

# POISON

KEEP OUT OF REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

**TITAN**

# Chlorpyrifos PC 450

## Insecticide

**ACTIVE CONSTITUENT: 450g/L CHLORPYRIFOS**

**SOLVENT: 339g/L HYDROCARBON LIQUID**

GROUP

**1B**

INSECTICIDE

For installing chemical soil barriers for new building work in accord with AS3660.1 and post-construction management of subterranean termites in accord with AS3660.2 and other insect pests as per the directions for use table.

**IMPORTANT: RESTRICTED CHEMICAL PRODUCT ONLY TO BE SUPPLIED TO, OR USED BY AN AUTHORISED PERSON.**

**THIS PRODUCT IS TOO HAZARDOUS FOR USE BY HOUSEHOLDERS. DO NOT USE THIS PRODUCT IN OR AROUND THE HOME.**

**IMPORTANT: READ THOROUGHLY BEFORE OPENING OR USING THIS PRODUCT.**

APVMA Approval No.: 50452/121069

Contents: 5L; 20L; 200L



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IN A TRANSPORT EMERGENCY

**DIAL 000**

POLICE OR FIRE BRIGADE

TRANSPORT AND HANDLING  
NOT A DANGEROUS GOOD  
ACCORDING TO THE AUSTRALIAN  
DANGEROUS GOODS (ADG) CODE  
FOR TRANSPORT BY ROAD AND RAIL.

**DIRECTIONS FOR USE:****MANAGEMENT OF SUBTERRANEAN TERMITES (ALL STATES, except TASMANIA)**

**Restraints:** DO NOT apply to soils if excessively wet, immediately after heavy rain or if heavy rains are expected within 48 hours to avoid run-off of chemical.  
 DO NOT use at less than indicated label rates.  
 DO NOT use in cavity walls, except for direct treatment of nest.  
 DO NOT use on alkaline soils in SA (use on neutral or acidic soils only) or on dolomite based sub-slab bedding material.  
 DO NOT use in horizontal barriers around homes, residential areas, or in public spaces or in publicly accessible commercial areas.

**RATES OF APPLICATION**

**Important:** TITAN Chlorpyrifos PC 450 Insecticide should be used as part of an overall termite management program as detailed in Australian Standard Series AS3660. A great deal of care is required to understand construction details of the building and to apply the product in a manner which ensures a complete chemical soil barrier. Where necessary, the barrier may need to be re-applied under the building. Application equipment must be fitted with a flow meter and pressure regulator on the application device. The purpose of a chemical soil barrier is to impede and discourage concealed termite entry into a structure. Barriers may still be bridged by termites, but their entry can then be more easily detected during routine inspections. If a barrier is not complete or breached, then concealed termite entry may occur. It is often not possible to form a complete barrier around existing structures in which case other termite management options and/or more frequent inspections will also need to be considered.

