

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

Crop Care
TORQUE[®]
Miticide

ACTIVE CONSTITUENT: 550 g/L FENBUTATIN OXIDE
ANTI-FREEZE: 103 g/L MONOETHYLENE GLYCOL

GROUP	12A	INSECTICIDE
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For the control of certain mites in fruit, hops and ornamentals as indicated in the DIRECTIONS FOR USE table.

IMPORTANT : READ THE ATTACHED LEAFLET BEFORE USE

CONTENTS : 1 & 5 LITRES



Crop Care Australasia Pty Ltd
77 Tingira Street
Pinkenba Qld 4008

STORAGE AND DISPOSAL (1L container only)

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.

Rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. Dispose of at 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.

STORAGE AND DISPOSAL (5L container only)

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.

This container can be recycled if it is clean, dry, free of visible residues and has the *drumMUSTER* logo visible. Triple or pressure rinse container for disposal. Dispose of rinsate by adding it to the spray tank. Do not dispose of undiluted chemical on site. Wash outside of the container and the cap. Store cleaned container in a sheltered place with cap removed. It will then be acceptable for recycling at any *drumMUSTER* collection or similar container management program site. The cap should not be replaced but may be taken separately.

SAFETY DIRECTIONS

May irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale spray mist. When preparing spray wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow-length PVC gloves and face shield. When using the prepared spray wear elbow-length PVC gloves. If product or spray on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

MATERIAL SAFETY DATA SHEET

Additional information is listed in the Material Safety Data Sheet.

Conditions of sale

Crop Care Australasia Pty Ltd will not accept any responsibility whatsoever and howsoever arising and whether for consequential loss or otherwise in connection with the supply or use of these goods other than responsibility for the merchantable quality of the goods and such responsibilities mandatorily imposed by Statutes applicable to the sale or supply of these goods. To the extent allowed by such Statutes the liability of Crop Care Australasia Pty Ltd is limited to the replacement of the goods or (at the option of Crop Care Australasia Pty Ltd) the refund of the price paid and is conditional upon a claim being made in writing and where possible sufficient part of the goods to enable proper examination being returned to Crop Care Australasia Pty Ltd within thirty days of delivery.

In a Transport Emergency Dial 000 Police or Fire Brigade	SPECIALIST ADVICE IN EMERGENCY ONLY 1800 033 498 ALL HOURS - AUSTRALIA WIDE
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® Torque is a registered trademark of BASF.



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ACN 061 362 347
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Tel : (07) 3867 9100

Insert Barcode,
drumMUSTER
logo and Label
code as required

APVMA Approval No. : 58880/1L or 5L/0704

BN

DOM

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DIRECTIONS FOR USE

RESTRAINTS: Do NOT apply by aircraft.

Do NOT use in orchards where products likely to cause mite flaring have been used or are planned to be used.

CROP	PEST	STATE	WHP	RATE	CRITICAL COMMENTS
<p>IMPORTANT : Rates for all crops except BANANAS and STRAWBERRIES are for DILUTE APPLICATION with SPRAY VOLUMES based on PLANT ROW VOLUME: refer to General Instructions for details. DO NOT APPLY TO DECIDUOUS FRUIT, HOPS, CITRUS AND ORNAMENTALS OTHER THAN AS A DILUTE SPRAY. Refer to General Instructions for RESISTANCE MANAGEMENT.</p>					
Apples Peaches Nectarines	Twospotted mite (<i>Tetranychus urticae</i>)	Qld, NSW, Vic, SA, WA only	2 days 14 days	20 mL/ 100 L	WHERE BIOLOGICAL CONTROL OF two-spotted mite IS BEING PRACTISED: Apply as required to assist control by the biological agent(s), determined by frequent field checks conducted by appropriately trained personnel.
Apples Pears	Twospotted mite (<i>Tetranychus urticae</i>)		2 days 14 days		
Apples Pears	European red mite (<i>Panonychus ulmi</i>)		2 days 14 days	20 mL/ 100 L	WHERE BIOLOGICAL CONTROL OF European red mite IS BEING PRACTISED: Apply as required to assist control by the biological agent(s), determined by frequent field checks conducted by appropriately trained personnel.
Peaches Nectarines			2 days 14 days		
Apples Pears	Twospotted mite (<i>Tetranychus urticae</i>), European red mite (<i>Panonychus ulmi</i>)		2 days 14 days	20 mL or 40 mL/ 100 L	WHERE BIOLOGICAL CONTROL OF ONE OR BOTH PESTS IS BEING PRACTISED: REFER TO PROGRAMMES AND RATES ABOVE. Use the programme and rates for the dominant pest, taking into account the contribution of the biological control agent, estimated from frequent field checks conducted by appropriately trained personnel.
Peaches Nectarines			2 days		
Apples Pears					

