

# CAUTION

KEEP OUT OF REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

# Patron<sup>®</sup> Insecticide

ACTIVE CONSTITUENT: 440 g/L BUPROFEZIN

GROUP **16** INSECTICIDE

For control of red scale and white louse scale, jassids (leafhoppers) and longtail, citrus and citrophilous mealybugs in citrus crops; mealybugs in grapes and pears; mealybugs and scales in persimmons, custard apples and passionfruit and mango scale in mangoes as specified in the Directions for Use Table

IMPORTANT: READ THIS BOOKLET BEFORE USE

APVMA Approval No: 62616/100294

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HELPING YOU GROW

## DIRECTIONS FOR USE (All States)

### RESTRAINTS:

DO NOT apply by air.

DO NOT apply more than twice per year in any crop.

**Wine Grapes:** DO NOT apply later than 80% capfall.

*In the following table, all rates are given for dilute spraying. For concentrate spraying refer to the "Concentrate Spraying" Section.*

TREE AND VINE CROPS	INSECT PEST	RATE/100 L WATER	CRITICAL COMMENTS
<b>Citrus including: Oranges Lemons Mandarins Grapefruit Limes</b>	Red Scale, White Louse Scale, Longtail Mealybug, Citrus Mealybug, Citrophilous mealybug	30-60 mL	<b>Scales:</b> Apply when there is heavy crawler emergence, particularly in late summer. Where the infestation is severe, a second application may be required 14-28 days later. Patron Insecticide works best in an integrated pest management (IPM) programme where parasites such as <i>Aphytis</i> spp. are active. <b>Mealybugs:</b> Apply if thresholds are exceeded in spring-summer. Repeat after 21-28 days if necessary. <b>Rate:</b> Use the high rate when heavy infestations of the pests occur and/or where IPM systems have not effectively managed pest populations.
	Jassids (leafhoppers)	30 mL	Apply when thresholds are exceeded in January and again in February if required. Apply when juvenile stages predominate.
<b>Custard Apples</b>	Mealybugs, Scale insects	30-60 mL	Apply a maximum of two sprays per season, 21 days apart, as a high volume cover spray to run-off using air blast or high volume hydraulic nozzles.
<b>Grapes</b>	Longtail Mealybug and Tuber Mealybug	30-60 mL	Apply twice, 14-21 days apart, starting when the first emergence of crawlers is observed. Use the high rate when heavy infestations occur and/or where IPM systems have not effectively managed pest populations.

TREE AND VINE CROPS	INSECT PEST	RATE/100 L WATER	CRITICAL COMMENTS
Mangoes	Mango Scale	60 mL	Monitor scales and apply when the majority of crawlers have emerged. This usually coincides with tree flushing after harvest and in spring when fruit are 1.5 to 2.0 cm across. A repeat application within 14-28 days may be necessary. DO NOT use mineral oils as fruit blotching may occur.
Passionfruit	Mealybugs, Scale insects	30-60 mL	Apply a maximum of two sprays per season, 21 days apart when significant pest infestations develop. Apply as a high volume cover spray to run-off using air blast or high volume hydraulic nozzles.
Pears	Longtail Mealybug	30-60 mL	Apply twice, 10-14 days apart between swollen bud and the end of flowering in sufficient volume to ensure the bark is soaked, with thorough coverage to the point of run-off. Use the high rate when heavy infestations occur and/or where IPM systems have not effectively managed pest populations, particularly under harsh environmental conditions.
Persimmons	Mealybugs, Scale insects	60 mL	Apply a maximum of two sprays per season, 14 days apart. Apply when the first batch of scale or mealybug crawlers occur after winter.

**NOTE:** To optimize control of mealybugs in most crops it is critical to time treatment to coincide with the first emergence of crawlers.

**If it is intended to release *Cryptolaemus* ladybeetles as part of an IPM system, the last application of Patron Insecticide should be made no later than 60 days before the anticipated release date.**

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

## **WITHHOLDING PERIODS (HARVEST):**

**Passion fruit: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.**

**Custard apple: DO NOT HARVEST FOR 2 WEEKS AFTER APPLICATION.**

**Citrus, Mango & Persimmon: DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION.**

**Pears & Table grapes: DO NOT HARVEST FOR 8 WEEKS AFTER APPLICATION.**

**Wine grapes: NOT REQUIRED when used as directed (i.e. DO NOT apply Patron after 80% capfall).**

Crops such as table grapes grown for export may require a longer interval before harvest to comply with residue standards of importing countries. Please check with your exporter before using Patron insecticide.

## **GENERAL INSTRUCTIONS**

### **MIXING/APPLICATION**

Prior to pouring, shake container vigorously, then add the required quantity of Patron Insecticide to water in the spray vat while stirring or with agitators in motion.

**Dilute spraying:** Use a sprayer designed to apply high volumes of water up to the point of run-off and matched to the stage of growth of crop being sprayed. Calibrate 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 specialist 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, sprayer calibration and operation may all need to be changed, as the crop grows.

