



Microthiol® Disperss®

Wettable Sulphur Fungicide, Miticide and Insecticide

ACTIVE CONSTITUENT: 800 g/kg SULPHUR

GROUP **M2** FUNGICIDE

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.

READ COMPLETE DIRECTIONS FOR USE BEFORE USING THIS PRODUCT.

© Microthiol and Disperss are registered trademarks of United Phosphorus Limited used under licence by Nufarm Australia Limited

nufarm.com.au

APVMA Approval No.: 51784/0509

DIRECTIONS FOR USE

RESTRAINTS

DO NOT apply within 3 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 sulphur 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.

TREE AND VINE CROPS			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.	
CROP	DISEASE/PEST	STATE	RATE	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>)	Qld, NSW, Vic, WA, SA only	400-500g/100L	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	200-300g/100L	
	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 vitis</i>)	All states	600*g/100L	Apply as a dilute spray in mixture with canola oil (eg. Supastik at 2L/100L) between budswell and mid-late woolly bud stage or 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. DO NOT 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 and Grapeleaf blister mite, (<i>Colomerus vitis</i>)		200g/100L	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.

TREE AND VINE CROPS			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.	
In the following table all rates are given for dilute spraying. For concentrate spraying refer to the Applications Section.				
CROP	DISEASE/PEST	STATE	RATE	CRITICAL COMMENTS
Grapevines (cont)	Powdery mildew (<i>Uncinula necator</i>)	All states	200-600g/100L	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. DO NOT 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 Microthiol Disperss alone. Note: Microthiol Disperss may be combined with a registered copper fungicide for control of both powdery and downy mildew. #High rates of wetttable sulphur are detrimental to some natural enemies of pests especially parasitoids of Mealybug and Light Brown Apple Moth.
Kiwifruit	Two spotted mite (<i>Tetranychus urticae</i>)	NSW, WA only	150-200g/100L	Spray only when pest is present. Repeat application only when necessary. DO NOT apply during hot weather or the heat of the day.
Mangosteens Rambutans	Powdery Mildew Mites	All States	400g/100L	Apply as a foliar spray. Spray when pests are present. Repeat applications only when necessary. DO NOT apply during hot weather.
Pome Fruit	Black spot (scab) (<i>Venturia</i> spp.)	Vic, Tas, SA only	200g/100L	Apply at pink bud, petal fall and then at intervals of 2 – 3 weeks. DO NOT use on sulphur sensitive apple and pear varieties in hot weather. Also suppresses mite development.
		Qld only	350g/100L	
	Powdery mildew (<i>Podosphaera leucotricha</i>)	All States	400g/100L	Apply at least 2 sprays before blossom.
		NSW, Vic, Tas, SA, WA, ACT only	200-300g/100L	Apply fortnightly after blossom. Use the lower rate if weather is hot and spraying non-sensitive varieties. DO NOT use on sulphur sensitive apple and pear varieties in hot weather. Also suppresses mite development.
Qld only	350g/100L			
Stone Fruit (except apricots)	Brown rot (fruit) (<i>Monilinia fructicola</i>)	NSW, Vic, Tas, SA, WA, ACT only	200-300g/100L	Apply 4 weeks after petal fall and then as cover sprays.
		Qld only	350g/100L	Apply at petal fall only.
	Rust (<i>Tranzschelia discolor</i>)	NSW, Vic, Tas, SA, WA, ACT only	200-300g/100L	Apply about 4 weeks after petal fall or at petal fall (in Qld only) and at intervals of 3-4 weeks until mid late January. Use the higher rate for greater incidence of disease.
		Qld only	350g/100L	
Vegetables (NOT cucumbers or rockmelons)	Bean spider mite (<i>Tetranychus ludeni</i>) Powdery mildew (<i>Sphaerotheca</i> spp.) Rust (<i>Uromyces</i> spp.) Two spotted mite (<i>Tetranychus urticae</i>)	SA, WA, Vic, Tas only	200-300g/100L	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. DO NOT apply during the heat of the day.
		Qld only	350g/100L	
	Powdery mildew (<i>Sphaerotheca</i> spp.) Rust (<i>Uromyces</i> spp.)	NSW & ACT only	200g/100L	
Strawberries	Powdery mildew	NSW, WA only	200-300g/100L	Apply when the disease is first noticed then at 10-14 day intervals during humid weather.
Tomatoes for processing	Powdery mildew, bean rust, tomato russet mite, bean spider mite, twospotted mite	SA, WA, Vic, Tas only	2kg/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		
Ornamentals	Powdery Mildew (<i>Sphaerotheca</i> spp.) Two spotted mite (<i>Tetranychus urticae</i>)	Vic, Tas, SA, WA only	200g/100L	Apply when pest or disease first seen and repeat every 10-21 days.
	Powdery Mildew (<i>Sphaerotheca</i> spp.)	Qld only	350g/100L	
		NSW & ACT only	200g/100L	

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

Microthiol Disperss is a water dispersible granule formulation of micronized wettable sulphur.

MIXING

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



Never mix the product with water before pouring into the tank. Remove the sieve.

Fill 2/3 of the spray tank with water.

Turn the agitators on.

Add Microthiol® DISPERSS® 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 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 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. $1000 \text{ L}/250 \text{ L} = 4$)
 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

GROUP	M2	FUNGICIDE
--------------	-----------	------------------

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

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND THE ENVIRONMENT

DO NOT contaminate streams, rivers or waterways with 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 empty bag into spray tank. DO NOT dispose of undiluted chemicals on site. Puncture or shred and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers should NOT be burnt.

FIRST AID

For advice, contact a Poisons Information Centre (phone Australia 13 11 26) or a doctor (at once).

MATERIAL SAFETY DATA SHEET

For further information refer to the Material Safety Data Sheet (MSDS), which can be obtained from your supplier or from the Nufarm website – www.nufarm.com.au

In case of emergency: Phone 1800 033 498 Ask for shift supervisor. Toll free 24 hours.

CONDITIONS OF SALE

“Any provisions or rights under the Trade Practices Act 1974 or relevant state legislation which cannot be excluded by those statutes or by law are not intended to be excluded by these conditions of sale. Subject to the foregoing, all warranties, conditions, rights and remedies, expressed or implied under common law, statute or otherwise, in relation to the sale, supply, use or application of this product, are excluded. Nufarm Australia Limited and/or its affiliates (“Nufarm”) shall not accept any liability whatsoever (including consequential loss), or howsoever arising (including negligence) for any damage, injury or death connected with the sale, supply, use or application of this product except for liability which cannot be excluded by statute.”

Manufacturer:

United Phosphorus Limited
1 rue des Frères Lumière B.P.9,
78373 PLAISIR, Cedex, France

Distributed by:

NUFARM AUSTRALIA LIMITED,
ACN 004 377 780
103-105 Pipe Road,
Laverton North, Vic 3026
Tel (03) 9282 1000
Fax (03) 9282 1001