

POISON

KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Nufarm
Carbend[®]
Fungicide

ACTIVE CONSTITUENT: 500 g/L CARBENDAZIM

GROUP **A** FUNGICIDE

A broad spectrum, systemic fungicide for the control of fungal diseases in various crops as per the Directions for Use table.

**IMPORTANT: READ THE ATTACHED LEAFLET
BEFORE USING THIS PRODUCT.**

Contents: 5 Litres
10 Litres
20 Litres

Nufarm Australia Limited
ACN 004 377 780
103-105 Pipe Road
Laverton North Victoria 3026
Tel: (03) 9282 1000
Fax: (03) 9282 1001



® Carbend is a registered trademark
of Nufarm Australia Limited.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and products should NOT be burnt.

DIP DISPOSAL

Unused or spent dip should be disposed of carefully to avoid contamination of streams, rivers or waterways. Dispose of dip by pouring into a limed disposal pit set aside for this purpose and clearly marked. Alternatively, spray onto soil or grassed area where runoff to waterways or grazing by animals will not occur.

SAFETY DIRECTIONS

May irritate eyes and skin. Avoid contact with eyes and skin. When opening the container, preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow-length PVC gloves. Wash hands after use. After each day's use wash gloves and contaminated clothing.

FIRST AID

If poisoning occurs, contact a Doctor or Poisons Information Centre. Phone Australia 13 11 26.

MATERIAL SAFETY DATA SHEET

For further information refer to the Material Safety Data Sheet (MSDS).

CONDITIONS OF SALE

"Nufarm Australia Limited ('Nufarm') shall not be liable for any loss injury damage or death whether consequential or otherwise whatsoever or howsoever arising whether through negligence or otherwise in connection with the sale, supply, use or application of this product. The supply of this product is on the express condition that the purchaser does not rely on Nufarm's skill or judgment in purchasing or using the same and every person dealing with this product does so at his own risk absolutely. No representative of Nufarm has any authority to add to or alter these conditions."

APVMA Approval No.:54269/5L/0705

APVMA Approval No.:54269/10L/0705

APVMA Approval No.:54269/20L/0705

Batch No.:

Date of Manufacture:

In case of emergency: Phone 1800 033 498

Ask for shift supervisor. Toll free 24 hours.
For Technical Enquiries call 1800 639 899.

Bar Code:

Drummuster logo

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DIRECTIONS FOR USE:
1. TREE & VINE CROPS

Rate					Critical Comments
This table shows rates for dilute spraying . For concentrate spraying , refer to the Mixing/Application section.					For all 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. For concentrate spraying, DO NOT use at rates greater than 5 times the dilute spraying rate
Crops	Disease	State	Rate	WHP	Critical Comments
Apples	Powdery mildew (<i>Podosphaera leucotricha</i>)	All States	40 to 50mL/ 100L water	7 days	Apply at 7 to 10 day intervals until petal fall. Use the higher rate when disease pressure is high.
	Black spot (<i>Venturia inaequalis</i>)	NSW, Vic, Tas, SA, WA only			
Custard apples	<i>Cylindrocladium</i> spp. <i>Pseudocercospora</i> spp.	NSW, Qld only	50g/100L water	3 days	DO NOT apply Carbend in tank mixes with products containing Copper oxychloride. Apply a maximum of 4 sprays. First spray to be applied at fruit set after flowering. Where disease has occurred previously apply a second spray 2-4 weeks later. If high disease pressure should occur, a further 2 sprays may be applied. All sprays must be applied at a minimum interval of 14 days.
Grapes	Grey mould (Bunch rot) (<i>Botrytis cinerea</i>)	All States	100mL/ 100L water	1 day	Apply at early flowering, 80 to 100% capfall and pre-bunch closure. Further applications may be necessary at veraison and pre-harvest, if wet weather favours infection. Application should be made in sufficient water to obtain thorough coverage of the crop. This use is subject to an Avcare Resistance Management Strategy: Refer to Resistance Management Strategy under General Instructions.
Macadamia Nuts	Macadamia Husk Spot (<i>Pseudocercospora</i> spp.)	All States	50mL plus a wetting agent (at 100mL/100L)	14 days (H) 4 weeks (G)	Apply at 5 and 8 weeks after main flowering - Stage 2 anthesis (white flowering stage). Remove any fallen nuts from under trees prior to spraying. DO NOT apply more than 2 applications of CARBEND per season.
Pears	Black spot (<i>Venturia pirina</i>)	NSW, Vic, Tas, SA, WA only	25 to 50mL/ 100L water	7 days	Apply at 7 to 10 day intervals until petal fall. Use the higher rate when disease pressure is high.
Stone fruit	Blossom blight (<i>Monilinia fructicola</i>)	Qld, NSW, Vic, Tas, SA, only	25 to 50mL/ 100L water	1 day	Apply to pink or white bud stage, 10% blossom and petal fall. Apply the higher rate when disease pressure is high. This use is subject to an Avcare Resistance Management Strategy: Refer to Resistance Management Strategy under General Instructions.
	Brown rot (<i>Monilinia fructicola</i>)	Qld, NSW, Vic, Tas, SA, only	40mL/ 100L water		Apply 3 weeks and 1 week prior to harvest following early application of Blossom Blight sprays. This use is subject to an Avcare Resistance Management Strategy: Refer to Resistance Management Strategy under General Instructions.