**PRE-CONSTRUCTION RATES**

**Note:** THE SOIL 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 B.C.A. at B.1.3(i)(ii).

SITUATION	PEST	RATE	CRITICAL COMMENTS
Installation of chemical soil barriers prior to completion of construction of houses, factories, industrial and commercial buildings, public premises and farm buildings	Subterranean termites, south of the Tropic of Capricorn	<b>Horizontal Barriers:</b> Use 110mL/m <sup>2</sup> <b>Vertical Barriers:</b> Use 2.2L/m <sup>3</sup>	<b>Horizontal Barriers:</b> DO NOT use horizontal barriers around homes or in residential areas, or in public spaces and publicly accessible commercial areas. Use 110mL TITAN Chlorpyrifos PC 450 Insecticide per 5L water and apply mixture (the emulsion) at 5L/m <sup>2</sup> . See APPLICATION VOLUME in GENERAL INSTRUCTIONS section for other recommended dilution rates. <b>Vertical Barriers:</b> Use 2.2L of TITAN Chlorpyrifos PC 450 Insecticide/100L of water and apply at 100L mixture per m <sup>3</sup> soil. <b>Dilution rate:</b> 220mL/10L. 2.2L/100L is equivalent to a 1% active ingredient emulsion. See Service requirement in GENERAL INSTRUCTIONS for expected barrier life.
	Subterranean termites north of the Tropic of Capricorn or where <i>Mastotermes darwiniensis</i> is of concern	<b>Horizontal Barriers:</b> Use 110mL/m <sup>2</sup> <b>Vertical Barriers:</b> Use 2.2L/m <sup>3</sup>	<b>Horizontal Barriers:</b> DO NOT use horizontal barriers around homes or in residential areas, or in public spaces and publicly accessible commercial areas (see above). <b>Vertical Barriers:</b> See above. At this use rate, the expected life of the under-slab treatment is up to 4 years or more. The expected life of the external barrier is up to 2 years or more. This rate must be used in conjunction with a reticulation system which is able to apply TITAN Chlorpyrifos PC 450 Insecticide at the required application rates to the required area (ie as per the label directions for horizontal and vertical barriers and AS3660 Series), such as Slabset™, Altis® or Termguard®.
		<b>Horizontal Barriers:</b> Use 220mL/m <sup>2</sup> <b>Vertical Barriers:</b> Use 4.4L/m <sup>3</sup>	<b>Horizontal Barriers:</b> DO NOT use horizontal barriers around homes or in residential areas, or in public spaces and publicly accessible commercial areas. Use 220mL TITAN Chlorpyrifos PC 450 Insecticide per 5L water and apply mixture (the emulsion) at 5L/m <sup>2</sup> . See APPLICATION VOLUME in GENERAL INSTRUCTIONS section for other recommended dilution rates. <b>Vertical Barriers:</b> Use 4.4L of TITAN Chlorpyrifos PC 450 Insecticide/100L of water and apply at 100L mixture per m <sup>3</sup> soil. <b>Dilution rate:</b> 440mL/10L. 4.4L/100L is equivalent to a 2% active ingredient emulsion. See Service requirement in GENERAL INSTRUCTIONS for expected barrier life.

**POST-CONSTRUCTION USAGE RATES**

SITUATION	RATE	CRITICAL COMMENTS
Installing a chemical soil barrier around and under buildings	<b>Horizontal Barriers:</b> 110mL/m <sup>2</sup> <b>Vertical Barriers:</b> 2.2L/m <sup>3</sup>	<b>Horizontal Barriers:</b> DO NOT use horizontal barriers around homes or in residential areas, or in public spaces and publicly accessible commercial areas Use 110mL TITAN Chlorpyrifos PC 450 Insecticide per 5L water and apply the mixture (emulsion) at a rate of 5L/m <sup>2</sup> . <b>Vertical Barriers:</b> Use 2.2L of TITAN Chlorpyrifos PC 450 Insecticide per 100L of water and apply the mixture at a rate of 100L/m <sup>3</sup> . See APPLICATION VOLUME section in GENERAL INSTRUCTIONS for further information. 220mL/10L is equivalent to a 1% active ingredient emulsion. See Service requirement in GENERAL INSTRUCTIONS for expected barrier life.
Installing a chemical soil barrier around and under buildings north of the Tropic of Capricorn or where <i>Mastotermes darwiniensis</i> is a concern	<b>Horizontal Barriers:</b> 220mL/m <sup>2</sup> <b>Vertical Barriers:</b> 4.4 L/m <sup>3</sup>	This is an optional high rate for use north of the Tropic of Capricorn, or where <i>M. darwiniensis</i> is a concern. <b>Horizontal Barriers:</b> DO NOT use horizontal barriers around homes or in residential areas, or in public spaces and publicly accessible commercial areas Use 220mL of TITAN CHLORPYRIFOS PC 450 INSECTICIDE per 5L of water and apply the mixture (emulsion) at a rate of 5L/m <sup>2</sup> . <b>Vertical Barriers:</b> Use 4.4L of TITAN Chlorpyrifos PC 450 Insecticide per 100L of water and apply the mixture at a rate of 100L/m <sup>3</sup> . See APPLICATION VOLUME section in GENERAL INSTRUCTIONS for further information. 440mL/10L is equivalent to a 2% active ingredient emulsion. See Service requirement in GENERAL INSTRUCTIONS for expected barrier life.

