

2. DIRECTIONS FOR USE

SOIL DRENCH APPLICATIONS (AGRICULTURAL)

Crop	Pest	Rate	Critical Comments
Elm	Elm leaf beetle	7 mL/25 mm of tree diameter at breast height	Mix the required dose in sufficient water to adequately treat each tree. Use at least 50 L of mix per tree up to a tree diameter of 400 to 500 mm and then 100 L per tree for larger trees. Inject mix to a depth of 20-30 cm in a minimum of 4 injection sites per tree, 0.75 to 1.5 m apart, arranged in an evenly spaced grid to just beyond the drip line. Ensure root zone is adequately moist with active root growth. Keep treated area moist for 7 to 10 days after treatment. Treat at least 6 to 10 weeks prior to pest attack in late winter or early spring when roots are active. DO NOT treat if soil is waterlogged.
Azaleas in pots	Azalea lace bug	3.5 mL/250 mL water/pot	Use as a soil drench for pots up to 20 L capacity. Prior to application remove mulch and dead vegetation, and moisten the soil surface. Apply the Protect-us MultiAg mixture, and then water it in well immediately after application.
Ornamentals in pots	Scarab beetle larvae	3.5 mL/5 L water	Use as a soil drench. 5 L of mixture will treat twenty 6 L pots. Prior to application remove mulch and dead vegetation, and moisten the soil surface. Apply the Protect-us MultiAg mixture, and then water it in well immediately after application.
Roses	Aphids	3.5 mL/2 L water/plant	Use as a soil drench by pouring mixture evenly around drip zone. Use this rate for plants up to 1 m high. For each additional metre of plant height, add 2 mL extra of Protect-us MultiAg Insecticide to the 2 L of water. Prior to application remove mulch and dead vegetation, and moisten the soil surface. Apply the Protect-us MultiAg mixture, and then water it in well immediately after application.

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WITHHOLDING PERIODS:

APPLES: NOT REQUIRED WHEN USED AS DIRECTED

COTTON: DO NOT HARVEST FOR 13 WEEKS AFTER APPLICATION

COTTON: DO NOT GRAZE OR CUT FOR STOCK FOOD

CUCURBITS: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION

TOMATOES: DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION

BRASSICAS, CAPSICUM, EGG PLANT, POTATOES, SWEET POTATOES: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION

STONE FRUIT: DO NOT HARVEST FOR 21 DAYS AFTER APPLICATION

DO NOT graze any treated area, or cut for stock food.

DO NOT feed produce harvested from treated area to animals, including poultry.

3. DIRECTIONS FOR USE (TERMITICIDE APPLICATIONS)
(ALL STATES EXCEPT TASMANIA)

RESTRAINTS:

DO NOT apply to soils if excessively wet or immediately after heavy rain to avoid run-off of chemical.

DO NOT disturb the treated zone with subsequent construction of additions or alterations, paths, steps, flower beds etc.

DO NOT use at less than indicated label rates.

DO NOT use in cavity walls except for direct treatment of a nest or when applied with a foaming agent, as a dry foam, direct to any other termite activity.

