

100%

**POISON**

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

**SureFire**

**fivestar**  
**INSECTICIDE**

**ACTIVE CONSTITUENT: 80 g/L BIFENTHRIN**

**GROUP 3A INSECTICIDE**

**For the control of a range of urban interior and exterior pests, for the post- construction protection of structures from subterranean termite damage and for the control of termites as specified in the Directions for Use Table. Also for the control of pests in Apples, Pears, Ornamentals and Turf as per the Directions for Use Table**

**CONTENTS 20 Litres**



**PCT**  
HOLDINGS PTY LTD

APVMA Approval No: 59452/20/1005  
\*FiveStar is a registered trademark of PCT INTERNATIONAL PTY LTD  
(PCT Holdings Pty Ltd ABN 11 099 023 962)  
1/74 Murdoch Circuit, Acacia Ridge QLD 4110 • <http://pct.au.com>  
CUSTOMER SERVICE FREECALL 1800 630 877 EMERGENCY RESPONSE (ALL HOURS) FREECALL 1800 630 877

### PRECAUTIONS

DO NOT spray into the air or directly on humans, pets or animals. Avoid contact with food, food utensils or preparation surfaces.

### RE-ENTRY PERIOD

**Post-Construction and General Pest Control:** Allow treated areas to dry completely (normally 3-4 hours) and ventilate buildings before re-occupying. When prior entry is necessary, when prior entry is necessary, wear cotton overalls buttoned to the neck, wrist and elbow-length PVC, neoprene or nitrile gloves and chemical resistant footwear. Clothing must be laundered after each day's use.

**Crops, Ornamentals, Turf** – The operator should wear suitable protective clothing (ie water proof boots, overalls and gloves) when walking on or handling newly sprayed turf before the spray deposits have dried or been watered-in or before re-entering treated crops.

### PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND THE ENVIRONMENT

Dangerous to fish and aquatic organisms. Do not contaminate dams, rivers, streams, waterways or drains with product or the used container.

### 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 fishponds, aquariums etc before spraying.

Dangerous to bees. DO NOT spray any plants in flower when bees are foraging. Spray in the night or early morning when bees are not actively foraging. DO NOT graze treated turf, or feed turf clippings from any treated area to poultry or livestock.

### STORAGE AND DISPOSAL

Store in closed original containers, in a cool, well ventilated area away from children, animals, food and feedstuffs. Do not store for prolonged periods in direct sunlight. In case of spillage, confine and absorb spilled product with absorbent material such as sand, clay or cat litter. Dispose of waste as indicated below or according to Australian Standard AS 2507 - Storage and Handling of Pesticides. Do NOT allow spilled product to enter sewers, drains, creeks or any other waterways.

Triple or preferably pressure rinse containers 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.

Do not bury waste or surplus product. Dispose of undiluted waste by either dilution and use according to the Directions for Use or returning to the point of purchase in the original container for controlled disposal. Dispose of diluted surplus product by using according to the Directions for Use. Do not re-use empty container.

### SAFETY DIRECTIONS – FOR TERMITE CONTROL

Poisonous if swallowed. Will irritate the eyes. Avoid contact with eyes and skin. When opening container and preparing spray, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC, neoprene or nitrile gloves and a half face-piece respirator. When using prepared spray, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC, neoprene or nitrile gloves. Wash hands after use. After each day's use, wash gloves, contaminated clothing and respirator, and if rubber wash with detergent and warm water.

### SAFETY DIRECTIONS – FOR ALL USES EXCEPT TERMITE CONTROL

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### FIRST AID

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

### MATERIAL SAFETY DATA SHEET

Additional information is listed on the Material Safety Data Sheet which is available from PCT Holdings Pty Ltd on request. Call Customer Service Toll Free on 1800 630 877 or visit our web site at <http://pct.au.com>

### NOTICE

PCT Holdings Pty Ltd 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 PCT Holdings Pty Ltd, or under abnormal conditions.

**APVMA Approval No: 59452/20/1005**

D.O.M.

