

CAUTION

KEEP OUT OF REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

TITAN

Buprofezin 440

Insecticide

ACTIVE CONSTITUENT: 440g/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 THOROUGHLY BEFORE OPENING OR USING THIS PRODUCT.

APVMA Approval No.: 85062/112215

Contents: 5L-10L; 20L



TITAN AG Pty Ltd

15/16 Princes Street, Newport NSW 2106

Tel 02 9999 6655 Fax 02 9999 0483

www.titanag.com.au

IN A TRANSPORT EMERGENCY

DIAL 000

POLICE OR FIRE BRIGADE

TRANSPORT AND HANDLING
NOT A DANGEROUS GOOD
ACCORDING TO THE AUSTRALIAN
DANGEROUS GOODS (ADG) CODE
FOR TRANSPORT BY ROAD AND RAIL.

DIRECTIONS FOR USE

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

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.

TREE AND VINE CROPS	INSECT PEST	RATE/100L WATER	CRITICAL COMMENTS
Citrus Including: Oranges Lemons Mandarins Grapefruit Limes	Red Scale, White Louse Scale, Longtail Mealybug, Citrus Mealybug, Citrophilous Mealybug	30-60mL	<u>Scales:</u> 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. TITAN Buprofezin 440 Insecticide works best in an integrated pest management (IPM) program where parasites such as <i>Aphytis</i> spp. are active. <u>Mealybugs:</u> Apply if thresholds are exceeded in spring-summer. Repeat after 21-28 days if necessary. <u>Rate:</u> Use the high rate when heavy infestations of the pests occur and/or where IPM systems have not effectively managed pest populations.
	Jassids (Leafhoppers)	30mL	Apply when thresholds are exceeded in January and again in February if required. Apply when juvenile stages predominate.
Custard Apples	Mealybugs, Scale Insects	30-60mL	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.
Grapes	Longtail Mealybug, Tuber Mealybug	30-60mL	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.
Mangoes	Mango Scale	60mL	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.
Passion Fruit	Mealybugs, Scale Insects	30-60mL	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	30-60mL	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	60mL	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 TITAN Buprofezin 440 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 TITAN BUPROFEZIN 440 INSECTICIDE after 80% capfall).

TRADE ADVICE

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 TITAN BUPROFEZIN 440 INSECTICIDE.

GENERAL INSTRUCTIONS

MIXING/APPLICATION

Prior to pouring, shake container vigorously, then add the required quantity of TITAN Buprofezin 440 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 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 then 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: $3 \times$ (ie $1500 \text{ L} \div 500 \text{ L} = 3$)
4. As the lower dilute label rate is 30mL/100L, then the corresponding concentrate rate becomes 3×30 , that is 90mL/100L of concentrate spray.

The chosen spray volume, amount of product per 100L of water, and the sprayer set up and operation may need to be changed as the crop grows.

DO NOT use a concentrate rate higher than that specified in the Critical Comments.

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 TITAN BUPROFEZIN 440 INSECTICIDE in sufficient water to ensure complete wetting of all surfaces.

Oscillating booms

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

- a) ground speed: 2.3 to 2.75 km/h
- b) pump pressure: 3000 to 5000 kPa
- c) oscillation rate: 90-110 oscillations per minute
- d) spray pattern: adjacent cones marrying at about 1.75m (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 5000L/ha.

COMPATIBILITY

TITAN Buprofezin 440 Insecticide is compatible with mancozeb and a number of other agricultural chemicals commonly used on the same crops. Please contact your supplier or TITAN AG representative for further information on compatibility. TITAN Buprofezin 440 Insecticide is not compatible with Sacoa BioPest Oil or with products that are highly alkaline or highly acidic.

CLEANING SPRAY EQUIPMENT

After using TITAN Buprofezin 440 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 TITAN Buprofezin 440 Insecticide is a Group 16

GROUP **16** INSECTICIDE

insecticide. To minimize the risk of resistance developing, a total of no more than two applications of TITAN Buprofezin 440 Insecticide should be made on a crop per season. Some naturally occurring insect biotypes resistant to TITAN Buprofezin 440 Insecticide 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 TITAN Buprofezin 440 Insecticide or other Group 16 insecticides are used repeatedly. The effectiveness of TITAN Buprofezin 440 Insecticide on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, TITAN AG Pty Ltd accepts no liability for any losses that may result from the failure of TITAN Buprofezin 440 Insecticide to control resistant insects. TITAN Buprofezin 440 Insecticide may be subject to specific resistance management strategies.

For further information contact your local supplier or TITAN AG representative.

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. Runoff 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

TITAN Buprofezin 440 Insecticide at label rates of 30 to 60mL/100L 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 dactylopii* and *Encarsia* spp., predatory mites such as *Phytoseiulus persimilis* and *Typhlodromus occidentalis* and the Green Lacewing (*Mallada signatus*). TITAN Buprofezin 440 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*.

TITAN Buprofezin 440 Insecticide may also affect egg hatch of these species for 2 to 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 500mm 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 (SDS). A safety data sheet for TITAN Buprofezin 440 Insecticide is available from TITAN AG Pty Ltd on request. Call Customer Service on (02) 9999 6655 or visit www.titanag.com.au

CONDITIONS OF SALE: TITAN AG Pty Ltd 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 TITAN AG'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 TITAN AG Pty Ltd has any authority to add to or alter these conditions.

Additional statements required by Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia: Harmful to aquatic life. Very toxic to aquatic life with long lasting effects. Precautionary Statements: Avoid release to the environment. Collect spillage. Dispose of contents/container in accordance with local/regional/national regulations.