Situation	Pest	Rate	Critical Comments
Existing buildings: Protective treatments for existing buildings including domestic, industrial, government and commercial premises.	Subterranean termites (except <i>Mastotermes darwiniensis</i>)	250 mL per 100 litres of water	(See also General Instructions) Mix the required quantity of Protect-us MultiAg Insecticide in water and apply using suitable application equipment to form a complete and continuous barrier around and under the structure to be protected as per AS3660.2. The barrier may be created using a combination of conventional spraying and trenching along with soil rodding. Soil injection equipment (rodding) should only be used where trenching and treating the backfill is not possible. Refer also to notes on recommended best practice in GENERAL INSTRUCTIONS. Perimeter Treatments: If the building construction is slab-on-ground and the slab is regarded as an intact termite barrier then a Protect-us MultiAg Insecticide perimeter treatment around the outside of the structure may be employed. Protect-us MultiAg Insecticide perimeter treatments should be complete vertical barrier-type treatments in accordance with Australian Standard AS3660.2 to the external perimeter of the structure. Concrete paths around the structure should be drilled and injected with Protect-us MultiAg Insecticide solution in order to establish the Protect-us MultiAg Insecticide perimeter vertical barrier-type treated zone at the rates prescribed in the general instructions. If there is any doubt that the slab is not or cannot be determined to be an intact barrier or if the building has a suspended floor then additional horizontal barrier-type treatments should be employed where termites have vertical access to the structure. As such expansion joints, cracks in concrete foundation slabs and pilings should be protected with horizontal barrier rates. In some cases the use of wetting agents or foaming agents may be useful in overcoming non-wetting soils or getting a more even application in areas of difficult access or soil subsidence. If the barrier is disturbed by earthworks, construction or severe drainage problems it will have to be restored by reapplication. *CONDITIONS APPLY IN QUEENSLAND FOR THE APPLICATION OF BARRIER TREATMENTS TO NEW BUILDINGS
New Buildings*: External protective treatments (only) around new buildings.	<i>Mastotermes darwiniensis</i>	500 mL per 100 litres of water	
Service poles and fence posts	Subterranean termites (except <i>Mastotermes darwiniensis</i>)	250 mL per 100 litres of water	New posts: treat the bottom of the hole and the backfill using a minimum of 10 L of solution per hole. Existing posts: create a continuous barrier 150 mm wide by soil rodding or spraying the backfilled soil to a depth of 450 mm. Infested posts may also be drilled and injected with spray solution. Note that it is impossible to treat the soil at the bottom of a sound post so future termite attack from below the treated area cannot be ruled out.
Nests in wall cavities, poles, stumps, posts, mounds and trees	<i>Mastotermes darwiniensis</i>	500 mL per 100 litres of water	Locate the nest by drilling holes into the wall, pole or tree. Ensure that the full size of the nest is identified especially the highest point. Apply at least 20 litres of diluted Protect-us MultiAg Insecticide into the nest through the drill holes. Drill holes should be sealed after application. Note application to wall cavities behind plasterboard may result in water/mud staining of the plasterboard. Use of a dry foam applicator can reduce this risk and improve distribution within the wall cavity. Do NOT apply in the vicinity of live electrical wires. When using foam to inject into nests in trees and other situations it is still important to ensure that the approximate centre of the nest is located and that every effort is taken to ensure that termiticide reaches this area. In many situations cavities may form around a nest within a tree and foam may therefore expand to only fill this cavity if not injected to the correct depth within the tree which corresponds with the nest itself.
Termites when nest location not known (e.g. active workings in timber in-service, infested wall cavities and external infested timber situations)	Termites including subterranean termites (e.g. <i>Coptotermes</i> spp., <i>Schedorhinotermes</i> spp.) and drywood termites	Spray solution: 12.5 mL/ 5 L water	Apply only in conjunction with a suitable foaming agent which is capable of delivering a dry foam. (A dry foam is considered to be a foam with an expansion ratio of 1:20 or greater). Foaming agents which have been demonstrated to be non-repellent to termites (e.g. ProFoam) are recommended. Drill holes into infested wood and inject foam. Progressively drill and inject. Care should be taken not to drill holes too close together or foam will emerge from other holes. It is recommended that drill holes be taped over when not in use. When applied into a termite gallery system or into a termite infested void the foam expands to thoroughly cover hidden or difficult to reach areas and contacts insects deep within these galleries and voids. Care should be taken to minimise expansion run-off of foam out of application equipment after use. DO NOT use this type of application as the sole source of control for active, structural infestations by subterranean termites. It is not a substitute for mechanical alteration or soil treatments designed to provide protection of the structure. For active structural infestations by subterranean termites, this application method should only be used to supplement an application of Protect-us MultiAg Insecticide to the soil, a termite bait system or other product registered as a sole source for termite management. This application technique is intended as a supplemental tool to kill subterranean termites that are found in above-ground and other locations.
Reticulation systems: Perimeter and/ or service penetration treatment	Subterranean termites (except <i>Mastotermes darwiniensis</i>)	250 mL per 100 litres of water	The reticulation system (refer to the General Instructions) must be installed according to the manufacturer's specifications. Protect-us MultiAg Insecticide must only be applied via a reticulation system that has been installed with a prepared sand/ soil bed of a minimum depth of 100 mm and even compaction. If this is not possible, alternative termite protection should be arranged for these areas (see General Instructions for further system requirements). The reticulation system installer must ensure that the installation will result in the application of not less than 250 mL (500 mL for <i>Mastotermes darwiniensis</i>) of product per m³ of soil, applied in a continuous treated zone not less than 100 mm thick. The volume of soil treated and diluted solution applied by a reticulation system is dependent on both the parameters of the particular system and the type of soil present respectively. Guidelines should be sought from the reticulation system manufacturer. For a barrier with dimensions of 300 mm deep x 150 mm wide, 5 L per linear metre is suitable for perimeter and/ or service penetration only systems. This rate should be adjusted for systems treating a different volume of soil.
Complete under slab installations	<i>Mastotermes darwiniensis</i>	500 mL per 100 litres of water	For the horizontal barrier-type treated zone under the slab, not less than 20 mL (40 mL for <i>Mastotermes darwiniensis</i>) product should be applied per m². In addition the reticulation system installer must ensure that a prepared sand/soil bed of 100 mm depth is provided across the whole of the underslab installation to ensure complete horizontal coverage with the diluted product.

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the slab can be determined to be an intact termite barrier. Vertical treated zones applied as external perimeters would still need to be employed (see below).