SITUATION	RATE	CRITICAL COMMENTS
Installing a treated soil barrier around buildings by use through Altis, Slabset and Termguard reticulation systems or systems that meet AS Series 3660	<b>Horizontal Barriers:</b> 110mL/m <sup>2</sup>	The reticulation system used must be able to apply TITAN Chlorpyrifos PC 450 Insecticide at the required application rates to the required area (ie. as per the above label directions and AS Series 3660). <b>Altis:</b> Use 110mL of TITAN Chlorpyrifos PC 450 Insecticide per 10L of water and apply this emulsion at 10L/m <sup>2</sup> . <b>Slabset and Termguard:</b> Use 110mL of TITAN Chlorpyrifos PC 450 Insecticide per 5L of water and apply the mixture at 5L/m <sup>2</sup> . See APPLICATION EQUIPMENT section in GENERAL INSTRUCTIONS for further information.
Treatment of termite nest or colony	110mL/10L of water	Once the nest or colony has been located it should be broken open and flooded with emulsion. This includes nests located in trees. When treating trees, addition of a wetting agent is suggested. Refer to AS Series 3660.
Installing a chemical soil barrier around new and existing poles, e.g. transmission and building poles, fence posts and palings	220mL/10L of water or creosote	Trench (preferred) or rod and puddle-treat backfill, ensuring a complete and continuous treated soil barrier is provided around the pole or post, to a minimum depth of 300mm and minimum width of 150mm. Use 100L of emulsion per m <sup>3</sup> of soil. In addition, infested poles may be drilled near ground level and the cavity flooded with the emulsion. This allows seepage to form a treated soil barrier. <b>Note:</b> A 50mm gap between fence palings and soil will reduce termite attack and fungal decay. Only soil in contact with palings should be treated. <ul style="list-style-type: none"> <li>• Replenishment is recommended within 2 years north of the Tropic of Capricorn and 5 years in other areas.</li> <li>• If the barrier is disturbed, or rain falls immediately after application, retreat to restore continuity and completeness of the barrier. Refer to AS Series 3660.</li> </ul>

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

® Trademark of Altis Pty. Ltd.

® Trademark of Slabset Chemical Injection Systems

® Trademark of Termguard Pty Ltd.

**APPLICATION INSTRUCTIONS PRE-CONSTRUCTION**

**CONCRETE SLAB:**

**a) Hand Spraying Treatment BEFORE Laying the Slab:** The site should be prepared in accordance with Australian Standard AS 2870, or Australian Standard AS 3660.1 as appropriate. Where loose or porous sands occur the site should be moistened with water immediately prior to treatment with TITAN Chlorpyrifos PC 450 Insecticide, as this will help prevent loss of emulsion through 'piping' or excessive percolation. It will also assist with lateral dispersion. Use a shrouded rose head shower nozzle operated at 170kPa to apply the required rate of TITAN Chlorpyrifos PC 450 Insecticide in a volume of 5L of emulsion/m<sup>2</sup>. To obtain better coverage in difficult soil types, it may be necessary to adjust the volume being applied (see APPLICATION VOLUME section under GENERAL INSTRUCTIONS). Ensure application is made under conditions which prevent off-target drift. Immediately following treatment (i.e. on the same day), the moisture membrane should be placed over the treated soil to prevent disturbance of the termiticidal barrier.

**b) External Barrier:** On completion of the building, an external barrier should be installed around the perimeter. The external barrier should circumference all pipes and service facilities. External barriers should be created by using either a vertical or horizontal barrier, as determined by the building construction type and adjoining ground level.

An external horizontal barrier is an essential part of the treatment when relying on a chemical soil barrier to provide the full termite management system.

An external horizontal barrier only, is required when prevention of concealed vertical access by termites is necessary at the perimeter (eg. when ground level is equal to the top of a slab, where the slab is also a barrier to concealed termite movement into the building). A vertical barrier is required when prevention of concealed horizontal access is necessary (eg. where ground level is higher than building material vulnerable to concealed horizontal entry by termites).