DIRECTIONS FOR USE:**2. POST-HARVEST DIPPING**

These uses are subject to an **Avcare Resistance Management Strategy:**

Refer to Post-Harvest Dipping of Fruit-Resistance Management Strategy in General Instructions.

Crops	Disease	State	Rate	WHP	Critical Comments
Apples	Blue mould (<i>Penicillium expansum</i>)	All States	50mL/ 100L water	-	Submerge fruit approximately 30 seconds. Top up dip at the recommended application rate of 50mL/100L. Dipping should occur within 24 hours of harvest. Tas Only: Always apply the treatment whenever the apples are to be dipped in diphenylamine prior to storage.
Bananas	Crown rot (<i>Colletotrichum musae</i>)	Qld, NSW, WA only	40mL/ 100L water	-	Submerge fruit approximately 30 seconds.
Citrus	Blue and green moulds (<i>Penicillium</i> spp.)	Qld, NSW, Vic, SA, WA only	100mL/ 100L water	-	Submerge fruit approximately 30 seconds.
Mangoes	Anthrachnose (<i>Colletotrichum</i> spp.) and stem end rot (<i>Dothiorella</i> spp.)	Qld, NSW, WA, NT only	100mL/100L water	-	Submerge for approximately 5 minutes at 52°C.
Pears	Blue mould (<i>Penicillium expansum</i>)	All States	50mL/ 100L water	-	Submerge fruit approximately 30 seconds. Top up dip at the recommended dilution rate of 50mL/100L. Dipping should occur within 24 hours of harvest.
Rockmelons	Fusarium Fruit Rot (<i>Fusarium</i> spp.) Sour Rot (<i>Geotrichum candidum</i>) Alternaria Fruit Rot (<i>Alternaria</i> spp.) Rhizopus soft rot (<i>Rhizopus stolonifer</i>) Pink mould rot (<i>Trichothecium roseum</i>)	Qld, NSW, Vic, SA, WA and NT only	100mL PLUS 130mL Nufarm Panocrine PLUS 10mL Chemwet 1000/100L water	-	Dip fruit for 45 seconds within 24 hours of harvest.
Stone fruit	Brown rot (<i>Monilinia</i> & <i>Sclerotinia</i> spp.)	Qld, NSW, Vic, Tas, SA, only	50 to 100mL/ 100L water	-	Submerge fruit approximately 30 seconds. Use higher rate where disease pressure is severe or where longer term storage is required.

3. PRE-PLANTING

Crops	Disease	State	Rate	WHP	Critical Comments
Ginger seed pieces	Rhizome/seed piece rot (<i>Fusarium</i> spp.)	Qld, WA only	200mL/100L	-	Cut seed pieces to desired length from rhizomes free of rot. Submerge for 5 minutes and allow to dry before planting.
Sugar Cane	Pineapple disease (<i>Ceratocystis paradoxa</i>)	Qld, NSW only	65mL/100L water	-	Apply to cut seed pieces as a dip or spray so as to obtain thorough wetting. After dipping allow to drain. When replenishing dip, top up with 65mL Carbend in 100L water.

