

PROFESSIONAL PEST MANAGEMENT

Termite Control That's Clearly Superior.

FOR LIFE UNINTERRUPTED™

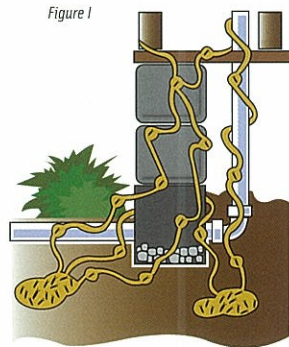
 **Optigard[®] Termite**
Liquid

syngenta.

TM

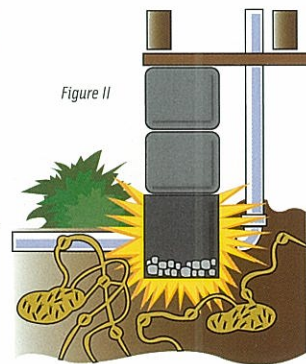
The Challenge

Termites, primarily the subterranean species cause a great amount to damage to structures than many other natural or man-made catastrophes. These insects live in large subterranean colonies and constantly forage for their primary food source, wood. Termites require both moisture and wood (cellulose) to survive, and any accumulation of moisture and wood around a structure will attract and sustain them. Termites can enter structures through the smallest of cracks in concrete, as small as 1/64th of an inch, or create free-standing earthen tubes to gain access into structures, as seen in Figure I. It is essential to protect structures through proper building practices and preventive soil treatments with a good termiticide.



The Solution

The goal of a termiticide treatment is to protect structures from attacks by creating a chemical barrier that subterranean termites can't or won't cross. There are two types of treatment for subterranean termites: pre-construction treatments and post-construction treatments. Pre-treatment is a term used in the structural pest control and building industries to describe the chemical treatment of the soil with a termiticide during the construction of a structure and prior to occupancy. The treatment is applied to the soil around and under the structure, as seen in Figure II, to keep termites out. It is by far the easiest way for a PCO to treat the soil and provide lasting termite protection. The current methods of application provide horizontal and vertical barriers around the structure. Treatment techniques include the use of hydraulic spray nozzles for horizontal treatments and hydraulic



soil rods to apply the chemical to trenches or the soil around the foundation of the structure. These applications provide many advantages for the builder and, ultimately, the homeowner.

The Owner's Concerns

The homeowner relies on the builder and Pest Control Operator (PCO) to help ensure that he moves into a protected property. But he too bears certain responsibilities in keeping termites away. Education is a key. The PCO and builder should make the owner aware of the importance of the termite barrier. Further, the owner should have an understanding of termites, how they can damage a home, and how much damage they can do

Homeowner's Guide to Identifying Termites

Many times a homeowner may see a pest such as an ant and think it is a termite. Some quick ways you can teach them to know the difference?



Ant

▶ Both ants and termites have two pairs of wings, but an ant's wings vary in length, and the termite's wings are of equal size.



Termite

▶ Ants have elbowed antennae, while termites have short, straight antennae.

▶ Look at the pest's waist. If it's narrow, the pest is probably an ant. If it's wide, it's likely a termite.

- ▶ Assures protection of the structure from invasion by subterranean termites.
- ▶ Provides the builder with peace of mind against future invasions by subterranean termites.
- ▶ Limits the builder's liability against damage.

The Builder's Responsibilities

There are a multitude of building practices. Meeting building codes is the builder's primary concern during construction. After construction is finished, the builder has to be aware that certain grading and landscaping practices may affect the barrier established after final grading. The builder needs to:

- ▶ Be familiar with the termiticide being applied.
- ▶ Know that applications can only be made as directed on the product label.
- ▶ Be aware there may be state regulations governing pre-treatment procedures.
- ▶ Prepare the site prior to application - sub slabs should be ready for the termiticide application. All plumbing and any other sub piping should be in place. If fill material is to be present under the slab, this also should be in place.
- ▶ Instruct the crews on the project that there should be little or no disturbance to the treated area prior to pouring the slab.
- ▶ Communicate the building schedule with the PCO. It is critical that pre-construction termiticide treatments take place immediately before the slab is poured.
- ▶ Keep construction debris and other trash from being incorporated into any fill material around or beneath the structure. These materials can either be attractive to termites or complicate the treatment of the final grade.
- ▶ Be aware that finishing the structure with landscaping, sprinkler systems, and mulching can affect the final termiticide barrier.

