

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

TORQUE[®] MITICIDE

ACTIVE CONSTITUENT: 550 g/L FENBUTATIN OXIDE
ANTIFREEZE: 103 g/L MONOETHYLENE GLYCOL

GROUP **12A** INSECTICIDE

For the control of certain mites in fruit, hops and ornamentals as indicated in the DIRECTIONS FOR USE table in the attached label leaflet.

IMPORTANT: READ THE ATTACHED LEAFLET BEFORE USING THIS PRODUCT

CONTENTS: 1 L & 5 L

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

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APVMA Approval No.: 47466/59603

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. Break, crush or puncture and bury empty containers 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.

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 131126.
If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

MSDS

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.

Batch No:

Date of Manufacture:

BASF Australia Ltd
ABN 62 008 437 867
Level 12, 28 Freshwater Place
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 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.</p> <p>DO NOT APPLY TO DECIDUOUS FRUIT, HOPS, CITRUS, AND ORNAMENTALS OTHER THAN AS A DILUTE SPRAY.</p> <p>REFER TO GENERAL INSTRUCTIONS FOR RESISTANCE MANAGEMENT.</p>								
Apples	Twospotted mite (Tetranychus urticae)	Qld, NSW, Vic, SA, WA only	2 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.			
Peaches, nectarines			14 days					
Apples, pears	Twospotted mite (Tetranychus urticae)		2 days	40 mL/ 100 L		WHERE BIOLOGICAL CONTROL IS NOT BEING PRACTISED: Apply at the first sign of mite activity, well before a dense infestation develops. Repeat as required, subject to resistance management		
Peaches, nectarines			14 days					
Apples, pears	European red mite (Panonychus ulmi)		2 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			14 days					
Apples, pears	European red mite (Panonychus ulmi)		2 days	40 mL/ 100 L				WHERE BIOLOGICAL CONTROL IS NOT BEING PRACTISED: FOLLOWING an application of OIL at recommended rates BEFORE BUD-BURST, APPLY TO PREDOMINANTLY MOTILE STAGES IN DECEMBER. Re-apply as required but well before a dense infestation develops.
Peaches, nectarines			14 days					

CROP	PEST	STATE	WHP	RATE	CRITICAL COMMENTS
Apples, pears	Twospotted mite (Tetranychus urticae), European red mite (Panonychus ulmi)	Qld, NSW, Vic SA, WA only	2 days	20 mL or	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			14 days	40 mL/ 100 L	
Apples, pears	Twospotted mite (Tetranychus urticae), European red mite (Panonychus ulmi)		2 days	40 mL/ 100 L	WHERE BIOLOGICAL CONTROL IS NOT BEING PRACTISED: REFER TO PROGRAMMES AND RATES ABOVE. Use the programme and rates for the dominant pest.
Peaches, nectarines			14 days		
Apples, pears	Bryobia mite (Bryobia rubrioculus)		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 (Tetranychus urticae)	Vic only	2 days	40 mL/100 L	Apply at the first sign of activity, well before a dense infestation develops. Repeat as required.
Avocados	Tea red spider mite (Oligonychus coffea), six spotted mite (Eotetranychus sexmaculatus)	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 (Tetranychus urticae), banana spider mite (Tetranychus lambi)	Qld, NSW, NT only	1 day	370 mL/ha	Apply according to pest incidence, well before a dense infestation develops. Repeat as required.
Citrus	Citrus rust mite (Phyllocoptruta oleivora)	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 (Tegolophus australis)			30 mL/100 L	
	Citrus bud mite (Eriophyes sheldoni)			20 mL/100 L	
Strawberries	Twospotted mite (Tetranychus urticae)	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.

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 APPLY LATER THAN 1 DAY BEFORE HARVEST.

APPLES, PEARS: DO NOT APPLY LATER THAN 2 DAYS BEFORE HARVEST.

CITRUS: DO NOT APPLY LATER THAN 7 DAYS BEFORE HARVEST.

AVOCADOS, PEACHES, NECTARINES: DO NOT APPLY LATER THAN 14 DAYS BEFORE HARVEST.

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 MONSOON® at 30 mL/100 Litres, 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:

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

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: AZODRIN* 400, Copper oxychloride, Dithane* M45, Gusathion* 350, Hold-on treatments for pears -- NAA and 2,4-D, Kocide*, Lorsban*, NUDRIN* INSECTICIDE, NUDRIN 225, Parathion E, SAPROL*, 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	AZODRIN 400	NUDRIN OR NUDRIN 225	Lorsban
FUNGICIDE:				
Copper oxychloride	YES	YES	YES	NO
Dithane M45	YES	YES	YES	YES
Kocide	YES	YES	YES	YES
SAPROL	YES	YES	YES	YES
Thiram 80	YES	YES	YES	YES
Ziram 80	YES	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, BASF Australia Ltd accepts no liability for any losses that may result from the failure of TORQUE to control resistant mites.

TORQUE may be subject to specific resistance management strategies. For further information contact your local supplier, BASF Australia 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.

BASF Australia 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

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Batch No:

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The Chemical Company

BASF Australia Ltd

ABN 62 008 437 867

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