Batch No.:

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Wash hands after use After each day's use, wash gloves, contaminated clothing and respirator, and if rubber wash with detergent and warm water

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## DIRECTIONS FOR USE

### Restraints:

DO NOT use this product at less than indicated label rates

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

DO NOT use in cavity walls (except via certified cavity fill reticulation systems or direct treatment of nest).

DO NOT apply this product in pre-construction situations.

Pest	Situations	State	Rate	Critical Comments
Spiders	External Areas & Surrounds of Domestic, Commercial, Public & Industrial buildings and structures	All states	30 - 65 mL/10L	<p>Use the higher rate in situations where pest pressure is high when rapid knockdown and/or maximum residual protection is desired. For overall band surface spray, apply as a coarse, low pressure surface spray to areas where spiders hide. frequent and rest spray to the point of run-off using around 5 L of spray mixture per 100 m<sup>2</sup> and ensuring thorough coverage of the treated surfaces. In an outdoor situation, pay particular attention to protected dark areas such as cracks and crevices, under floors, eaves and other known hiding or resting places.</p> <p>For indoor use, pay particular attention to dark protected areas such as cracks and crevices, behind and under sinks, stoves, refrigerators, furniture, pipes, cornices, skirting boards and other known hiding or resting places. Do not use as a space spray.</p> <p>For crack and crevice treatment use an appropriate solid stream nozzle.</p> <p>For maximum spider control use a two part treatment</p> <ol style="list-style-type: none"> <li>1. Crack and crevice.</li> <li>2. Overall band spray of surfaces</li> </ol>
Papemest Wasps	External Areas & Surrounds of Domestic, Commercial Public & Industrial buildings and structures	All states	65 mL/10L	Apply prepared emulsion to the point of runoff directly to the papernest ensuring thorough and even coverage. When all adult wasps have been knocked-down the nest may be safely removed from the structure.

Pest	Situations	State	Rate	Critical Comments
<p>Ants (excluding Red Imported Fire Ants), Cockroaches, Mosquitoes, Flies Flies Ticks (excluding the paralysis tick <i>Ixodes holocyclus</i>) (Adults &amp; Nymphs)</p>	Internal & External Areas & Surrounds of Domestic, Commercial Public & Industrial buildings and structures	All states	65 - 125 mL/10L	<p>On non-porous surfaces apply as a coarse spray at the rate of 1 L of emulsion per 20 m<sup>2</sup>. When treating non-porous surfaces do not exceed the point of run-off</p> <p>On porous surfaces or use through power equipment, spray at the rate of 1 L of emulsion per 10 m<sup>2</sup>. When treating porous surfaces do not exceed the point of run-off</p> <p>Use the higher rate in situations where pest pressure is high, when rapid knockdown and/or maximum residual protection is desired. The lower rate may be used for follow-up treatments</p> <p>For indoor use, pay particular attention to dark, protected areas such as cracks and crevices, behind and under sinks, stoves, refrigerators, furniture, pipes, cornices, skirting boards and other known hiding or resting places. Do not use as a space spray</p> <p>To control ants apply to trails and nests. Repeat as necessary</p> <p>To control fleas and ticks apply prepared emulsion to outside surfaces of buildings and surrounds including but not limited to foundations, verandahs, window frames, eaves, patios, garages, pet housing, soil, turf, trunks of woody ornamentals or other areas where pests congregate or have been seen</p> <p>To control flies and mosquitoes apply prepared emulsion to surfaces where insects rest or harbour. Reapply as necessary</p> <p>For perimeter treatments apply the prepared emulsion to a band of soil or vegetation two to three meters wide around and adjacent to the structure. Also treat the foundation of the structure to a height of approximately one metre. Use a spray volume of 5 to 10 L per 100 m<sup>2</sup>. Higher volumes of water may be needed if organic matter is present or foliage is dense.</p>
Subterranean Termites	Domestic, Public, Commercial & Industrial areas	All states, except Tas	Refer to Table A	Refer to Table B