Peaches Nectarines			14 days		ABOVE. Use the programme and rates for the dominant pest.
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CROP	PEST	STATE	WHP	RATE	CRITICAL COMMENTS
Apples Pears	Bryobia mite (<i>Bryobia rubrioculus</i>)	Qld, NSW, Vic SA, WA only	2 days	40 mL/ 100 L	Apply at first sign of mite activity, well before a dense infestation develops. Repeat as required. This pest is normally controlled by the programme for two-spotted mite and European red mite.
Peaches Nectarines			14 days		
Hops	Twospotted mite (<i>Tetranychus urticae</i>)	Vic only	2 days	40 mL/100 L	Apply at the first sign of activity, well before a dense infestation develops. Repeat as required, subject to resistance management.
Avocados	Tea red spider mite (<i>Oligonychus coffeae</i>), Six spotted mite (<i>Eotetranychus sexmaculatus</i>)	Qld, NSW, WA only	14 days	38 mL/100 L	Apply at the first sign of mite activity and repeat as infestations indicate. Spot spray individual trees only. Two applications a fortnight apart is normally adequate to control these pests.
Bananas	Twospotted mite (<i>Tetranychus urticae</i>), Banana spider mite (<i>Tetranychus lambi</i>)	Qld, NSW, NT only	1 day	370 mL/ha	Apply according to pest incidence, well before a dense infestation develops. Repeat as required, subject to resistance management.
Citrus	Citrus rust mite (<i>Phyllocoptruta oleivora</i>)	Qld, NT only	7 days	45 mL/ 100 L	Apply according to pest incidence, well before a dense infestation develops. Repeat as required.
	Brown citrus rust mite (<i>Tegolophus australis</i>)			30 mL/ 100 L	
	Citrus bud mite (<i>Eriophyes sheldoni</i>)			20 mL/ 100 L	
Strawberries	Twospotted mite (<i>Tetranychus urticae</i>)	Qld, NSW, Vic, SA, WA, NT only	1 day		Apply at the first sign of mite activity. Ensure that the spray thoroughly covers the undersides of all leaves. Repeat as required, subject to resistance management.
				300 mL/ ha	Use this rate when the spray volume is greater than 2000 L/ha.
				400 mL/ha	Use this rate when the spray volume used is between 400 and 2000 L/ha.
				700 mL/ha	Use this rate when the spray volume used is between 200

| | | | | and 400 L/ha. |

CROP	PEST	STATE	WHP	RATE	CRITICAL COMMENTS
Ornamentals	Twospotted mite (<i>Tetranychus urticae</i>) European red mite (<i>Panonychus ulmi</i>)	Qld, NSW, Vic, SA, WA, NT only	-	40 mL/ 100L	Apply at the first sign of mite activity, well before a dense infestation develops. Repeat as required, subject to resistance management. Due to the diversity of ornamentals and growing conditions, plant reactions to TORQUE must be checked to ascertain safety before each large scale application is made. Crop Care Australasia Pty Ltd will not accept liability for any adverse plant reactions caused by TORQUE.

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

WITHHOLDING PERIODS

BANANAS, STRAWBERRIES: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.

APPLES, PEARS: DO NOT HARVEST FOR 2 DAYS AFTER APPLICATION.

CITRUS: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

AVOCADOS, PEACHES, NECTARINES: DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.

GENERAL INSTRUCTIONS

MODE OF ACTION: This product kills adults and nymphs. It acts more rapidly in hot weather than in cool weather. Treatment of light infestations is more effective than treatment of heavy infestations.

MIXING

SHAKE CAN WELL BEFORE USE.

The product mixes readily with water. Partially fill the spray vat and with the agitation system operating, slowly add the required amount of TORQUE after adding any other spray materials. Top up the spray vat with water. The agitation system should be operated continuously until all the spray is applied. Sprays containing TORQUE should be applied within 3 hours of preparation.

