

# UniShield<sup>®</sup>

## FUNGICIDE, MITICIDE and INSECTICIDE

ACTIVE CONSTITUENT: 800 g/kg SULFUR

GROUP	<b>M2</b>	FUNGICIDE
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For the control of certain fungal diseases in grapevines, pome and stone fruit, some vegetables and ornamentals; and for the control of mites in grapevines, citrus, some vegetables and ornamentals; and white louse scale in citrus.

**Net Contents (15 kg, 20 kg)**

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**UPL Australia Limited**

ABN 76 066 391 384

**Suite 416, Level 4, 14 Lexington Drive  
Norwest Business Park, Bella Vista NSW 2153**

TELEPHONE (02) 8824 7277

FACSIMILE (02) 8814 6469

APVMA Approval No.: 62282/101654

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**DIRECTIONS FOR USE**

**RESTRAINTS**

- DO NOT apply within 8 weeks of an oil spray except when mixing canola oil as a woolly bud spray on grapevines.
- DO NOT apply product in combination with spraying oils except to deciduous fruit trees in dormant period.
- DO NOT use in hot weather on citrus, kiwifruit or on sulfur sensitive apple and pear varieties.
- DO NOT use on grapevines when both temperature exceeds 30°C and relative humidity exceeds 75% and other crops when temperature exceeds 24°C.

<p><b>Tree and vine crops</b> In the following table, all rates are given for dilute spraying. For concentrate spraying, refer to the Application Section.</p>			<p>For all tree and vine crops in this table: Apply by dilute or concentrate spraying equipment. For concentrate spraying, refer to the Application Section. Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods.</p>	
Crop	Disease	State	Rate per 100 L	Critical comments
Citrus	Brown Citrus Rust Mite ( <i>Tegolophus australis</i> ) Citrus bud mite ( <i>Eriophyes sheldoni</i> ) Citrus Rust Mite ( <i>Phyllocoptruta oleivora</i> )	NSW, Vic, Qld, SA, WA only	400 to 500 g	Spray July to August with thorough coverage. DO NOT use on citrus in hot weather. Use the higher rates for heavy infestations. Leave at least 3 weeks between sprays of oil and product.
	Citrus bud mite ( <i>Eriophyes sheldoni</i> )	Tas only	200 to 300 g	
	Melanose	NSW, WA only		In NSW application will assist in control.
	White Louse Scale ( <i>Unaspis citri</i> )			May be added to copper spray at petal fall or applied separately during Spring or Autumn. Use the higher rates for heavy infestations.
Grapevines	Rust mite ( <i>Calepitrimerus vitus</i> )	All States	600 g*	Apply as a dilute spray in mixture with canola oil (eg. Supastik at 2L/100L) between budswell and mid-late woolly bud stage <b>or</b> apply alone between woolly bud and soon after budburst. These treatments will be less effective and may be phytotoxic if applied as concentrate sprays and should be applied in a dilute spray volume that results in visible wetting of the buds, canes and cordons when the temperature is at least 15°C during application and for several hours afterwards. The wood on crowns, cordons and canes should be thoroughly wet with this application. <b>DO NOT</b> apply in mixture with canola oil after woolly bud stage as crop phytotoxicity will occur. *High rates of wettable sulphur are detrimental to some natural enemies of pests especially parasitoids of Mealybug and Light Brown Apple Moth