**TABLE A: Fivestar Insecticide use rates for control of SUBTERRANEAN TERMITES**

Situations	All areas SOUTH of the Tropic of Capricorn (except Tas.)		All areas NORTH of the Tropic of Capricorn	
	Rate	Expected Protection Period *	Rate	Expected Protection Period *
Perimeter Barriers For existing buildings	1.25 L/100L	At least 10 years	1.9 L/100L	up to 5 years
	625 mL/100L	10 years	1.25 L/100L	up to 4 years
	320 mL/100L	3 years	950 mL/100L	up to 3 years
Post-Construction Barriers Under slabs and under suspended floors with less than 400 mm crawl space	1.25 L/100L	At least 10 years	1.9 L/100L	up to 5 years
	625 mL/100L	10 years	1.25 L/100L	up to 4 years
			950 mL/100L	up to 3 years
Protection of Poles & Fence Posts	625 mL/100L	10 years	1.9 L/100L	up to 5 years
			1.25 L/100L	up to 4 years
Nest Eradication	625 mL/100L	Not applicable	950 mL/100L	up to 3 years
			625 mL/100L	Not applicable

\* The need for retreatment is to be determined as a result of at least an annual inspection, or more frequently in high risk areas, by a qualified Pest Control Operator.

The actual protection period will depend on the termite hazard, climate, soil conditions and rate of termiticide used.

**TABLE B: CRITICAL COMMENTS for use against SUBTERRANEAN TERMITES**

Situations	Critical Comments
Perimeter Barriers for existing buildings	<ul style="list-style-type: none"> <li>Perimeter barriers (both horizontal and vertical - external and where required, internal or sub-floor) are an essential part of termite protection and must be installed at the completion of the building. Perimeter barriers should be installed around slabs, piers, substructure walls and external penetration points.</li> <li>Apply with suitable application equipment to form a continuous chemical barrier (both vertical and horizontal) around the structure and to a depth reaching to 80 mm below the top of the footings, where appropriate. The formation of the barrier may require a combination of several application techniques, including soil trenching and/or rodding and open wand applications.</li> </ul> <p>Chemical barriers that have been disturbed by construction, excavation and/or landscaping activities will need to be reapplied to restore continuity of the barrier.</p>
Post-Construction Barrier Treatments for the protection of existing buildings	<ul style="list-style-type: none"> <li>Apply with suitable application equipment to form a continuous chemical barrier (both vertical and horizontal) around and under the structure with particular emphasis on known infestation areas. The formation of the barrier may require a combination of several application techniques, including soil rodding, trenching, open wand applications and sub-slab injections.</li> <li>Chemical barriers beneath concrete slabs and paths will require concrete drilling. Recommended drill hole spacings are between 150 and 300 mm. To enhance soil distribution use a lateral dispersion tip on the injector and up to 10 L of emulsion per linear metre. To ensure formation of a continuous barrier, holes should be drilled no more than 150 mm from walls or expansion joints.</li> <li>For areas beneath suspended floors that have inadequate access (eg. less than 400 mm clearance), the entire sub-floor area should be treated as a continuous horizontal barrier, which completely seals an internal vertical barrier around any substructure walls. Otherwise install perimeter barriers around each individual pier, stump, penetration point and substructure walls.</li> <li>Chemical barriers that have been disturbed by construction, excavation and/or landscaping activities will need to be reapplied to restore continuity of the barrier.</li> </ul>
Protection of Service Poles and Fence Posts	<ul style="list-style-type: none"> <li>Create a continuous termiticide barrier 450 mm deep and 150 mm wide around the pole or post by soil injection or rodding. For new poles and posts, treat backfill and the bottom of the hole. Use 100 L of emulsion per m<sup>3</sup> of soil.</li> <li>Regular inspections should be undertaken to determine when and if retreatment is necessary. If disturbance of the barrier has occurred, retreatment of the area affected will be required.</li> <li>Poles and posts may also be drilled and injected with spray solution.</li> <li><b>Note: For existing poles and posts, it is impractical to treat the full depth and underneath of such poles and posts and therefore the possibility of future termite attack from below the treated area cannot be ruled out.</b></li> </ul>
Eradication of Termite Nest	<ul style="list-style-type: none"> <li>Locate nest and flood with insecticide emulsion. Trees, poles, posts and stumps containing nests may require drilling prior to treatment with termiticide emulsion. The purpose of drilling is to ensure the termiticide emulsion is distributed throughout the entire nest. Drill holes in live trees should be sealed with an appropriate caulking compound after injection.</li> </ul>

