



KUMULUS® DF WETTABLE SULPHUR FUNGICIDE SPRAY

ACTIVE CONSTITUENT: 800 g/kg SULPHUR (S)

GROUP	M2	FUNGICIDE
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For the control of certain fungal diseases and mites in grapevines and other crops as per the DIRECTIONS FOR USE table.

IMPORTANT: READ THE ATTACHED LEAFLET BEFORE USING THIS PRODUCT.

NET CONTENTS: 15kg, 25kg

BASF Australia Ltd ABN 62 008 437 867
Level 12, 28 Freshwater Place Southbank VICTORIA 3006

® Registered trademark of BASF

APVMA Approval No.: 30552/61794

STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight. The special formulation of KUMULUS DF requires that the bag is kept sealed to prevent deterioration. Single rinse before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. Puncture 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 and product should NOT be burnt.

MATERIAL SAFETY DATA SHEET

Additional information is listed in the Material Safety Data Sheet.

CONDITIONS OF SALE

All conditions and warranties rights and remedies implied by law or arising in contract or tort whether due to the negligence of BASF Australia Ltd or otherwise are hereby expressly excluded so far as the same may legally be done provided however that any rights of the Buyer pursuant to non- excludable conditions or warranties of the Trade Practices Act 1974 or any relevant legislation of any State are expressly preserved but the liability of BASF Australia Ltd or any intermediate Seller pursuant thereto shall be limited if so permitted by the said legislation to the replacement of the goods sold or the supply of equivalent goods and all liability for indirect or consequential loss or damage of whatsoever nature is expressly excluded. This product must be used or applied strictly in accordance with the instructions appearing hereon. This product is solely sold for use in Australia and must not be exported without the prior written consent of BASF Australia Ltd.

APVMA Approval No: 30552/61794

Batch No:

Date of Manufacture:

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Southbank VICTORIA 3006

FOR SPECIALIST ADVICE IN AN EMERGENCY ONLY PHONE 1800 803 440 TOLL FREE-ALL HOURS-AUSTRALIA WIDE

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DIRECTIONS FOR USE

RESTRAINTS: DO NOT apply within 3 weeks of an oil spray.
DO NOT mix with oils or formulations containing mineral oil.

TREE AND VINE CROPS				
RATE In the following table, all rates are given for dilute spraying. For concentrate spraying, refer to the Application section				CRITICAL COMMENTS For all tree and vine crop uses in this table: Apply by dilute or concentrate spraying equipment. Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods.
CROP	PEST/DISEASE	STATE	RATE g/100 L	
Citrus	Citrus rust mite (<i>Phyllocoptruta oleivora</i>), brown citrus rust mite (<i>Tegolophus australis</i>), citrus bud mite (<i>Eriophyes sheldoni</i>), moss, lichens	Qld, NSW, Vic, SA, WA only	400 to 500	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	Citrus bud mite (<i>Eriophyes sheldoni</i>)	Tas only	200 to 300	In NSW, application will assist in control. May be added to copper spray at petal fall or applied separately during spring or autumn. Use the higher rates for heavy infestations.
	Melanose White louse scale (<i>Unaspis citri</i>)	NSW, WA only		

RATE				CRITICAL COMMENTS
In the following table, all rates are given for dilute spraying. For concentrate spraying, refer to the Application section				<p>For all tree and vine crop uses in this table:</p> <p>Apply by dilute or concentrate spraying equipment.</p> <p>Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods.</p>
CROP	PEST/DISEASE	STATE	RATE g/100 L	
Grapevines	Rust mite (<i>Calepitrimerus vitis</i>)	All states	600*	<p>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 15o C during application and for several hours afterwards. The wood on crowns, cordons and canes should be thoroughly wet with this application.</p> <p>DO NOT apply in mixture with canola oil after woolly bud stage as crop phytotoxicity will occur.</p> <p>*High rates of wettable sulphur are detrimental to some natural enemies of pests especially parasitoids of Mealybug and Light Brown Apple Moth.</p>
	Bud mite and Grapeleaf blister mite (<i>Colomerus vitis</i>)		200	<p>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.</p>

CROP	PEST/DISEASE	STATE	RATE g/100 L	
Grapevines cont.	Powdery mildew (<i>Uncinula necator</i>)	All states	200 to 600*	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.
Kiwifruit	Twospotted mite (<i>Tetranychus urticae</i>)	NSW, WA only	150 to 200	Spray only when pest is present. Repeat application only when necessary. DO NOT apply during hot weather.
Mangosteen	Powdery mildew, mites	All states	400	Apply as a foliar spray. Spray when pests are present. Repeat applications only when necessary. DO NOT apply during hot weather.
Pome fruit	Powdery mildew (<i>Podosphaera Leucotricha</i>)	All States	400	Apply at least 2 sprays before blossom.
		NSW, Vic, Tas, SA, WA only	200 to 300	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.
		Qld only	350	Also suppresses mite development.
	Black spot (scab) (<i>Venturia</i> spp.)	Vic, Tas, SA only	200	Apply at pink bud, petal fall and then at intervals of 2 to 3 weeks. Do NOT use on sulphur-sensitive apple and pear varieties in hot weather. Also suppresses mite development.
		Qld only	350	
Rambutan	Powdery mildew, mites	All states	400	Apply as a foliar spray. Spray when pests are present. Repeat applications only when necessary. DO NOT apply during hot weather.
Stone fruit (except apricots)	Rust (<i>Tranzschelia discolor</i>)	NSW, Vic, Tas, SA, WA only	200 to 300	Apply about 4 weeks after petal fall or at petal fall (in Qld only) and at intervals of 3 to 4 weeks until mid to late January. Use the higher rate when disease incidence is high.
		Qld only	350	
	Brown rot (fruit) (<i>Monilinia fructicola</i>)	NSW, Vic, Tas, SA, WA only	200 to 300	Apply 4 weeks after petal fall then as cover sprays.
		Qld only	350	Apply at petal fall only.