	Bud Mite, Grapeleaf Blister Mite ( <i>Colomerus vitis</i> )		200 g	Apply as a dilute spray between 100% budburst on the basal nodes and 1 week later. This treatment will be less effective if applied as a concentrate spray and should only be applied in a dilute spray volume that results in visible wetting of the buds, canes and cordons when the temperature is at least 15°C during application and for several hours afterwards. During summer, build up of blister mites may be checked by sulphur sprays for powdery mildew, but the early budburst spray is very important for bud mite control.
<b>Grapevines</b>	Powdery Mildew ( <i>Uncinula necator</i> )		200 to 600 g*	Only use higher rates at the beginning of the season when temperatures are lower (15°C-20°C at application). Temperatures should be at least 15°C during application and for several hours afterwards to achieve effective control. Thorough coverage is required to provide effective control. <b>DO NOT</b> apply when both temperature exceeds 30°C and relative humidity exceeds 75% as crop phytotoxicity may occur. Commence application at 2 weeks after budburst with further sprays applied at 4 and 6-7 weeks after budburst. In cool climates where early growth of vines is slow, the first spray may be applied later than 2 weeks after budburst and the spray interval may be extended provided 3 sprays are applied between budburst and flowering. Further applications will be required at 2-3 week intervals (depending on the growth rate of vines) up to berry softening, where disease pressure is moderate to high and/or susceptible varieties are being treated. Use in a program with other fungicides registered for powdery mildew control with different modes of action, will provide better powdery mildew control than continuous sprays of UniShield alone. Note: UniShield may be combined with a registered copper fungicide for control of both powdery and downy mildew.  * High rates of wettable sulphur are detrimental to some natural enemies of pests especially parasitoids of Mealybug and Light Brown Apple Moth.
<b>Kiwifruit</b>	Twospotted Mite ( <i>Tetranychus urticae</i> )	NSW, WA only	150 to 200 g	Spray only when pest is present. Repeat application only when necessary. <b>DO NOT</b> apply during hot weather or the heat of the day.
<b>Mangosteens Rambutans</b>	Powdery Mildew, Mites	All States	400 g	Apply as a foliar spray. Spray when pests are present. Repeat applications only when necessary. <b>DO NOT</b> apply during hot weather.
<b>Pome Fruit</b>	Black spot (scab) ( <i>Venturia</i> spp.)	Vic, Tas, SA only	200 g	Apply at pink bud, petal fall and then at intervals of 2 to 3 weeks. <b>DO NOT</b> use on sulfur sensitive apple and pear varieties in hot weather. Also suppresses mite development.
		Qld only	350 g	
	Powdery Mildew ( <i>Podosphaera leucotricha</i> )	All States	400 g	Apply at least 2 sprays before blossom.
		NSW, Vic, Tas, SA, WA, ACT only	200 to 300 g	Apply fortnightly after blossom. Use the lower rate if weather is hot and spraying non-sensitive varieties. <b>DO NOT</b> use on sulfur sensitive apple and pear varieties in hot weather. Also suppresses mite development.
		Qld only	350 g	

Ancillary panel 1 continued

continued

Crop	Disease	State	Rate per 100 L	Critical comments
Stone Fruit (except apricots)	Brown Rot (fruit) ( <i>Monilinia fructicola</i> )	NSW, Vic, SA, Tas, WA, ACT only	200 to 300 g	Apply 4 weeks after petal fall and then as cover sprays.
		Qld only	350 g	Apply at petal fall only.
	Rust ( <i>Tranzschelia discolor</i> )	NSW, Vic, SA, WA, Tas, ACT only	200 to 300 g	Apply about 4 weeks after petal fall or at petal fall (in Qld only) and at intervals of 3 to 4 weeks until mid-late January. Use the higher rate for greater incidence of disease.
		Qld only	350 g	

### Other Crops

Crop	Disease/Pest	State	Rate/100 L	Critical comments
Vegetables (NOT cucumbers or rockmelons)	Bean spider mite ( <i>Tetranychus ludeni</i> ), Powdery mildew ( <i>Sphaerotheca spp.</i> ), Rust ( <i>Uromyces spp.</i> ), Two spotted mite ( <i>Tetranychus urticae</i> )	Vic, SA, WA, Tas only	200 to 300 g	Apply when pest or disease first seen and repeat every 14 to 21 days. Use the higher rate in crops with a large leaf cover or when conditions favour disease or mite development.
	Bean spider mite ( <i>Tetranychus ludeni</i> ), Powdery mildew ( <i>Sphaerotheca spp.</i> ), Rust ( <i>Uromyces spp.</i> )	NSW & ACT only	200 g	
	Powdery mildew ( <i>Sphaerotheca spp.</i> ), Rust ( <i>Uromyces spp.</i> )	Qld only	350 g	
Strawberries	Powdery Mildew	NSW, WA only	200 to 300 g	Apply when the disease is first noticed then at 10 to 14 day intervals during humid weather.
Tomatoes for processing	Powdery mildew, bean rust, tomato russet mite, bean spider mite, two spotted mite	Vic, Tas, SA, WA only	2 kg/ha	Apply when pest or disease is first seen and repeat as necessary. Crop phytotoxicity may occur when applications occur during hot conditions. DO NOT apply during the heat of the day.
	Powdery mildew, bean rust, tomato russet mite, bean spider mite,	NSW only		

Ancillary panel 1 continued

continued

Crop	Disease/Pest	State	Rate/100 L	Critical comments
Ornamentals	Powdery Mildew ( <i>Sphaerotheca</i> spp.), Twospotted Mite ( <i>Tetranychus urticae</i> )	Vic, SA, WA, Tas only	200 g	Apply when pest or disease is first seen and repeat every 10 to 21 days.
		Qld only	350 g	
	Powdery Mildew ( <i>Sphaerotheca</i> spp.)	NSW & ACT only	200 g	