**(i) Horizontal Barrier:** DO NOT use horizontal barriers around homes or in residential areas, or in public spaces and publicly accessible commercial areas. Use a rose head shower nozzle operated at 170kPa to apply the required rate of 1.5L of the correctly diluted TITAN Chlorpyrifos PC 450 Insecticide per lineal metre (150mm wide) to soil loosened to a depth of at least 80mm (see APPLICATION VOLUME section).

**(ii) Vertical Barrier:** The vertical barrier should be at least 150 mm wide and should reach down to 50mm below the top of the footings. To achieve this trench to the top of the footings and, where this is not possible, a combination of trenching (preferably at least 300mm deep) and rodding into the base of the trench may be necessary.

Apply TITAN Chlorpyrifos PC 450 Insecticide emulsion at 100 L per cubic metre of backfill soil, this equates to 1.5L emulsion/linear metre of a trench 150mm wide and 100mm deep. Where the required vertical barrier is deeper

than 100mm, ensure the same rate of application for the extra volume of soil. Use a rose head shower nozzle operated at 170 kPa to flood the base of the open trench and also to treat the backfill soil as it is replaced into the trench to ensure even distribution. Where rodding is necessary, rod before the trench is treated using the spacings in the following table.

Rod spacings		
HEAVY CLAY	CLAY LOAMS	SANDS
150mm	200mm	300mm

Use a soil injector with a B&G or similar multi-directional tip operated at 170 kPa and insert the rod to the foundation foot as close as possible to the foundation wall ensuring the chemical is applied during insertion and withdrawal. The 4-way tip needs to be rotated during the application through 90 degrees and the 3-way tip through 120 degrees.

**SUSPENDED FLOORS**

Install horizontal and vertical barriers as specified in AS3660.1 to abut all substructure walls, stumps, piers, pipes and wastes using the techniques described above for external barriers around concrete slabs. Apply the required rate of TITAN Chlorpyrifos PC 450 Insecticide in a total volume of 5L of emulsion/m<sup>2</sup> (see APPLICATION VOLUME section). If the barrier is disturbed by any means, retreat to restore continuity. Where the subfloor crawl space is less than 400mm the soil barrier must cover all areas of the sub-floor soil.

**Note:** It is unnecessary to treat the entire sub-floor soil where there is access for maintenance and inspection.

**APPLICATION VOLUME: PRE-CONSTRUCTION**

To compensate for impervious soils such as heavy clay where application of 5L/m<sup>2</sup> would cause run-off, it may be necessary to apply a volume of emulsion less than 5L/m<sup>2</sup>. When reducing the total volume of emulsion used, increase the concentration accordingly to match the label rate by mixing the required amount of TITAN Chlorpyrifos PC 450 Insecticide per m<sup>2</sup> in a lesser volume of water. DO NOT use emulsion volumes less than 2L for every square metre to be treated.

**Note:** Use of emulsion volumes other than the recommended 5L/m<sup>2</sup> is only permitted when installing chemical barriers in exposed soil. It is not permitted when injecting through the slab or into sealed areas.

**APPLICATION EQUIPMENT**

**Hand Spraying**

For hand spraying use a rose head shrouded nozzle operated at 170kPa, with a flow meter and pressure regulator fitted to the hand-piece.

**Treatment Beneath Concrete Slabs or Sealed Areas**

Where it is not possible or practical to remove the slab to allow direct application to the soil, use a sub-slab injector fitted with multi-directional tip (eg. a B&G or similar system) with a 5 degree upward angle (eg. 3 way or 4

way) operated at 170kPa. Ensure a strong seal with the top of the drill hole to avoid leakage. For the best distribution, the injector needs to be held vertically, at right angles to the slab, and rotated during the application through 90 degrees (if using a 4 way dispersion tip), or through 120 degrees (for a 3 way dispersion tip).

