

CAUTION

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

Warden[®] 100 SC

Insecticide

ACTIVE CONSTITUENT: 100 g/L FIPRONIL

GROUP **2B** INSECTICIDE

For the control of Argentine Stem Weevil, Funnel Ants and Mole Crickets in turf and for the protection of structures from subterranean termite damage and for the control of subterranean termites around domestic and commercial structures as specified in the Directions for Use Table

Formulation type
Suspension Concentrate **SC**



ADAMA

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CONTENTS: 1 L, 20 L

DIRECTIONS FOR USE: RESTRAINTS

Avoid run-off. DO NOT apply to excessively wet soils, immediately after or during heavy rain.
DO NOT apply at less than label rates.
DO NOT apply to internal surfaces.

PEST	SITUATION	RATE	CRITICAL COMMENTS
Subterranean termites including (but not limited to) <i>Coptotermes acinaciformis</i> , <i>Mastotermes darwiniensis</i> , <i>Schedorhinotermes</i> spp.	Pre and Post Construction Chemical soil treated zones under and around new buildings and structures	600 mL in 100 L water (0.06% a.i. mix)	Application by LICENSED PEST CONTROL OPERATORS: Mix the required quantity of WARDEN [®] with the specified volume of water. Apply to form a continuous chemical treated zone (horizontal and vertical or as an external perimeter) around and under the structure to be protected as per AS3660.1 for pre-construction or AS3660.2 for post-construction treatment. Create a treated zone by using a combination of conventional spraying and trenching. Soil injection equipment (rodding) must only be used where trenching and treating the backfill is not possible or practical. Pre-Construction: Immediately following treatment, the moisture resistant membrane should be positioned over the treated zone to prevent disturbance. Post-Construction: Application of chemical treated zones beneath concrete slabs and paths will require drilling and injection of termiticide using rodding equipment. Construction practices, soil subsidence, difficult to wet soils and other factors may create situations where the use of non-ionic wetting agents or foam generating equipment may be useful. Chemical treated zones that have been disturbed will need to be re-treated to restore the complete treated zone.
	Protection of poles and fence posts	600 mL in 100 L water (0.06% a.i. mix)	Application by LICENSED PEST CONTROL OPERATORS: Only posts and poles in contact with soil need to be treated. For existing posts and poles create a continuous WARDEN [®] treated zone 450 mm deep and 150 mm wide around the post or pole by trenching and puddle treating the back-fill. Soil injection equipment (rodding) must only be used where trenching and treating the backfill is not possible or practical. Use 100 L of prepared spray per cubic metre of soil around the pole or post. Note it is impossible to treat soil at the bottom of a sound post or pole so future attack via this route cannot be ruled out. If new posts or poles are being installed, the bottom of the hole and the back-fill should be treated at installation.

DIRECTIONS FOR USE: (CONTINUED)

PEST	SITUATION	RATE	CRITICAL COMMENTS
Subterranean termites including (but not limited to) <i>Coptotermes acinaciformis</i> , <i>Mastotermes darwiniensis</i> , <i>Schedorhinotermes</i> spp. (Continued)	Nests in poles and trees	600 mL in 100 L water (0.06% a.i. mix)	Application by LICENSED PEST CONTROL OPERATORS: Locate the nest by drilling holes into the pole or tree. Ensure the full dimension of the nest is known, particularly the highest extremity. Flood the nest with prepared WARDEN® spray. Volume will vary depending on the nest size. To aid distribution throughout the nest or in areas of difficult access, the use of foam generating equipment may be useful. Drill holes should be sealed after treatment. DO NOT treat trees bearing edible fruit or nuts.
	Wall cavity treatment	6 mL in 1 L of water	Application by LICENSED PEST CONTROL OPERATORS: Mix the required volume of WARDEN® in water plus foaming agent to achieve a final foam expansion ratio of 15:1. Locate the termite activity by drilling holes into the wall cavity. Foam directly into the termite carton material until saturated. Application to wall cavities behind plasterboard may result in some staining. Only apply to wall cavities where live termites are present. WARDEN® foaming is not designed and should not be used as a stand-alone treatment. Accordingly, a continuous chemical treatment applied to the soil as per Australian Standard AS 3660.2 should be applied immediately following successful eradication of termite activity in the structure.
Argentine Stem weevil (<i>Listronotus bonariensis</i>)	Recreational Turf (including bowling greens, golf courses, parks and playing fields) and commercial turf farms.	750 mL/ha	Application by LICENSED PEST CONTROL OPERATORS: Apply spray mix evenly to the surface at the first signs of pest activity. Ensure incorporation with at least 6 mm of rainfall or overhead irrigation immediately after application.
Funnel ant (<i>Aphaenogaster pythia</i>)	Recreational Turf (including bowling greens, golf courses, parks and playing fields) and commercial turf farms.	600 mL/ha	
Mole Cricket (<i>Scapteriscus didactylus</i> and <i>Gryllotalpa</i> spp.)		300 mL/ha	