Full horizontal treated zones should cover all areas of sub-floor soil where there is inadequate access or where there is less than 400 mm clearance. Care must be taken to avoid spray shadows, e.g. behind piers. It may be necessary to loosen the soil to allow the soil to percolate to form the treated zone. The treated zone should surround any connection between the building and the soil.

The use of a marker dye may assist in identifying soils that have been treated.

Full horizontal treated zones beneath concrete slabs: If termiticide needs to be injected through concrete slabs to create a horizontal treated zone, suitable application equipment should be used to inject termiticide through pre-drilled holes. Use a drill hole spacing between 150 and 300 mm and volumes sufficient to achieve minimum of 5 L spray solution per square metre.

Partial horizontal treated zones along weaknesses or gaps in the physical barrier/slab:

When drilling along cracks in slabs, expansion joints, walls and around service penetrations, holes should ideally be drilled no further than 150 mm from the crack, wall, expansion joint or service penetration and should be between 150 – 300 mm apart; where this is not possible because of the building construction these areas cannot be considered to be fully protected and this should be highlighted on paperwork provided to the building owner and subsequently these areas monitored more regularly than other treated areas.

As uneven distribution is likely when applying by this injection method through concrete (i.e. under a slab), increase the application rate to at least 10 litres of spray solution per m². Use a slab injector fitted with a multi-directional tip. When applying through such structures the rod should be held vertically at 90 degrees to the slab and rotated during application to ensure even distribution. Ensure a strong seal with the top of the drill hole to minimise leakage and that drill holes are plugged after treatment.

If soil subsidence has occurred beneath the concrete, the use of a foam carrier may assist in treating critical areas.

The following table shows the recommended volume of spray solution required per hole at various drill hole spacings for full horizontal treated zone application.

Soil type	Hole Spacing (mm)	Number of holes per square metre	Volume per hole to achieve 5 L/m²
Heavy Clay	150 mm	36	0.15 L (150 mL) 36 x 0.15 = approx 5 L
Clay loams	200 mm	25	0.20 L (200 mL) 25 x 0.2 = 5 L
Loams	250 mm	20	0.25 L (250 mL) 20 x 0.25 = 5 L
Sands	300 mm	17	0.30 L (300 mL) 17 x 0.3 = approx 5 L

Drill holes should be filled with a moisture proof compound after application to prevent sub-slab moisture rising.

VERTICAL BARRIER-TYPE TREATMENTS

This section describes the application of a treated zone intended to fulfil the treatment requirements of a vertical barrier as per the Australian Standard AS.3660. (Refer to 'Service Period' information).

Vertical treated zones are to be applied to deter termites from gaining concealed horizontal access to a building or structure. The application of at least 100 litres of spray solution per cubic metre of soil is required. They can be created by either trenching and treating soil as it is backfilled (the preferred and most effective method) or by a combination of trenching and soil rodding at the bottom of the trench. Vertical treated zones must extend down to 100 mm below the top of the solid footings if they are to be complete. Where a horizontal treated zone is also used the vertical treated zone must be continuous with it. Note that termites may gain access behind engaged piers against single brick walls unless the soil is treated on both sides of the wall down to the footing.

Vertical treated zones should be at least 150 mm wide with 1.5 litres of spray solution applied per linear metre per 100 mm depth of treated zone. In most cases the product will soak into the soil below this depth so a minimum rate of 5 L per linear metre is recommended (i.e. to achieve a treated depth of approx 300 mm). Any variation of dimensions needs to be re-calculated on the basis of applying 100 litres of prepared spray per cubic metre of soil. When using soil rodding equipment to inject termiticide into the bottom of a trench the distance between each rod insertion should be no greater than 150 mm.

Creating a vertical treated zone via drilling and injecting through concrete.

Where trenching and treating soil is not possible (eg. concrete paths and driveways), drilling and injection of termiticide may be required. Holes should be drilled between 150-300 mm apart and application volumes varied in order to achieve application rates of 100 L termiticide per cubic metre of soil.

The following table shows the recommended volume of spray solution required per hole at various drill hole spacings.

Soil type	Hole Spacing (mm)	Litres per hole
Heavy Clay	150 mm	1.5
Clay loams	200 mm	2
Loams	250 mm	2.5
Sands	300 mm	3

Drill holes must be resealed after application.

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 grade 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 barrier-type treatments.

Foam carriers may be useful in ensuring that a more even distribution is achieved. However it is important that the foam application be calibrated to ensure that adequate amounts of Protect-us MultiAg formulation are applied, depending on the type of foaming application. Where wet foam is used as a means of assisting delivery of a horizontal or vertical treated zone under concrete the horizontal or vertical barrier-type requirements in terms of volume of Protect-us MultiAg dilution used must be met.