#### Injection Into Soil

Where it is not possible or practicable to trench the soil; use a soil rod with a 3 or 4 way multi-directional tip (B&G, or similar) operated at 170kPa. The 4 way tip needs to be rotated during the application through 90 degrees and the 3 way tip through 120 degrees. Reticulation System Application

A horizontal barrier may be applied under a concrete slab through a previously installed, full under slab Altis®, Slabset or Termguard® system; or a reticulation system which meets the requirements of AS Series 3660. The reticulation system used must be able to apply TITAN Chlorpyrifos PC 450 Insecticide at the required application rates to the required area (ie as per the label directions for horizontal and vertical barriers and AS3660 Series). The application of TITAN Chlorpyrifos PC 450 Insecticide through reticulation systems must be carried out by an appropriately licensed operator and installed as per the system's installation manual. The actual treatment should be applied as soon as possible after laying the slab, but not within 28 days. Subsequent treatments to replenish the treated soil barrier can be made when considered necessary.

**Altis:** Use 110mL of TITAN Chlorpyrifos PC 450 Insecticide per 10L of water and apply the mixture at 10L/m<sup>2</sup>.

**Slabset (Not approved for use in WA) and Termguard:** Use 110mL of TITAN Chlorpyrifos PC 450 Insecticide per 5L of water and apply the mixture at 5L/m<sup>2</sup>.

#### APPLICATION VOLUME: POST-CONSTRUCTION

To compensate for impervious soils such as heavy clay where application of 5L/m<sup>2</sup> would cause run-off, it may be necessary to apply a volume of emulsion less than 5L/m<sup>2</sup>. When reducing the total volume of emulsion used, increase the concentration accordingly to match the label rate by mixing the required amount of TITAN Chlorpyrifos PC 450 Insecticide per m<sup>2</sup> in a lesser volume of water. DO NOT use emulsion volumes less than 2L for every square metre to be treated.

**Note:** Use of emulsion volumes other than the recommended 5L/m<sup>2</sup> is only permitted when installing chemical barriers in exposed soil. It is not permitted when injecting through the slab or into sealed areas.

#### Existing structures

##### (a) Strategic Drilling Through Slab or Sealed Areas

For treatment of slabs when termites are entering the building through the slab, where reticulation systems do not exist, slab drilling and injection will be required. In most cases, unless there is a known severe termite hazard, grid drilling of the slab is not required. Any such need is to be determined by a licensed Pest Manager.

Treatment needs to be made around the inside of all exterior walls to complete a termite barrier, along both sides of interior wall partitions, around plumbing/electrical or piping entry points and along major cracks or expansion joints. When treating along major cracks or expansion joints it is recommended that holes are drilled alternately on either side of the crack at the recommended drill hole spacings.

For a sand base or sandy soil, apply through a row of holes drilled no more than 300mm apart and 100-200mm out from the wall, crack or pipe. For a clay base, apply through a row of holes drilled 150mm apart and 100mm from the wall, crack or pipe. Apply 10L of emulsion per linear metre and ensure the holes are securely plugged after treatment.

#### (b) External barriers

An external barrier should be installed around the perimeter of the building and should circumference all pipes and service facilities. External barriers should be created by using either a vertical or horizontal barrier, as determined by the building construction type and adjoining ground level. An external barrier is an essential part of the treatment when relying on a chemical soil barrier to provide the full termite management system as per AS3660.

An external horizontal barrier is only required when prevention of concealed vertical access by termites is necessary at the perimeter (eg, when ground level is equal to the top of a slab, where the slab is also a barrier to concealed termite movement into the building). A vertical barrier is required when prevention of concealed horizontal access is necessary (eg, where ground level is higher than building material vulnerable to concealed horizontal entry by termites).

**(i) Horizontal Barrier:** Use a rose head shower nozzle operated at 170kPa to apply the required rate of 1.5L of the correctly diluted TITAN Chlorpyrifos PC 450 Insecticide per lineal metre (150mm wide) to soil loosened to a depth of at least 80 mm (see APPLICATION VOLUME section). Not for home, garden, residential or publicly accessible areas.