WETTING AGENTS: When TORQUE is being applied at dilute volumes the addition of a wetting agent is unnecessary, but one can be added if required for other products in the spray. The addition of a wetting agent, such as Shirwet⁺ 600 or Nufarm Surfactant 600 at 15mL/100L or Monsoon⁺ at 30 mL/100L is recommended when TORQUE is applied at lower volumes to bananas and strawberries.

APPLICATION

GENERAL: THOROUGH COVERAGE IS ESSENTIAL FOR MAXIMUM EFFECTIVENESS. Because TORQUE is highly repellent to mites, it drives many from sprayed to unsprayed zones within plants. Here some survive their limited contact with TORQUE and multiply to provide a source of re-infestation.

CALCULATION OF SPRAY VOLUMES BASED ON PLANT ROW VOLUME

PLANT ROW VOLUME:

The PLANT ROW VOLUME is calculated as follows:

$$\text{PLANT ROW VOLUME} = 10 \text{ times (HEIGHT of PLANT in METRES) times (WIDTH of PLANT in METRES) divided by (BETWEEN ROW SPACE in METRES)}$$

DILUTE SPRAY VOLUMES:

The DILUTE SPRAY VOLUME in LITRES per HECTARE is calculated as follows:

$$\text{DILUTE SPRAY VOLUME} = (\text{PLANT ROW VOLUME}) \text{ times (SPRAY VOLUME FACTOR)}$$

Refer to the relevant crop instructions below for the appropriate SPRAY VOLUME FACTOR.

DECIDUOUS FRUIT: Apply only as a dilute spray. Apply with an air-blast sprayer calibrated to deliver the required spray volume based on PLANT ROW VOLUME and the following SPRAY VOLUME FACTORS:

- 100 for trees of low foliage density
- 125 for trees of moderate foliage density
- 150 for trees of high foliage density

The equipment should be adjusted so that the spray is evenly distributed throughout the trees.

The performance of TORQUE increases with the fineness of the spray. Preferably apply using a sprayer fitted with cone nozzles. If flat fan nozzles are used a minimum of 60 should be operated.

CITRUS: Apply only as a dilute spray. The spray equipment should be calibrated to deliver the required spray volume based on PLANT ROW VOLUME and the following SPRAY VOLUME FACTORS:

- 200 for trees of low foliage density
- 250 for trees of moderate foliage density
- 300 for trees of high foliage density

Citrus canopies are difficult to penetrate and application using an oscillating boom sprayer is preferred to application using an air-blast spray. If an air-blast sprayer is used, ensure that it is opening the canopy to permit entry of the spray to the interior of the tree. Spray equipment should be adjusted so that the spray is evenly distributed throughout the trees.

STRAWBERRIES: May be applied as a high to medium volume spray, depending on the rate of TORQUE that is applied. Irrespective of the spray volume and rate used, ensure that the spray thoroughly covers the undersides of all leaves. This can be achieved by adjustment of the proximity and direction of the spray nozzle(s) relative to the plants, combined with selection of a spray pressure that will move and expose the undersides of the leaves. Air-blast assistance is recommended for spray volumes between 400 and 1000 litres per hectare and is essential for spray volumes below 400 litres per hectare.

BANANAS: May be applied in 400 litres of water per hectare or more. Apply as a fine spray, preferably using a sprayer fitted with cone nozzles. Do NOT apply at volumes that produce excessive runoff.

ORNAMENTALS: Apply as a dilute spray. Use sufficient volume and direct the spray to ensure that the undersides of the leaves are thoroughly covered.

HOPS: Apply only as a dilute spray. Apply with an air-blast sprayer calibrated to deliver the required spray volume based on PLANT ROW VOLUME and a SPRAY VOLUME factor of 130 for vines in full leaf. The equipment should be adjusted so that the spray is evenly distributed throughout the vines. The performance of TORQUE increases with the fineness of the spray. Preferably apply with a sprayer fitted with cone nozzles.

BIOLOGICAL CONTROL: Recommendations for where biological control is being practised should only be followed if one or more of the following are established in the particular orchard; *Typhlodromus occidentalis*, *Typhlodromus pyri*, *Phytoseiulus persimilis*. If none of these predators is established, follow the recommendations for where biological control is not being practised.