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

WITHHOLDING PERIOD: DO NOT GRAZE TREATED TURF OR FEED TURF CLIPPINGS FROM ANY TREATED AREA TO POULTRY OR LIVESTOCK

GENERAL INSTRUCTIONS**INSECTICIDE RESISTANCE WARNING**

For insecticide resistance management WARDEN 100 SC INSECTICIDE is a

GROUP	2B	INSECTICIDE
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 insecticide. Some naturally occurring insect biotypes resistant to WARDEN 100 SC INSECTICIDE and other Group 2B insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if WARDEN 100 SC INSECTICIDE or other Group 2B insecticides are used repeatedly. The effectiveness of WARDEN 100 SC INSECTICIDE on resistant individuals could be significantly reduced. Since the occurrence of resistant insects is difficult to detect prior to use, Adama Australia accepts no liability for any losses that may result from the failure of WARDEN 100 SC INSECTICIDE to control resistant insects. WARDEN 100 SC INSECTICIDE may be subject to specific resistance management strategies. For further information contact your local supplier, Adama representative or local agricultural department agronomist.

TURF PEST CONTROL

Apply with suitable low set boom spray equipment or hand wand sprayer for small areas. Do NOT apply with aircraft or through irrigation equipment.

TERMITE CONTROL

Chemical treatment for termite control around existing buildings should be considered to be part of an integrated approach to reduce the risk of termite attack and should be conducted by LICENSED PEST CONTROL OPERATORS. The steps below best describe the procedure for optimum termite management:

- The building owner should try to minimise water entering under and around the building and improve drainage to reduce moisture accumulating in these areas.
- Ventilation of sub-floor areas should also be optimised to reduce moisture accumulation.

- The area under the floor should be kept free from debris-timber such as off-cuts of wood or firewood.
- Treat with a residual chemical zone treatment such as WARDEN® in compliance with AS3660.2.
- Regular inspections should be carried out (at least annually as recommended by AS3660 Series).
- If any additional subsequent building or landscaping work causes disruption to the chemical soil treated zone it must be restored to maintain protection.

MIXING

Half fill the spray tank with water then add the required quantity of WARDEN®. Stir then top up the spray tank to the required volume. The use of this product in a tank mix with other insecticides is not recommended as the behaviour and efficacy of the product may be affected. Ensure equipment is free of leaks and clean from residues of other chemicals before mixing.

SOIL PREPARATION

Some soils will be difficult to wet (e.g. heavy clay soils) and there will be a greater chance of run-off of liquid from the surface. In these situations it will be necessary to loosen the soil to allow spray solution to percolate to form the treated zone; the soil should be scarified to a depth between 50-80 mm. In situations with very heavy soils the complete removal and replacement of the soil with a sandy loam type is recommended in order to form the treated zone. The replacement soil can be treated with WARDEN® before placing into the trench via the use of appropriate soil mixing vessels. If soil replacement is not possible then the water volume should be reduced to ensure that run-off is minimised. A reduction in the water volume used should not be associated with a reduction in the mix rate of WARDEN® – the same amount of active ingredient should be applied per given area or volume of soil; an increase in concentration of termiticide will therefore be required. The tables below indicate mix rates if application volumes need to be reduced. It is not recommended that water volumes below 3 L/m² are used.

Horizontal Treated Zones

WATER RATE /m ²	DILUTION RATE	CONCENTRATION	APPLICATION RATE
5 L/m ²	600 mL / 100 L water	0.6 g/L	3.0 g ai /m ²
4 L/m ²	600 mL / 80 L water	0.75 g/L	3.0 g ai /m ²
3 L/m ²	600 mL / 60 L water	1 g/L	3.0 g ai /m ²

Vertical Treated Zones

WATER RATE /m ³	DILUTION RATE	CONCENTRATION	APPLICATION RATE
100 L/m ³	600 mL/100 L water	0.6 g/L	60 g ai /m ³
90 L/m ³	600 mL/90 L water	0.666 g/L	60 g ai /m ³
80 L/m ³	600 mL/80 L water	0.75 g/L	60 g ai /m ³
70 L/m ³	600 mL/70 L water	0.85 g/L	60 g ai /m ³

If the treated zone is being applied to a building on a slope a furrow should also be formed of a similar depth along the contour of the slope to prevent run-off of the termiticide. In situations where the surface is very dry or with sandy or porous soils the area will require moistening prior to application of chemical to prevent loss of chemical through piping or excessive percolation. Difficult to wet soils may create situations where the use of non-ionic wetting agents may be useful.

The use of rodding equipment in heavy clay soil can result in an uneven distribution of chemical; in such situations the preferred method of installing a treated zone is to trench and back-fill.