**(ii) Vertical Barrier:** The vertical barrier should be at least 150 mm wide and should reach down to 50mm below the top of the footings. To achieve this, trench to the top of the footings, and where this is not possible, a combination of trenching (preferably at least 300mm deep) and rodding into the base of the trench may be necessary. Apply TITAN Chlorpyrifos PC 450 Insecticide emulsion at 100L per cubic metre of backfill soil, this equates to 1.5L of emulsion/near metre of a trench 150mm wide and 100mm deep. Where the required vertical barrier is deeper than 100mm, ensure the same rate of application for the extra volume of soil. Use a rose head shower nozzle operated at 170kPa to flood the base of the open trench and also to treat the backfill soil as it is replaced into the trench to ensure even distribution. Where rodding is necessary, rod before the trench is treated using the spacings in the following table.

Rod spacings		
HEAVY CLAY	CLAY LOAMS	SANDS
150 mm	200 mm	300 mm

Insert the rod to the foundation foot as close as possible to the house wall ensuring the chemical is applied during insertion and withdrawal. (See APPLICATION EQUIPMENT Section, Injection into Soil.)

#### (c) Suspended Floors

Install horizontal and vertical barriers as specified in Australian Standard Series AS 3660 to adjoin all substructure walls, stumps, piers, pipes and wastes using the techniques described for external barriers around concrete slabs (See Existing Structures section.)

**DIRECTIONS FOR USE: GENERAL PEST CONTROL**

**Restraints:** DO NOT spray polycarbonate surfaces/roof sheeting or aged vinyl wall cladding as solvent may cause etching.

DO NOT use in homes, residential areas, or in public spaces or in publicly accessible commercial areas.

SITUATION	PEST	RATE	CRITICAL COMMENTS
Commercial areas not accessible to the public; Industrial areas	Cockroaches (residual control and/or heavy infestations)	110mL/10L water	Apply as a coarse, low pressure spray to the point of run-off, to cracks, crevices, harbourages, eaves, downpipes and other places where pests may occur.  For optimum control of webbing spiders, use a 2-part treatment. After applying as a coarse, low pressure spray to harbourages where the spiders may occur, apply a light spray over surfaces of the building.
	Spiders		
	Silverfish	55mL/10L water	
	Cockroaches (light infestations)		
	Ants including Argentine Ants	110mL/10L of water Use at least 1L spray/10m <sup>2</sup> infested area	Locate ant nests and treat appropriately. Spray ant tracks or where ant activity is noticed. Apply to paths in continuous 300mm bands. Apply to base of buildings, walls, fences, rock-works, trunks of shrubs and trees, and other hard surfaces to a height of 300mm.  <b>Note – Argentine Ants in WA:</b> All occurrences of Argentine Ants are to be reported to the WA department of Agriculture
	Fleas (outdoor use only)	110 mL/10 L of water	Apply as a fine droplet spray. Outdoors only. Treat areas where animals frequent. Remove animals during treatment and until SPRAY deposit is dry. DO NOT treat pets with this product. Pets should be treated with a product registered for application to animals.
Hides/skins	Hide beetles	220mL/100L of water Use at least 30mL of spray/skin	Apply spray to flesh side of skins or hides sufficient to moisten them. Ensure coverage of ears and lugs. To minimise the chance of later infestations, storage area should be sprayed regularly. Repeat application every 3 months. Access through bales should be maintained for application of product.
Light vegetation not around homes or in residential areas, or in public spaces and publicly accessible commercial areas	Mosquito larvae	30mL/ha	Dilute with water and apply as a spray to areas infested with mosquito
Medium vegetation not around homes or in residential areas, or in public spaces and publicly accessible commercial areas		65mL/ha	
Heavy vegetation not around homes or in residential areas, or in public spaces and publicly accessible commercial areas		120mL/ha	
Light to medium vegetation not around homes or in residential areas, or in public spaces and publicly accessible commercial areas	Mosquito adults	65mL/ha	
Medium to heavy vegetation not around homes or in residential areas, or in public spaces and publicly accessible commercial areas		120mL/ha	
Polluted water impoundments	Mosquito (larvae and adults)	2mL/10000L water or 20mL/100m <sup>3</sup> water	

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**GENERAL INSTRUCTIONS****TERMITE MANAGEMENT CONDITIONS FOR USE BY AUTHORISED PERSONS**

The applicator (Pest Manager) must be licensed under State legislation. The Pest Manager must supervise the installation of the moisture membrane and the building workers must wear appropriate protective equipment while laying the moisture membrane.