**Note: The termiticide barrier provided by this product has a finite life. This together with the recommendation to undertake annual inspections must be stated on the durable notice required by the BCA, B1.3(j)(ii).**



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CROP	PEST	RATE	CRITICAL COMMENTS
Turf (reg lawns, commercial turf farms, parks, recreational areas, bowling greens, sports fields)	Lawn armworm ( <i>Scolecopora maurata</i> (Acroasidae))	1.5L/ha (15mL/100m <sup>2</sup> )	Mix product in water and apply evenly over the area to be treated using spray application equipment. Use a minimum target volume of at least 200L/ha (2L/100 m <sup>2</sup> ). To ensure optimum control, engage the treated area with up to 4mm of water soon after application. Avoid treated areas for collecting activity. Re-spray as required. Where a rate range is indicated use lower rates under low insect pressure and higher rates under higher insect pressure. Apply sites moving to minimize loss of insecticide in caprores.
	Argentine stem weevil adults ( <i>Heteronychus bonariensis</i> )	1.5 to 3L/ha (15 to 30mL/100m <sup>2</sup> )	
	African black beetle ( <i>Heteronychus arator</i> )	3.0 to 4.5L/ha (30 to 50mL/100m <sup>2</sup> )	
	Bilbug adults ( <i>Sphenophorus burmannensis</i> )	1.5 to 3L/ha (15 to 30mL/100m <sup>2</sup> )	
	Black and Coastal Brown ant (found at West ant, Fugate ant and Stinging ant only)	1.5-5.5L/ha (15 to 55mL/100m <sup>2</sup> )	

**DIRECTIONS FOR USE:**

**RESTRAINTS:**

DO NOT use in situations or orchards where predatory mites are established and providing effective mite control

DO NOT apply by aircraft

DO NOT apply if rainfall is expected before spray deposits have dried on leaves

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
Apples	Apple dimpling bug ( <i>Empoasca fabae</i> ) Plague Thrips ( <i>Thrips angustipes</i> )	Old NSW ACT, Vic, SA, WA only	10mL Or 100L		Apply when pest numbers reach acceptable (threshold levels). Applications should be made as early as possible during the blossoming period and early in the morning when bees are not actively foraging. Use the high rate for both knockdown and residual control. Only one application at the rate should be required per season. In orchards where appropriate crop monitoring facilities are available the low rates may be used for knockdown control only. When the low rate is used, a second application at the low rate may be required to prevent re-infestation. Spray to run-off using a total spray volume of 1000 to 2500L/ha depending on tree size.
Bananas	Banana scab ( <i>Mitocella octasentis</i> ) Flower thrips ( <i>Thrips florum</i> )	Old only  Old and NSW only	250mL/100L		Apply 40mL of prepared spray to each banana bell. Use a suitable bell injection instrument to inject the required spray volume directly into the bell as it emerges from the throes of the banana plant while in the upright position. The correct site for injection is in the top half to one third of the bell just below the distinct swelling where the male flower mass ends and the female cavity (bottom hand of fruit) start. Read injection equipment clean and use vitamins sparingly. Monitor thrips activity and treat only when thrips are active.
Pears	Two spotted mite ( <i>Tetranychus urticae</i> ) Pear laceps Long tailed mealy bug Criminals, Light brown apple moth Cocking moth	Vic only	50mL/100L	14 days	Monitor the mite population from mid December onwards. Apply the product before mite population reaches economic damage levels (ie around 20-30 /25 leaves). A follow up treatment may be required 3 to 4 weeks later if more than 2 miticide applications are required use an alternative rotational miticide. Spray to run off using a total spray volume of 2000 - 4000L/ha depending on the tree size. NOTE: When using this product in pears it is not necessary to tank mix additional insecticides for the control of Cocking Moth and Lightbrown apple moth and Longtailed mealy bug criminals.