**Concentrate Spraying:** Use a sprayer designed and calibrated 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 stage of crop being sprayed. Calibrate 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:  $3 \times$  (ie  $1500 \text{ L} \div 500 \text{ L} = 3$ )

If the dilute label rate is 100 g/100 L, then the concentrate rate becomes  $3 \times 100$ , that is 300 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.

### **APPLICATION INSTRUCTIONS: CITRUS ONLY**

Apply Patron Insecticide in sufficient water to ensure complete wetting of all surfaces.

**Oscillating booms:** A spray volume of 7,000 to 12,000 L water/ha should be used for trees up to 5 m high. To optimize control the following application procedures are recommended:

- ground speed 2.3 to 2.75 km/h
- pump pressure 3000 to 5000 kPa
- oscillation rate 90-110 oscillations per minute

- d) spray pattern adjacent cones marrying at about 1.75 m (i.e. narrow cone angle, but the maximum angle consistent with good tree penetration).
- e) agitation 1 large paddle per 500L; paddles should clear the bottom of the vat by about 10mm and should have the same orientation.
- f) boom set set angle of top to match tree size.

**Airblast sprayers:** Airblast sprayers may be used for control of jassids/leafhoppers, but are less suitable for control of scales and mealy bugs. For jassid control, use spray volumes of approximately 5000 L/ha.

### COMPATIBILITY

Patron Insecticide is compatible with mancozeb and a number of other agricultural chemicals commonly used on the same crops. Please contact your supplier or Cheminova representative for further information on compatibility. Patron Insecticide is not compatible with Sacoa BioPest Oil or with products that are highly alkaline or highly acidic.

### CLEANING SPRAY EQUIPMENT

After using Patron Insecticide, empty the tank completely and drain the whole system. Thoroughly wash inside the tank using a pressure hose, drain the tank and clean all filters in the tank, pump, lines and nozzles. After cleaning the tank and filters as above, quarter fill the tank with clean water and circulate through the pumps, lines, hoses and nozzles. Drain and repeat the rinsing procedure twice. Rinse water should be discharged onto a designated disposal area, or if this is unavailable, onto unused land away from plants and water courses.

### INSECTICIDE RESISTANCE WARNING

For insecticide resistance management Patron is a Group 16 insecticide. To minimize the risk of resistance developing, a total of no more than two applications of Patron Insecticide should be made on a crop per season. Some naturally occurring insect biotypes resistant to Patron and other Group 16 insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Patron or other Group 16 insecticides are used repeatedly. The effectiveness of Patron on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Cheminova Australia Pty Ltd accepts no liability for any losses that may result from the failure of Patron to control resistant insects. Patron may be subject to specific resistance management strategies. For further information contact your local supplier or Cheminova representative.

GROUP	<b>16</b>	INSECTICIDE
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### PRECAUTIONS

**Re-entry Period:** DO NOT enter treated areas without protective clothing until the spray has dried.

### PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

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

### PROTECTION OF LIVESTOCK

DO NOT allow stock to graze grasses or weeds under treated trees.

### PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate streams, rivers or waterways with the chemical or used containers. May be toxic to crustaceans. Run-off from treated areas should be prevented from entering waterways. DO NOT apply if heavy rain is imminent. Irrigation should not take place within 24 hours of treatment.

## PROTECTION OF NON-TARGET INSECTS

Patron Insecticide at label rates of 30-60 mL/100 L water has been demonstrated to be safe to a range of predatory and beneficial insects including bumblebees and honeybees, parasitoid wasps such as *Aphytis lignanensis*, *Leptomastix dactylopi* and *Encarsia* spp., predatory mites such as *Phytoseiulus persimilis* and *Typhlodromus occidentalis* and the Green Lacewing (*Mallada signatus*). Patron Insecticide has no significant effect on adult ladybeetles but is known to be toxic to early instars of *Cryptolaemus montrouzieri*, *Chilocorus circumdatus* and *Harmonia conformis*. Patron Insecticide may also affect egg hatch of these species for 2-3 weeks after application.

## STORAGE AND DISPOSAL

KEEP OUT OF REACH OF CHILDREN. Store in the closed, original container in a cool well-ventilated area. DO NOT store for prolonged periods in direct sunlight. DO NOT store near foodstuffs, fertilizers or seed. Triple or preferably pressure rinse containers before disposal. Add rinsings to the 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 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 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.

## SMALL SPILL MANAGEMENT

Wear protective equipment (see Safety Directions). Apply absorbent material such as earth, sand, clay granules or cat litter to the spill. When absorption is completed, sweep up material and contain in a refuse vessel for disposal (see Storage and Disposal section). If necessary wash the spill area with an alkali detergent and water and absorb the wash liquid for disposal as described above.

## SAFETY DIRECTIONS

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

## FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126.

## SAFETY DATA SHEET

Additional information is listed in the Safety Data Sheet available from [www.cheminova.com.au](http://www.cheminova.com.au)

**WARNING:** This product must be used, handled and stored strictly as directed in accordance with this label, packaging and other reference material ("Directions"). To the extent permitted by law Cheminova Australia Pty Ltd and its related companies will have no liability for any injury, loss or damage arising from a failure to follow the Directions.

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