**Termite Management**

To minimise the risk of termite infestation, the subfloor area of buildings should be kept free of stored or waste timber and all other building materials that attract termites. Appropriate action should also be taken to eliminate any undue dampness caused by leaking water or sewerage pipes, or inadequate drainage. Subterranean termites need a constant source of moisture to survive. Provision of adequate ventilation in the subfloor area also helps eliminate undue dampness. Pest Managers using this product for termite management should advise either the builder contractor or home owner. etc. that disturbing the treated soil barrier with subsequent construction of additions or alterations, paths, steps, landscaping etc. may render the termite management system in place ineffective unless further management options are considered.

**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 are not affected by chemical soil barriers and should be treated as recommended for established colonies, as per Australian Standard Series AS 3660. TITAN Chlorpyrifos PC 450 Insecticide may be applied directly to the termite colony in such situations.

**Service requirement:** Regular, competent inspections by a licensed Pest Manager are recommended as part of an overall termite management program to determine the prevailing termite pressure and environmental conditions and consequent requirement for further termite management options. Inspections should be performed at least on an annual basis, but more frequent inspections are strongly recommended. At the 1 % application rate, TITAN Chlorpyrifos PC 450 Insecticide can provide an effective chemical soil barrier in subfloor regions for 4 years or more north of the Tropic of Capricorn and two years or more south of the Tropic of Capricorn. At the 1 % application rate, TITAN Chlorpyrifos PC 450 Insecticide can provide an effective chemical soil barrier in exposed situations for 2 years or more north of the Tropic of Capricorn and up to 5 years or more south of the Tropic of Capricorn.



At the 2% application rate north of the Tropic of Capricorn, TITAN Chlorpyrifos PC 450 Insecticide can provide an effective chemical soil barrier in subfloor regions for 6 years or more and in exposed situations for up to 3 years or more. The actual period of efficacy will depend on many factors such as termite hazard, climatic conditions, soil types and soil disturbance and gardening/landscaping practices.

## GENERAL INSTRUCTIONS

### MIXING

Half fill the spray tank with water (or creosote where applicable) and add the required amount of TITAN Chlorpyrifos PC 450 Insecticide, then add the remaining water (or creosote) with an agitator running. If using a knapsack sprayer gently shake before using. Only mix sufficient chemical for each specific application.

### CLEANING SPRAY EQUIPMENT

After using TITAN Chlorpyrifos PC 450 Insecticide, empty the spray equipment completely and drain the whole system. Thoroughly wash inside the tank using a pressure hose, and drain. To wash the system, quarter fill the tank with clean water and circulate through the pump, lines, hoses and nozzles (for knapsack sprayers spray to waste through the nozzle). Drain and repeat the washing procedure twice.

Dispose of rinse/rinse water in accordance with STORAGE AND DISPOSAL instructions below.

### INSECTICIDE RESISTANCE WARNING

For insecticide resistance management TITAN Chlorpyrifos PC 450 Insecticide is a Group 1B insecticide. Some naturally occurring insect biotypes resistant to TITAN Chlorpyrifos PC 450 Insecticide and other Group 1B insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if TITAN Chlorpyrifos PC 450 Insecticide or other Group 1B insecticides are used repeatedly. The effectiveness of TITAN Chlorpyrifos PC 450 Insecticide on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, TITAN AG Pty Ltd accepts no liability for any losses that may result from the failure of TITAN Chlorpyrifos PC 450 Insecticide to control resistant insects. TITAN Chlorpyrifos PC 450 Insecticide may be subject to specific resistance management strategies. For further information contact your local supplier or TITAN AG Pty Ltd representative.

GROUP	<b>1B</b>	INSECTICIDE
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### PRECAUTIONS

DO NOT apply inside buildings except as a crack and crevice treatment. DO NOT apply to surface areas such as interior floors or walls.

**Re-Entry to Treated Areas Suspended floors:** DO NOT allow entry until treated areas are completely dry (normally 3-4 hours).