**DIRECTIONS FOR USE:****RESTRAINTS:**

DO NOT use in situations or orchards where predatory mites are established and providing effective mite control;

DO NOT apply if rainfall is expected before spray deposits have dried on leaves.

CROP	PEST	RATE	CRITICAL COMMENTS
Roses, Camellias and other ornamental plants	Two Spotted mite ( <i>Tetranychus urticae</i> )	35 or 50ml/100L	Apply at the first sign of pest infestation and before pest populations build up to damaging levels. Repeat as necessary on a 10 – 14 day interval. Best results are obtained from preventative rather than curative applications. Where indicated, use the higher rate for knock-down of established pest infestations or when longer residual activity is required. Spray to run off using a spray volume of 10 – 15 litres per 100 square metres covering both leaf surfaces.
	Aphids	25ml/100L	
	Caterpillars and loopers including helicids (corn earworm, native budworm) Helicoverpa spp. light brown apple moth ( <i>Euphyas prostrataria</i> ) and Geranium plume moth ( <i>Sphinxanctus aromaticus</i> type)	25ml/100L	Apply at the first sign of pest infestation and before pest populations build up to damaging levels. Repeat as necessary on a 10 – 14 day interval. Best results are obtained from preventative rather than curative applications. Spray to run off using a spray volume of 10 – 15 litres per 100 square metres covering both leaf surfaces.
	Whitefly ( <i>Thecabius vaporariorum</i> ) Poinsettia white fly ( <i>Bemisia tabaci</i> Biotype B)	25 – 100ml/100L	Apply at first sign of pest activity and repeat at 7 – 10 day intervals while pest pressure exists. More than three sprays may be required to control an existing infestation. Spray to run off covering both leaf surfaces. Use the higher rate when pest pressure is high when conditions favour pest development or when increased protection is required.
	Mealy bug ( <i>Pseudococcus longispinus</i> )	25ml/100L	Apply at first sign of pest activity and repeat at 7 – 10 day intervals while pest pressure exists. More than three sprays may be required to control an existing infestation. Spray to run off covering both leaf surfaces.
	Pineapple Thrips ( <i>Thrips imagines</i> Thrips senecio Thrips <i>halimiflorae</i> )	25ml/100L	Apply at first sign of pest activity and repeat at 7 – 10 day intervals while pest pressure exists. More than three sprays may be required to control an existing infestation. Spray to run off covering both leaf surfaces. Ensure that flowers and buds are sprayed. Spray to run off. When buds are opening rapidly and pest pressure is high reducing the spray interval to 3-4 days will give better results. Monitor the population by regular inspection.
	Cutworm ( <i>Agrotis</i> sp. in beds, containers and pots)	1.5L/ha 12ml/100 square metres 7.5ml/100L	Spray evenly over the area to be treated. After application apply approximately 5mm of sprinkler irrigation. Apply as a drench at the rate of 2 litres of prepared spray per metre of pot area.

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

**WITHHOLDING PERIOD:****PEARS: DO NOT APPLY LATER THAN 14 DAYS BEFORE HARVEST**



## GENERAL INSTRUCTIONS

**General Pest Control** - Fivestar is a powerful knockdown and residual pesticide. Ants, cockroaches, fleas, flies, mosquitoes, spiders, ticks and wasps are controlled by direct contact with spray and also by residual action as they come into contact with treated surfaces.

**Termites** - The use of Fivestar will help prevent and control subterranean termite infestations in and around buildings and structures when used in accordance with the Australian Standard AS 3660 Series, Termite Management. A dilute termiticidal emulsion must be adequately dispersed into the soil to establish a barrier between the building and subterranean termites in the soil. The purpose of a termite barrier is to prevent concealed termite entry into the building. The biology and behaviour of the termite species involved, should be considered by the Pest Control Operator in determining which control measures are most appropriate to control and prevent termite infestation.

**Crops, Ornamentals, Turf** - This product can be used as a protective treatment when applied at regular intervals or as a knockdown treatment to control existing pests. Best results are obtained when the product is applied before pest populations build up to damaging levels.