4. FRUIT & VEGETABLES AND OTHER CROPS & SITUATIONS

Crops	Disease	State	Rate	WHP	Critical Comments
Chickpeas, faba beans, lentils and vetch	Chocolate Spot (<i>Botrytis fabae</i>), Grey Mould (<i>Botrytis cinerea</i>)	All States	500mL/ha	4 weeks (H, G)	Apply a maximum of two consecutive applications at 14 day intervals. Apply a minimum of 100L of water per hectare.
Cucurbits	Powdery mildew (<i>Sphaerotheca fuliginea</i>)	Qld, NSW, Vic, Tas, SA, WA only	High Volume: 40 to 50mL/ 100L water Low volume: 400 or 500mL/ha	-	Begin application when disease first appears, repeat at 7 to 14 day intervals. Use the higher rate and shorter intervals when disease pressure is high and plants are growing rapidly. This use is subject to an Avcare Resistance Management Strategy: Refer to Resistance Management Strategy under General Instructions.
Pasture, Red clover, Subterranean clover	Clover scorch (<i>Kabatiella caulivora</i>)	Vic, Tas, SA, WA only	300 or 550mL/ha plus 1.5L/ summer oil in 150L water/ha	14 days	Apply at "closing-up" of pasture in a minimum spray volume of 150L/ha. Repeat 30 days later if build up of disease is well established at "closing-up". Repeat with higher rate 30 days later if disease continues to develop.
	Cercospora (<i>Cercospora zebrina</i>)	WA only			
Roses	Powdery mildew (<i>Oidium</i> spp.)	All States	25mL plus 1L Oil (98-99% summer oil) per 100L water	-	Begin application when disease first appears and repeat at 7 to 14 day intervals throughout the growing season. Shorten intervals during humid weather.
	Black spot (<i>Diplocarpon rosae</i>)		50mL/ 100L water		
Strawberries	Grey mould (<i>Botrytis cinerea</i>)	NSW, Vic, Tas, SA, WA only	40 to 50mL/ 100L water	2 days	Begin application when disease first appears or at flowering and repeat at 7 to 14 day intervals. Use the higher rate and shorter intervals when disease pressure is high. This use is subject to an Avcare Resistance Management Strategy: Refer to Resistance Management Strategy under General Instructions.
Turf	Dollar spot (<i>Sclerotinia homoeocarpa</i>)	Qld, NSW, Vic, SA, WA only	60mL/100 m ²	-	Apply in sufficient water to give good coverage. Commence application at beginning of damp weather and repeat intervals of 4 weeks. This use is subject to an Avcare Resistance Management Strategy: Refer to Resistance Management Strategy under General Instructions.

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

WITHOLDING PERIOD:

GRAPES, STONE FRUIT: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.

STRAWBERRIES: DO NOT HARVEST FOR 2 DAYS AFTER APPLICATION.

CUSTARD APPLES: DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.

APPLES, PEARS: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

MACADAMIA NUTS: DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.

DO NOT ALLOW LIVESTOCK TO GRAZE VEGETATION IN TREATED PLANTATIONS FOR 4 WEEKS AFTER APPLICATION.

DO NOT CUT VEGETATION IN TREATED PLANTATIONS FOR STOCK FEED FOR 4 WEEKS AFTER APPLICATION.

PASTURE, CLOVER: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION.

CHICKPEAS, FABA BEANS, LENTILS AND VETCH:

DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION.

DO NOT GRAZE OR CUT FOR STOCKFEED FOR 4 WEEKS AFTER APPLICATION.

TURF: DO NOT FEED GRASS CLIPPINGS FROM TREATED AREAS TO POULTRY OR ANIMALS.

POST HARVEST DIPS: NOT REQUIRED WHEN USED AS DIRECTED.

GENERAL INSTRUCTIONS

MIXING/APPLICATION

SHAKE WELL BEFORE USE. Carbend is a liquid suspension to be mixed with water for application as a spray or a dip. Add the required quantity of Carbend to a partly filled spray tank and agitate. Complete filling while agitating. Ensure the spray mixture is properly agitated before restarting after stoppage.

Important

Dip ingredients MUST NOT be mixed together in concentrated form. Add separately to the full volume of water in the dip tank. To restore the original volume in the dip tank, add the required water and then the appropriate amounts of Chemwet 1000 and Nufarm Panoctine and Carbend. To restore the original volume in the dip-tank, add the required volume of water and then the appropriate amounts of products. Dip should be replaced when dirt begins to accumulate. To ensure effective coating of the fruit, the temperature of the fruit and the dip solution must be the same.

ADDITION OF WETTING AGENT

The addition of a wetting agent eg. Activator Surfactant to spray mixture improves the distribution of the spray on hard to wet plants.

APPLICATION

Dilute Spraying (Tree & Vine crops only)

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 (Tree & Vine crops only)

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 calculated in the following way:

EXAMPLE ONLY

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

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

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

4. If the dilute label rate is 10mL/100L, then the concentrate rate becomes 3×10 , that is 30mL/100L of concentrate spray.

The chosen spray volume, amount of product per 100L of water, 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.

FUNGICIDE RESISTANCE WARNING

GROUP **A** FUNGICIDE

Nufarm Carbend Fungicide is a member of the benzimidazole group of fungicides. For fungicide resistance management Carbend is a Group A fungicide. Some naturally occurring fungal populations resistant to Carbend and other Group A 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. The resistant fungi will not be controlled by Carbend and other Group A 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 any losses that may result from the failure of Carbend to control resistant fungi. Refer to specific Avcare Resistance Management Strategies, below.

Stone Fruit Blossom Blight and Brown Rot - Resistance Management Strategy

1. If applying Group C, Group B or Group A fungicides, DO NOT apply more than two consecutive sprays of fungicides from the same group before changing to another group.
2. DO NOT apply more than three sprays of a group I fungicide per season. If two or three consecutive sprays are applied they must be followed by at least the same number of sprays from an alternative chemical group, including from one season to the next.
3. A post-harvest treatment should also be counted as an application.
4. The last blossom blight spray and the first pre-harvest brown rot spray should be regarded as consecutive applications.
5. The spray program should be considered and the strategy applied on a whole-orchard basis.