**Concrete Slabs:** Cover treated areas immediately with a moisture membrane. Re-entry permitted after laying of the moisture membrane. DO NOT permit re-occupation of any premises until treated areas are completely dry (normally 3-4 hours) and adequately ventilated.

### PROTECTION OF PETS AND LIVESTOCK

Before spraying, remove animals and pets from buildings or other areas to be treated. Cover or remove any open food or water containers. Cover or remove fish tanks before spraying. DO NOT allow animals and pets to contact treated areas for at least 24 hours.

**DANGEROUS TO BEES.** DO NOT spray any plants in flower while bees are actively foraging.

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

**VERY HIGHLY TOXIC TO FISH AND AQUATIC INVERTEBRATES.** Rinse waters and run-off from treated areas MUST NOT enter drains or waterways. For under-slab treatments, the moisture membrane MUST be installed immediately after treatment. DO NOT apply to waterlogged soils. DO NOT apply if heavy rains are expected to occur within 48 hours of application.

**HIGHLY TOXIC TO BIRDS.** DO NOT treat fill unless it has been placed back in the trench to form the chemical soil barrier. DO NOT spray directly onto the foliage of plants as damage to some species is possible.

### SMALL SPILL MANAGEMENT

Wear appropriate clothing and protective equipment whilst cleaning up small spills (see SAFETY DIRECTIONS). Apply absorbent material such as earth, sand, cat litter or clay granules to the spill. Sweep up material and contain in a refuse vessel for disposal. If spilled inside a building, wash contaminated surfaces to deactivate the chlorpyrifos with a dilute solution of bleach (sodium hypochlorite), prepared according to the bleach label instructions. Dispose of the contaminated material in accordance with STORAGE AND DISPOSAL instructions below.

## 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-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 deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500mm below the surface in a disposal pit specifically marked and 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.

## SAFETY DIRECTIONS

Product is poisonous if absorbed by skin contact, inhaled or swallowed. Repeated exposure may cause allergic disorders. Repeated minor exposure may have a cumulative poisoning effect. Will irritate the eyes and skin. Avoid contact with eyes and skin. DO NOT inhale vapour or spray mist. When opening the container, preparing the spray and using the prepared spray, wear chemical resistant clothing buttoned to the neck and wrist and a washable hat, elbowlength PVC gloves, goggles, chemical resistant footwear and a half facepiece respirator with combined dust and gas cartridge. If clothing becomes contaminated with product, or wet with spray, remove clothing immediately. If product on the skin, immediately wash the area with soap and water. If product is in the eyes, wash it out immediately with 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, goggles, respirator (and if rubber wash with detergent and warm water) and contaminated clothing.

## FIRST AID

If swallowed, splashed on skin or in eyes, or inhaled, contact a Poisons Information Centre. Phone Australia 131126; New Zealand 0800 764 766 or a doctor at once. Remove any contaminated clothing and wash skin thoroughly. If swallowed, activated charcoal may be advised. Give atropine if instructed. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

## SAFETY DATA SHEET

Additional information is listed in the safety data sheet (SDS). A safety data sheet for TITAN Chlorpyrifos PC 450 Insecticide is available from TITAN AG Pty Ltd on request. Call Customer Service on (02) 9999 6655 or visit [www.titanag.com.au](http://www.titanag.com.au)

**CONDITIONS OF SALE:** TITAN AG Pty Ltd shall not be liable for any loss injury damage or death whether consequential or otherwise whatsoever or howsoever arising whether through negligence or otherwise in connection with the sale supply use or application of this product. The supply of this product is on the express condition that the purchaser does not rely on TITAN AG's skill or judgment in purchasing or using the same and every person dealing with this product does so at his own risk absolutely. No representative of TITAN AG Pty Ltd has any authority to add to or alter these conditions.

Additional statements required by Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia: Combustible liquid. Toxic if swallowed. Very toxic to aquatic life with long lasting effects. **Precautionary Statements:** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Specific treatment (see on this label). Rinse mouth. In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray. Collect spillage. Store locked up. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local/regional/national regulations.