### APPLICATION - Turf, Ornamentals, Crops

Fivestar is a suspension concentrate requiring dilution with water prior to use. Applications should be made with ground application equipment calibrated to deliver a fine spray in a suitable volume to ensure thorough coverage. Use suitable application equipment and preferably cone nozzle combinations to deliver appropriate spray volume and a droplet size of 150-200 microns. Do not apply as a fog or mist.

### INSECTICIDE RESISTANCE WARNING

<b>GROUP</b>	<b>3A</b>	<b>INSECTICIDE</b>
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For insecticide resistance management Fivestar is a Group 3A insecticide. Some naturally occurring insect biotypes resistant to Fivestar and other Group 3A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Fivestar or other Group 3A insecticides are used repeatedly. The effectiveness of Fivestar on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, PCT Holdings Pty Ltd. accepts no liability for any losses that may result from the failure of Fivestar to control resistant insects.

Fivestar may be subject to specific resistance management strategies. For further information contact your local supplier, PCT representative or local agricultural department agronomist.

### MIXING

Add the required quantity of Fivestar to water in the spray tank and mix thoroughly. Maintain agitation during both mixing and application.

**For termites** - to facilitate even application of the termiticide emulsion over the area to be treated, the addition of a marker dye at label rates is recommended. On hard to wet soils, the penetration of the termiticide emulsion may be improved by the addition of a soil surfactant at label rates.

**Turf** - to aid in even coverage a minimum spray volume of 200L/ha is recommended. High volumes can be used as in all cases the insecticide needs to be incorporated into the turf thatch and upper soil.

### COMPATIBILITY

Fivestar is compatible with commonly used fungicides such as Dithane M45, Antracol, Bravo 500 and Kocide.

### SURFACTANTS

Fivestar contains a surfactant. Additional surfactant may be only necessary on hard to wet plants and in high volume situations.

### CRITICAL APPLICATION DETAILS - TERMITES

The application of FiveStar Insecticide to form both horizontal and vertical chemical barriers must be in accordance with the Australian Standard AS 3660 Series.

For treatment of new and existing buildings, both horizontal and vertical barriers may be required around and under the building. External perimeter barriers and where required, internal perimeter barriers are an essential part of this treatment. The purpose of a chemical termite soil barrier is to provide a continuous, no gap barrier between the building and the termite colony. It is therefore essential that the Pest Control Operator is familiar with the construction details of the building. For further details, refer to the "Horizontal Barrier Treatments" and "Vertical Barrier Treatments" statements in this leaflet and to the Australian Standard AS 3660 Series.

#### Horizontal Barrier Treatments:

Use 5 L of emulsion per  $m^2$  of soil. Apply the termiticide emulsion evenly to the soil surface area to ensure the provision of a continuous barrier with no gaps. To minimise drift, use low pressure, high volume spray equipment delivering large coarse droplets. On impervious soils where the application of 5  $L/m^2$  would cause excessive run-off, the application volume may be reduced provided the concentration of the emulsion is increased by a corresponding amount. For example, the volume of applied concentrate must remain constant at 25, 50 or 75  $mL/m^2$  depending on the location and the situation. Do not apply emulsion volumes below 2  $L/m^2$ .

In situations where the soil surface is very dry and conditions are conducive to rapid drying, the area to be treated should be moistened prior to the termiticide application.

It is important to note that when applying a horizontal barrier to the perimeter of a building or structure the chemical barrier is deemed to have a depth of 80 mm. In situations where the emulsion will not readily wet the soil to the required depth, loosen soil to a depth of 80 mm by 150 mm wide and apply 1.5 L of emulsion per linear metre.

**Vertical Barrier Treatments:** To install a vertical barrier use a minimum of 100 L of emulsion per  $m^3$  of soil. Vertical barriers must be a minimum of 150 mm wide, extend down to 80 mm below the top of the footing and be complete and continuous. Vertical barriers can be installed by trenching and treating the soil as it is backfilled, by soil rodding or by the use of certified reticulation systems, as described in the Australian Standard AS 3660 Series. The preferred method of installing a vertical barrier treatment is either by trenching and treating the soil as it is backfilled or by delivery via a certified reticulation system. When using the soil rodding method to establish a vertical barrier the distance between rod spacings should be as per the following table. To improve soil penetration, the soil should be loosened to a depth of 150 mm.