Mix the appropriate concentration of Protect-us MultiAg in water and add the manufacturer's recommended quantity of foam agent (see table below for foaming recommendations). Apply sufficient volume of Protect-us MultiAg foam alone or in combination with liquid solution to provide a continuous treated zone at the recommended rate.

Mixing table to prepare foam to treat 1 m²					
Protect-us MultiAg (mL)*	Water (litres)	Foam expansion ratio	Volume of finished foam / m²	Concentration of liquid	Foam consistency
12.5	5	1:1 (not foamed)	5 L	0.05%	Standard solution
	2.5	5:1	12.5 L	0.1%	Wet foam
	5		25 L	0.05%	
	2.5	10:1	25 L	0.1%	
	5		50 L	0.05%	Very dry foam
	2.5	20:1	50 L	0.1%	
	5		100 L	0.05%	

* Add the manufacturer's recommended quantity of foam agent to the Protect-us MultiAg Insecticide solution

It is important to note that the expanded volume of foam contains more air than liquid and that the concentration of imidacloprid is only based on the initial volume that is mixed.

Use as a dry foam for direct application to areas of termite activity:

For treatment of termite nests, application to wall voids or others areas of termite activity remote from the nest only the 0.05% treatment rate should be used.

It is recommended that the volume of space to be treated be estimated first prior to mixing quantities of foam. If the volume to be treated is significantly less than 50 or 100 L then the amount of Protect-us MultiAg concentrate and water used needs to be adjusted to maintain the concentration of 0.05% in the target volume. Examples of this are illustrated below:

Volume of Protect-us MultiAg concentrate (mL)	Amount of active ingredient (g)	Volume of water (L)	Expansion ratio of foam	Volume of foam to be expected (L)
12.5	2.5	5	20:1	100
10	2	4		80
7.5	1.5	3		60
5	1	2		40

COLONIES NOT IN CONTACT WITH THE GROUND

Occasionally subterranean termites establish a colony in a building without having contact with the soil because they have access to a continuous supply of moisture (eg. from a faulty plumbing fixture or leaking roof). Such colonies may not be affected by a soil treatment alone and should be treated by direct nest application (such as with the dry foam recommendations referred to above) or by other procedures such as a colony eradicator dust or baiting system.

RE-INSPECTION

Re-inspection within 3 months of treatment is recommended.

SERVICE PERIOD

A correctly administered application of Protect-us MultiAg Insecticide can deter concealed entry by subterranean termites (except *Mastotermes darwiniensis*) for five years south of the Tropic of Capricorn. A minimum period of two years applies for all other areas and one year for *Mastotermes* in all areas. The actual period of protection will depend on regional and site specific details such as termite pressure, climatic and soil conditions and subsequent soil disturbance. Users are advised to refer to the manufacturer for more specific advice for your area if required.

Termites can travel through the treated zone under extreme conditions; however the protective effect conferred by Protect-us MultiAg treated zone can still be effective even if penetration through the barrier occurs. Following the expected periods indicated above the treated zone may still therefore exhibit delayed mortality or other sub-lethal effects leading to death of termites or reduction in their ability to cause damage (i.e. impending termite activity and deteriorating concealed entry). The relationship between delayed mortality and cessation of feeding damage has not been entirely quantified and if in doubt more regular monitoring is recommended as appropriate for the level of activity identified. To re-establish the conventional treated zone re-application at full rates is required.

Regular competent inspection is recommended as part of an ongoing termite management programme. Inspections should be carried out at least annually and concurrently, efforts be made to eliminate termite colonies in the area.

PROTECTION OF LIVESTOCK

Dangerous to bees. DO NOT spray any plants in flower while bees are foraging.

DO NOT graze any treated area, or cut for stock food.

DO NOT feed produce harvested from treated area to animals, including poultry.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

A spray drift minimisation strategy should be employed at all times when aerially applying sprays. The strategy envisaged is exemplified by the cotton industry's Best Management Practices Manual.

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 container before disposal. Add rinsings to 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 bury empty containers in 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

Harmful if swallowed. May irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. When preparing product for use wear cotton overalls buttoned to the neck and wrist, elbow length chemical resistant gloves and goggles. When using the product as a termiticide, wear cotton overalls buttoned to the neck and wrist, a washable hat and elbow length chemical resistant gloves. If clothing becomes contaminated with product or wet with spray, remove clothing immediately. If product or spray on skin immediately wash area with soap and water. Wash hands after use. 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.

MATERIAL SAFETY DATA SHEET

Additional information is listed on the Material Safety Data Sheet which is available from Protect-us on request. Call Customer Service on 1800 420 144 or visit our web site at www.Protect-us.com.au.

NOTICE

Protect-us warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with Directions for Use under normal conditions of use. No warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of the product contrary to label instructions or under off-label permits not endorsed by Protect-us, or under abnormal conditions.

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