COMPATIBILITY

ALKALINE MATERIALS: TORQUE is incompatible with alkaline materials.

SPRAYING OILS: Adding spraying oils to TORQUE can reduce speed of action. Where rapid speed of action is required do NOT mix spraying oils with TORQUE.

FOLIAR FERTILISERS: Do NOT mix with foliar fertilisers.

2-WAY MIXTURES: TORQUE is compatible with any one of the following: Copper oxychloride, Dithane⁺ M45, Gusathion⁺ 350, Hold-on treatments for pears -- NAA and 2,4-D, Kocide⁺, Lorsban⁺, Nudrin[®] Insecticide, Nudrin 225, Lannate⁺ L, SaproI[®], thiram, ziram, zineb and Apollo⁺.

3-WAY MIXTURES: Compatible and incompatible mixtures of TORQUE with fungicides and insecticides are listed in the following table:

INSECTICIDE:	Gusathion 350	Nudrin or Lannate L	Lorsban
FUNGICIDE:			
Copper oxychloride	YES	YES	NO
Dithane M45	YES	YES	YES
Kocide	YES	YES	YES
SaproI	YES	YES	YES
Thiram 80	YES	YES	YES
Ziram 80	YES	YES	YES

YES = compatible with TORQUE

NO = incompatible with TORQUE

4-WAY MIXTURES: the following are compatible:

TORQUE plus Dithane M45 plus Gusathion 350 plus NAA (as a hold-on spray for pears).

INSECTICIDE RESISTANCE WARNING

GROUP

12A

INSECTICIDE

For insecticide resistance management TORQUE Miticide is a group 12A insecticide.

Some naturally occurring insect biotypes resistant to TORQUE and other Group 12A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if TORQUE or other Group 12A insecticides are used repeatedly. The effectiveness of TORQUE on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Crop Care Australasia Pty Ltd accepts no liability for any losses that may result from the failure of TORQUE to control resistant insects.

TORQUE may be subject to specific resistance management strategies. For further information contact your local supplier, Crop Care Australasia Pty Ltd representative or local agriculture department agronomist.

Do NOT use TORQUE in areas where specific TORQUE resistance has been identified. For further information on resistance management refer to the attached leaflet. Crop Care Australasia Pty Ltd cannot accept responsibility for loss or damage to crops arising from resistance.

Two types of resistance have been identified:

1. A "general organotin-resistance" which confers moderate resistance to TORQUE.
2. A "specific TORQUE resistance" which confers high resistance to TORQUE.

While the effectiveness of TORQUE against strains that possess only "general organotin-resistance" is substantially less than against fully susceptible strains, a moderate level of control can be achieved by applying well before a dense infestation develops.

TORQUE is ineffective against the strains of two-spotted mite that possess "specific TORQUE resistance" and these strains cannot be controlled by TORQUE. These strains are known to exist in the Goulburn Valley, in Victoria, but they may have developed or may well develop in other areas. There is no evidence that strains of European red mite resistant to TORQUE have developed in Australia, however development of such strains is likely.

To maximise the useful life of TORQUE, users are requested to:

- (a) Establish biological control using predatory mites. This will enable the use of lower rates of TORQUE.
- (b) Regularly monitor mite infestations before and after treatment to ensure appropriate timing of applications and assess susceptibility.
- (c) Where possible, alternate TORQUE with a miticide from another chemical group.
- (d) Regularly inspect, maintain and calibrate application equipment to ensure it is operating efficiently. Thorough spray coverage will minimise the number of treatments needed to control mites.
- (e) If an end of season clean-up treatment is required, use a miticide from another chemical group.

PROTECTION OF LIVESTOCK

DO NOT graze or feed animals on cover crops in sprayed orchards.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Dangerous to fish. DO NOT contaminate streams, rivers or waterways with the chemical or 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.

The method of disposal of the container depends on the container type. Read the 'Storage and Disposal' instructions on the label that is attached to the container.

SAFETY DIRECTIONS

May irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale spray mist. When preparing spray wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow-length PVC gloves and face shield. When using the prepared spray wear elbow-length PVC gloves.

If product or spray on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

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+ Other trademarks.



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Insert Label code as required

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