Grape Grey Mould (Bunch Rot) - Resistance Management Strategy

1. If three or fewer bunch rot sprays are applied in a season use only one spray per season containing a Group A fungicide. If four or more bunch rot sprays are applied in a season use no more than two sprays containing Group A fungicide, unless tank mixed with

a registered multi-site (Group Y) fungicide.

2. If three or fewer bunch rot sprays are applied in a season use only one spray per season containing a Group B fungicide. If four or more bunch rot sprays are applied in a season use no more than two sprays containing Group B fungicide, unless tank mixed with a registered multi-site (Group Y) fungicide.

3. If three or fewer bunch rot sprays are applied in a season use only one spray per season containing Group I fungicide. If four or more bunch rot sprays are applied use no more than two sprays containing Group I fungicides.

Alternate applications of Group I containing fungicides with effective fungicides from other fungicide groups.

4. If three or fewer bunch rot sprays are applied in a season use only one spray per season containing a Group J fungicide. If four or more bunch rot sprays are applied in a season use no more than two sprays containing Group J fungicide, unless tank mixed with a registered multi-site (Group Y) fungicide.

5. If three or fewer bunch rot sprays are applied in a season use only one spray per season containing a Group G fungicide. If four or more bunch rot sprays are applied in a season use no more than two sprays containing a Group G fungicide. DO NOT apply consecutive sprays of a Group G fungicide.

6. Late season fungicide treatments should be applied before botrytis infection reaches unacceptably high levels in the vineyard.

7. DO NOT apply more than two consecutive sprays from the same fungicide group, including from the end of one season to the next.

Grey Mould of Strawberries - Resistance Management Strategy

1. Apply a program of protectant fungicides during flowering. If conditions favour disease development during this period use a Group A, Group B, Group I or a Group J fungicide.

2. DO NOT apply more than two successive sprays of Group A, B, I or J fungicides.

3. Always apply Group A fungicides in a tank mix with a protectant.

4. If three or fewer botrytis fungicide sprays are applied per crop, use only one spray containing a Group I fungicide. If four to six sprays are applied per crop use a maximum of two sprays containing Group I fungicides. If seven or more sprays are applied per crop use a maximum of three sprays containing Group I fungicides.

Curcubits Powdery Mildew - Resistance Management Strategy

1. Start disease control early. DO NOT wait for powdery mildew to appear before spraying, but start as soon as practicable after crop emergence.

2. Use protectant sprays in early crop growth. Apply protectant sprays up to the fruit set stage of the crop if the disease normally occurs during this period. If this schedule is interrupted (eg. by rain) use a tank mix of protectant plus systemic before recommencing the protectant programme.

3. After fruit set, use systemic fungicides in one or more of the following ways:

(a) Tank mix systemic fungicides with a protectant

fungicide AND use fungicides from at least 2 different systemic activity groups per crop.

(b) Alternate systemic fungicides with a protectant fungicide AND use fungicides from at least 2 different systemic activity groups per crop.

(c) Alternate systemic fungicides from at least 3 different activity groups per crop.

Post-Harvest Dipping of Fruit - Resistance Management Strategy

1. For the last pre-harvest spray, use a fungicide with a different mode of action to the fungicide planned for use as a post-harvest dip.

2. Where alternatives are available, rotate to use as many different modes of action as possible.

Turf Disease - Resistance Management Strategy

DO NOT apply more than two consecutive sprays of fungicides from the same activity group, unless mixed with a fungicide from a different activity group.

EXPORT OF TREATED PRODUCE

Growers should note that suitable MRLs or import tolerances may not be established in all markets for produce treated with Carbend. If you are growing produce for export, please check with Nufarm for the latest information on MRLs and import tolerances BEFORE using Carbend .

COMPATIBILITY

Carbend is compatible with many insecticides and fungicides, however to be sure of compatibility with any particular product check with your local dealer first.

PRECAUTIONS

Keep away from the foodstuffs. Grapevine leaves treated with Carbend must not be used for human consumption.

Re-entry period: DO NOT allow entry into treated areas until the spray deposits have dried. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrist and elbow-length PVC gloves. Clothing must be laundered after each day's use. For glasshouse and other confined areas, DO NOT re-enter until spray deposits have dried and area has been thoroughly ventilated.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET CROPS

DO NOT apply under weather conditions, or from spraying equipment, that may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures.

PROTECTION OF LIVESTOCK

Carbend is of low toxicity to bees.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

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

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point.

If not recycling break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and products should NOT be burnt.

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