APPLICATION

Treated zones may be installed using a combination of conventional spraying and trenching. Spray equipment should be calibrated to deliver a low-pressure high volume coarse spray.

It is recommended the minimum thickness of any treated soil treated zone is 80 mm.

Treated zones that have been disturbed by construction, excavation and other soil disturbing activities will need re-application to restore site to original condition.

Horizontal Treated Zones

Horizontal treated zones are to be applied to deter termites from gaining concealed vertical access to the building sub-structure.

Horizontal treated zones should cover all areas of soil beneath suspended floors where there is inadequate access or where there is less than 400 mm clearance. The treated zone should also be continuous beneath a concrete slab-on-ground or on fill. The treated zone should surround any connection between the building and the soil and completely about any internal vertical treated zone around any substructure. Otherwise install perimeter treated zones around each individual pier, stump, penetration point and sub-structure wall.

Horizontal treated zones must be a minimum depth of 80 mm. It may be necessary to loosen the soil to allow spray solution to percolate to form the treated zone; the soil should be scarified to a depth between 50 – 80 mm. Apply 5 L of prepared WARDEN® spray per square metre of soil.

When termiticide needs to be injected through a concrete slab to create a horizontal treated zone, suitable equipment should be used to inject termiticide through pre-drilled holes. As uneven distribution of termiticide is likely when applying by this method under the slab, the application volume should be increased per square metre up to 10 L of spray solution.

To ensure an even treated zone is created, it is also recommended that maximum drill spacings and minimum application volumes consistent with the following table be adopted. Use a slab injector fitted with a multi-directional tip. When applying through such structures, the rod should be held vertically at 90° to the slab and rotated during application. Ensure a strong seal with the top of the drill hole to minimise leakage and that drill holes are plugged after treatment.

Soil Type	Hole Spacing	Number of holes per m ²	Volume of hole to achieve 10 L/m ²
Heavy clays	150 mm	36	0.3 L (300 mL) (36 x 0.3 = approx. 10 L/m ²)
Other soils	200 mm	25	0.4 L (400 mL) (25 x 0.4 = approx. 10 L/m ²)

Foam Applications

Construction practices, soil subsidence under concrete slabs and other factors may create situations where a continuous horizontal treated zone cannot be achieved using conventional liquid treatments alone. In such situations conventional liquid application methods can be supplemented through the use of foam generating equipment.

WARDEN® Mix Rate	Litres of prepared WARDEN® spray	Foam Expansion Ratio	Volume of finished foam required/m ²
600 mL/100 L of water plus recommended quantity of foaming agent	5 10 (under concrete)	5:1 5:1	25 L 50 L
	5 10 (under concrete)	10:1 10:1	50 L 100 L
	5 10 (under concrete)	25:1 25:1	125 L 250 L

If sufficient foam volumes cannot be applied to achieve the recommended rate of WARDEN® required, apply additional prepared liquid solution to ensure the correct amount of active ingredient is present per square metre of area treated.

Vertical Treated Zones

Vertical treated zones are designed to deter termites from gaining concealed horizontal access to a building or structure. Apply at least 100 L of prepared spray per cubic metre of soil. Vertical treated zones should be a minimum of 150 mm wide and applied to a depth 50 mm below the top of the footing. Where a horizontal treated zone is installed, the vertical treated zone should be installed to be continuous with it. The most effective method of creating an even and continuous treated zone is by trenching and treating the soil as it is back-filled. Soil injection equipment (rodding) must only be used where trenching and treating the back-fill is not possible or practical.

Trenching

Excavating a trench, treating the exposed trench, back filling and treating the back-fill is the preferred method of installing a vertical treated zone. The trench needs to be a minimum of 150 mm wide and continue to at least 50 mm below the top of the footing. Assuming a 150 mm wide trench with a 300 mm distance to the top of the footing, this would equate to a 150 mm x 350 mm trench in which 5.25 L of prepared spray would be applied per lineal metre of trench. Any variation of dimensions needs to be re-calculated on the basis of applying 100 L of prepared spray per cubic metre of soil.

Rodding through concrete

When applying a vertical treated zone underneath a concrete obstruction (e.g. a path), a soil rod with a 3 or 4 way multi-directional tip should be used. The rod should be rotated during application (90° for a 4-way tip and 120° for a 3-way tip). The tip should be inserted down as close to the footing as possible to ensure a complete vertical treated zone. Ensure that chemical is applied during insertion and withdrawal of the rod. As uneven distribution of termiticide is likely when applying by this method under concrete, the application volume should be increased to 200 L spray solution per cubic metre of soil. Rod spacing should not exceed 200 mm and application volume should be adjusted depending on soil type (as indicated in the table below) and the depth of the footing. Assuming a 300 mm depth to the top of the footing and 200 mm spaced holes, 2 L of prepared spray is to be applied per hole. Any variation of dimensions needs to be re-calculated on the basis of applying 200 L of prepared spray per cubic metre of soil.