Soil Type	Rod spacing (mm)
Heavy clay	150
Clay loams	200
Loams	250
Sands	300

#### Perimeter Barrier Treatments:

Perimeter barriers consist of horizontal barriers at least 150 mm wide adjoining a vertical barrier of at least 150 mm in width. A perimeter barrier must completely surround all buildings, pipes, piers and service penetrations. In buildings with suspended floors with greater than 400 mm crawl space, perimeter barriers should be installed to surround piers, stumps and service penetrations and completely abut all substructure walls.

To ensure provision of a continuous barrier use a minimum of 100 L of emulsion per  $m^3$  of soil. This equates to a delivery volume of 5 L of emulsion per linear metre for a 300 mm vertical barrier, or 10 L of emulsion per linear metre for a 600 mm vertical barrier.

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.

#### Post-Construction Under Slab Treatments:

For concrete slabs, the emulsion needs to be injected through pre-drilled holes through the slab, at intervals between 150 mm and 300 mm. The following table shows the recommended hole spacing and recommended volume of spray solution required per hole, depending on the soil type.

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

Application equipment used to inject Fivestar Insecticide through pre-drilled holes in an interior situation must be in good working order, free of any leaks and the injector must have tip shut-off to prevent nozzle dripping. Lateral dispersion tips are recommended. Drilled holes must be resealed following injection of the Fivestar Insecticide emulsion. The decision and/or need for drilling concrete floor slabs should only be made after a thorough inspection of the building. The degree of termite activity should also be taken into consideration.

**Treatment in Conjunction with Physical Barriers:** In situations where the termite protection system is to consist of a combination of both physical and chemical barriers, each certified system must be installed according to the relevant and appropriate product specification and the Australian Standard AS 3660 Series.

**Reticulation Systems:** Fivestar Insecticide can be used through reticulation systems to form horizontal and vertical barriers under and around structures and all service penetrations. The reticulation system must be certified and be capable of distributing the termiticide emulsion according to the product label and the Australian Standard AS 3660 Series.

In situations using reticulation systems to form barriers around the perimeter and/or service penetrations only a full pre-construction soil applied Fivestar Insecticide horizontal barrier is recommended. It is the responsibility of the builder and all relevant sub-contractors to ensure that all termite barrier systems are installed in accordance with the relevant product installation directions and the Australian Standard AS 3660 Series.

**Service Requirements:** Service requirements are to be determined as a result of at least an annual inspection by a licensed Pest Control Operator. More frequent inspections may be required in high-risk termite areas.

In determining the need for service, factors such as local termite pressure, breaches of the barrier and termiticide longevity should be considered.

**Subterranean termites are on occasions capable of bridging termite barriers and therefore regular inspections, as detailed in the Australian Standard AS 4349.3, will significantly increase the probability of detection of termite activity before any damage or costly repairs are required.**

Several factors contribute to longevity of the termite treatment and must be considered when evaluating the need for retreatment. The actual protection period will depend on the termite hazard, climate, soil conditions and rate of termiticide used. Refer to Table A for the expected protection periods provided.

#### PRECAUTIONS

DO NOT spray into the air or directly on humans, pets or animals. Avoid contact with food, food utensils or preparation surfaces.

#### RE-ENTRY PERIOD

**Post-Construction and General Pest Control.** Allow treated areas to dry completely (normally 3-4 hours) and ventilate buildings before re-occupying. When prior entry is necessary, wear cotton overalls buttoned to the neck, wrist and elbow-length PVC, neoprene or nitrile gloves and chemical resistant footwear. Clothing must be laundered after each day's use.

**Crops, Ornamentals, Turf** – The operator should wear suitable protective clothing (ie water proof boots, overalls and gloves) when walking on or handling newly sprayed turf before the spray deposits have dried or been watered-in or before re-entering treated crops.