditions allow infection.
Rhubarb	Crown rot *(Phytophthora* spp.*)*		280 g/ 100 L	Dip rhubarb crowns before planting.
	Downy mildew *(Peronospora jaapiana)*		280 g/ 100 L or 3 kg/ha	Apply at 14 day intervals while conditions allow infection.
Silver Beet, Spinach	Downy mildew *(Peronospora farinosa)*			Apply at 10 to 14 day intervals, from the seedling stage until maturity, while conditions allow infection.
Tomatoes	Bacterial spot *(Xanthomonas campestris* pv*. vesicatoria),* Bacterial speck *(Pseudomonas syringae* pv*. tomato),* Bacterial canker *(Corynebacterium michiganese* pv*. michiganese)*		220-280 g/ 100 L or 2.4 - 3.0 kg/ha	Apply at the first sign of disease and repeat at 7 to 14 days while conditions allow infection. The shortest interval should be used when conditions are very favourable for infection i.e. during wet weather and when inoculum levels are high. These applications will reduce the spread of bacterial canker but they will not control seed or soil borne infection.
	Target spot/early blight *(Alternaria solani),* Septoria leaf spot *(Septoria* spp.*)*		280 g/ 100 L or 3 kg/ha	Apply at the first sign of disease and repeat every 7 to 14 days while conditions allow infection. The shortest interval should be used when conditions are highly favourable for infection.
	Irish blight/late blight *(Phytophthora infestans)*			Apply at the first sign of disease and repeat at 10 to 14 day intervals while conditions allow infection. Minimise use on seedlings to avoid retarding growth.

MISCELLANEOUS

Crop	Disease	State	Rate	Critical Comments
Ornamentals	Bacterial leaf spot	All States	280 g/ 100L	Apply at the first sign of disease and repeat every 10 to 14 days as required. Melpat's Bordeaux WG Fungicide is ineffective against bacterial wilt of carnations caused by *Pseudomonas andropogonis*. Phytotoxicity is known to occur on certain varieties of ornamentals. Small scale evaluations consisting of 2 sprays at a 14 day interval should be applied first to test for phytotoxicity.
Tobacco seed beds	Wildfire, Angular leaf spot *(Pseudomonas Syringae* pv*. tabaci)*	Qld, NSW, Vic only	560 g/100 L	Apply every 7 days.
	Algae	Qld only		Apply when algae first appears.

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

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