Under concrete rodding		
Soil type	Hole spacing	Volume per hole
Heavy clays	150 mm	1.5 L
Other soils	200 mm	2.0 L

External Perimeter Treated zones

An external perimeter treated zone should be a minimum of 150 mm wide, a minimum of 80 mm deep and extend not less than 50 mm below the lowest point where the construction below ground could allow concealed termite ingress (or not less than 50 mm below the top of the footing where the building fabric could allow concealed termite ingress). Application considerations should reflect the installation of vertical treated zones.

AUSTRALIAN STANDARDS

Licensed Pest Control Operators installing a chemical soil treated zone around new and existing buildings should be familiar with the Australian Standard 3660.2 series, which provides information relating to installation of chemical soil termite treatment zones.

PERIOD OF PROTECTION

Data currently available indicates that this product, when applied as a soil treatment around or under a building or structure in accordance with this label, will be effective against subterranean termites for a minimum period of eight years. Delayed mortality effects may be observed meaning termites may live and continue to be active several weeks after penetrating the treated zone. To re-establish the treated zone after the 8 year Period of Protection, re-application at full rates is required. The actual protection period will also be affected by factors such as termite pressure, climatic and soil conditions and subsequent soil disturbance.

RE-INSPECTION

As with all chemical termiticides, regular inspections (at least annually) by a competent Licensed Pest Control Operator are recommended as bridging and breaching of treated zones can occur. The need for retreatment should be determined as a result of these inspections.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Highly toxic to fish and aquatic organisms. DO NOT apply to areas where surface water is present. Rinse waters and run-off from treated areas MUST be prevented from entering drains or waterways. DO NOT apply if heavy rains are expected to occur within 48 hours of application. DO NOT contaminate streams, rivers or waterways with the chemical or used containers. Dangerous to bees.

PROTECTION OF PETS AND LIVESTOCK

Before spraying remove animals and pets from the areas to be treated. Cover or remove any open food and water containers. Cover or remove (as applicable) fish ponds, aquariums etc. before spraying. Dangerous to bees. DO NOT apply where bees from managed hives are foraging and weeds are in flower at the time of spraying, or are expected to flower within 28 days. Before spraying, notify beekeepers to move hives to a safe location with an untreated source of nectar,

if there is potential for managed bees to be affected by the spray or spray drift. If an area has been sprayed accidentally in which weeds were in flower or subsequently came into flower, notify beekeepers in order to keep managed bees out of the area for at least 28 days from the time of spraying. Where the owner of managed hives in the vicinity of a crop to be sprayed in not known, contact your State Department of Primary Industries/ Agriculture, citing the registration number, for assistance in contacting the owner.

STORAGE AND DISPOSAL

Store in the closed, original container in a well-ventilated area as cool as possible, out of direct sunlight. Triple or preferably pressure rinse container for disposal. Add rinsings to spray tank. Dispose of the rinsate by adding it 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 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.

PRECAUTIONS

Residents and pets should not be allowed in a room being treated. Any spills should be cleaned up before leaving the room (refer to the SDS). Ensure all heating/air conditioning ducts, air vents, plumbing pipes, sewer lines, floor drains, heating pipes and electrical lines/conduits are known and identified before commencing any application of termiticide. DO NOT puncture or contaminate any of these. Avoid application around edible plants.

RE-ENTRY PERIOD

DO NOT re-enter treated areas until spray has dried.

SAFETY DIRECTIONS

Will irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. Wash hands after use. When opening the container, preparing spray and using the prepared spray wear chemical resistant clothing buttoned to the neck and wrist and a washable hat, half-facepiece respirator with combined dust and gas cartridge and elbow-length PVC or nitrile gloves. After each day's use, wash gloves, contaminated clothing and respirator and if rubber wash with detergent and warm water.

FIRST AID

If poisoning occurs contact a doctor or Poisons Information Centre. Phone 13 11 26.

SDS

Additional information is listed in the safety data sheet (SDS). A safety data sheet for WARDEN® 100 SC Insecticide is available from adama.com or call Customer Service on 1800 423 262.

CONDITIONS OF SALE: The use of WARDEN® 100 SC Insecticide being beyond the control of the manufacturer, no warranty expressed or implied is given by Adama Australia, regarding its suitability, fitness or efficiency for any purposes for which it is used by the buyer, whether in accordance with the Directions for Use or not. Adama Australia accepts no responsibility for any consequence whatsoever resulting from the use of this product.

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Harmful if swallowed.

Harmful if inhaled.

May cause respiratory irritation.

Avoid breathing fumes, mists, vapours or spray.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Causes damage to organs through prolonged or repeated exposure.