RATE				CRITICAL COMMENTS
In the following table, all rates are given for dilute spraying. For concentrate spraying, refer to the Application section				For all tree and vine crop uses in this table: Apply by dilute or concentrate spraying equipment. Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods.
CROP	PEST/DISEASE	STATE	RATE g/100 L	
Ornamentals	Powdery mildew, twospotted mite (<i>Tetranychus urticae</i>)	Vic, Tas, SA, WA only	200 g/100 L	Apply when pest or disease is first seen and repeat every 10 to 21 days.
		Qld only	350 g/100 L	
	Powdery mildew	NSW only	200 g/100 L	
Strawberries	Powdery mildew	NSW, WA only	200 to 300 g/100 L	Apply when the disease is first noted, then at 10 to 14 day intervals during humid weather.
Tomatoes for processing	Powdery mildew, bean rust, tomato russet mite, bean spider mite, twospotted 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		
Vegetables (NOT cucumbers or rockmelons)	Powdery mildew, rust (<i>Uromyces</i> spp.), tomato russet mite, (<i>Aculops lycopersici</i>), bean spider mite (<i>Tetranychus ludeni</i>)	Vic, Tas, SA, WA only	200 to 300	Apply when pest or disease is 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 and/or mite development. DO NOT apply during the heat of the day.
		NSW only	200	
	Twospotted mite (<i>Tetranychus urticae</i>)	Vic, Tas, SA, WA only	200 to 300	
	Powdery mildew, rust (<i>Uromyces</i> spp.), tomato russet mite	Qld only	350	

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

WITHHOLDING PERIODS:

NOT REQUIRED WHEN USED AS DIRECTED.

GENERAL INSTRUCTIONS

FUNGICIDE RESISTANCE WARNING

GROUP M2 FUNIGICIDE

KUMULUS DF is a member of the multi-site activity group of fungicides. For fungicide resistance management KUMULUS DF is a Group M2 fungicide. Some naturally occurring individual fungi resistant to KUMULUS DF 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 KUMULUS DF 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, BASF Australia Ltd accepts no liability for any losses that may result from the failure of KUMULUS DF to control resistant fungi.

MIXING

Slowly pour the KUMULUS DF into the spray tank three-quarters filled with water, with the agitation system actively moving. Alternatively, premix in a bucket, by adding to the KUMULUS DF a quantity of water of at least half the volume of the KUMULUS DF, and stir immediately. Add this mixture to the bulk of the water in the spray vat with agitation running. If tank mixing with another product, always add Kumulus to the spray tank first. Tank mixtures containing Kumulus should not be left overnight before use. Apply spray mix immediately to avoid settling.

APPLICATION

Tree crops and vines

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 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

- 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 then be calculated in the following way

EXAMPLE ONLY

Dilute spray volume as determined above: For example 1500 L/ha

Your chosen concentrate spray volume: For example 500 L/ha

The concentration factor in this example is: $3 \times$ (i.e. $1500 \text{ L} \div 500 \text{ L} = 3$)

At the dilute label rate of 200 g/100 L, then the concentrate rate becomes 3×200 , that is 600 g/ 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 appropriate competency training and follow industry Best Practices.

WETTING AGENT

If leaves and fruit are hairy or waxy, or where the water is hard, add a non-ionic wetting agent at the approved label rate.

COMPATIBILITY

KUMULUS DF is compatible with most insecticides, fungicides and foliar fertilisers including Polyram® DF, thiram, ziram, Scala+, Mycloss+, carbaryl, azinphos, urea, Foliar Nitrophoska®, Wuxal+ Foliar Nutrient and Wuxal Calcium Foliar Nutrient. KUMULUS DF is not compatible with oils or formulations containing mineral oil.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate streams, rivers or waterways with this product or the used containers.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under weather conditions or from spraying equipment which could be expected to cause spray to drift onto nearby susceptible plants, adjacent crops, crop lands or pastures. DO NOT spray cucumbers, rockmelons or apricots as these plants exhibit low tolerance to sulphur. Where there is a range of rates, apply the lower rate during the hot dry months to avoid scorching.

RE-ENTRY PERIOD

KUMULUS DF is of low toxicity and irritancy, and therefore no specific requirements for re-entry into treated areas are indicated

STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight. The special formulation of KUMULUS DF requires that the bag is kept sealed to prevent deterioration. Single rinse before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. Puncture 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 and product should NOT be burnt.

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+ Other Trademarks



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