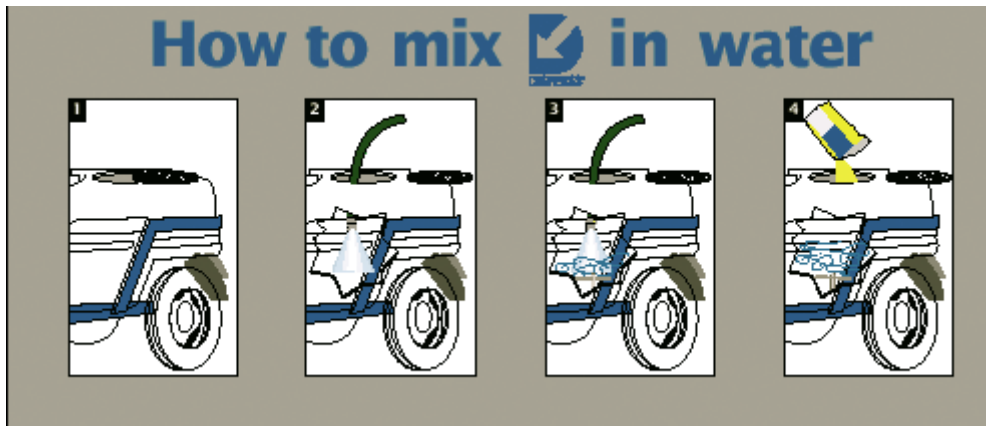
**NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.**

**WITHHOLDING PERIOD: NOT REQUIRED WHEN USED AS DIRECTED.**

**GENERAL INSTRUCTIONS:**

UniShield is a water dispersible granule formulation of micronized wettable sulfur.

**MIXING:** The recommended quantity may be added directly to water in spray tank with the agitators running.



1. Never mix the product with water before pouring into the tank. Remove the sleeve.
2. Fill 2/3 of the spray tank with water.
3. Turn the agitators on.
4. Add UniShield directly to water in the spray tank with the agitators running.

Finish by filling the spray tank with water while the agitators are running, even if the spraying has stopped, until the application is complete.

**COMPATIBILITY:** Avoid combinations with emulsion or miscible oils on tender crops. The product is compatible with most other formulations of fungicides and insecticides.

**WETTING AGENT:** If leaves are hairy and / or waxy, or where the water is hard, add a wetting agent.

### **APPLICATION**

This product may be applied as a high volume dilute spray to fruit tree and vine crops. Apply sufficient spray volume to wet all 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.

### **DILUTE SPRAYING**

Use a sprayer designed to apply high volumes of water up to the point of runoff 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 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 100 L 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**

(a) 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.

(b) Set up and operate the sprayer to achieve even coverage throughout the crop canopy using your chosen water volume.

(c) Determine an appropriate dilute spray volume (See Dilute Spraying above) for the crop canopy. This is needed to calculate the concentrate mixing rate.

(d) The mixing rate for concentrate spraying can then be 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.  $1000 \text{ L}/250 \text{ L} = 4$ )
4. If the dilute label rate is 250 mL/100 L, then the concentrate rate becomes 4 x 250, that is 1 L/100 L of concentrate spray.

- 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.

## FUNGICIDE RESISTANCE WARNING

### Fungicide Resistance Warning

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UniShield is a member of the Multi-site activity group of fungicides. For fungicide resistance management UniShield is a Group M2 fungicide. Some naturally occurring individual fungi resistant to UniShield and other Group M2 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 UniShield and other Group M2 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, UPL Australia Ltd accepts no liability for the losses that may result from the failure of UniShield to control resistant fungi.

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

**STORAGE AND DISPOSAL:** Keep out of reach of children. Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight.

Shake and empty contents into spray tank. Do not dispose of undiluted chemicals on site. Break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm 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.

**FIRST AID:** If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126.

**MSDS:** Additional information is listed in the Material Safety Data Sheet.

**CONDITIONS OF SALE:** UPL Australia accepts responsibility for the consistent quality of the product; however since the use and application of the product is beyond control, the company accepts no responsibility whatsoever for any loss, damage or other result following the use of the product whether used in accordance with directions or not; other than those mandatorily imposed by statutes, the liability is limited to the replacement of the goods and is conditional upon a claim made in writing and, where necessary, a sufficient part of the goods being returned for proper examination by the company within thirty days of sale.

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**Batch No.**

**DOM**

**Bar Code**