The PCO's Responsibilities

The PCO needs to:

- ▶ Familiarize himself with building construction practices in his area, especially the use of rigid foam board insulation and plastic or PVC pipe or conduits under the slabs.
- ▶ Use well-trained technicians for termiticide applications.
- ▶ Follow all manufacturer and state requirements for treatment.
- ▶ Pay close attention to the application of termiticides around plumbing and electrical conduit entrances penetrating the slab.
- ▶ Work with the builder in providing information and scheduling appropriate treatment times.
- ▶ Stress that a debris-free back fill is necessary.
- ▶ Issue a warranty with an application, emphasizing the warranty can be affected by disturbances to the final treatment barrier.
- ▶ Familiarize homeowner with ways to help prevent termite infestations.

Introduction

Optigard® Termite Liquid is a liquid formulation for the control of subterranean termites, and a wide range of other insect pest species. Thiamethoxam, the active ingredient in Optigard® Termite Liquid, is a second-generation neonicotinoid insecticide which belongs to the thianicotinyl subclass. Thiamethoxam demonstrates ingestion and contact activity against a wide range of economically important pests.

Mode of Action

Thiamethoxam targets the nicotinic acetylcholine receptors in the insect's nervous system, resulting in death of the exposed insect. Neonicotinoids have a significantly different mode of action compared with other classes of insecticides (e.g. pyrethroids, phenylpyrazoles, pyrroles, etc.) commonly used for pest control. Thiamethoxam provides contact and ingestion activity on all stages of insect development. Thiamethoxam is non-repellent and can be transferred from exposed to unexposed insects that exhibit social behavior, such as termites and ants.

Product Profile

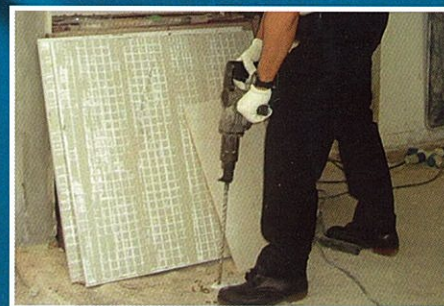
- ▶ Non-repellent insecticide
- ▶ Low use rates (0.1 to 0.2%)
- ▶ Kills insects by contact and ingestion
- ▶ Non-volatile and non-staining
- ▶ Excellent efficacy against termites and wood-destroying insects
- ▶ Flexible use to control ants

Use of Optigard® Termite Liquid for Control of Termites

Termites can be classified into two major groups: subterranean termites and drywood termites. Both are considered serious pests of structures. Optigard® Termite Liquid has exhibited excellent non-repellent activity against subterranean and drywood species.



Pre-construction



Post-construction

 **Optigard® Termite**
Liquid

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Application of Optigard® Termite Liquid

Optigard® Termite Liquid is an easy-to-use, water-based, 21.6% w/w suspension concentrate (SC) formulation that readily disperses in water, has virtually no odour, and is compatible with commonly used application equipment, including liquid applicators, foam applicators, and direct-injection systems.

Optigard® Termite Liquid is labeled for use as pre-construction and post-construction treatments to control subterranean termites. It can also be used for the control of drywood termites and ants.

The following are guidelines for applying Optigard® Termite Liquid against subterranean termites.

Apply a 0.1% - 0.2% suspension of Optigard® Termite Liquid to establish a subsurface termite control barrier. Thoroughly apply either as drench, coarse spray or by injection to the targeted area. Do NOT apply to excessively wet soils, immediately after or during rain; to avoid run-off of the chemical.

Do NOT apply at less than label rates.

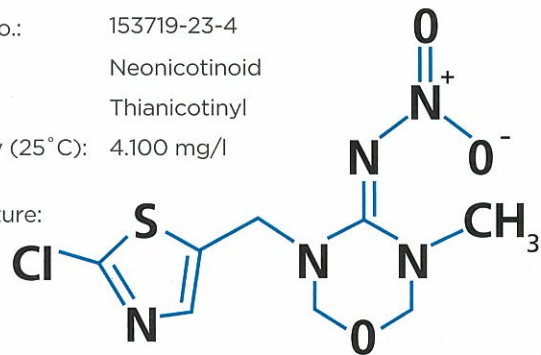
Insect Pest & Treatment Area	Rate	Method of Treatment
Termites (<i>Coptotermes</i> spp.) Pre-Construction Soil treatment under and around new building and structures	42 - 84 ml in 10L water	Spray at 5 litres/m ² . Spray onto foundation before installing slabs. Use the high rate in and around critical areas, and for longer control period.
Termites (<i>Coptotermes</i> spp.) Post-Construction Soil treatment under and around existing building and structures	42 - 84 ml in 10L water	Drill injection holes through the floor (slab) 30-40cm apart along the wall. Use power spray to inject the solution at rate of 5 litres per hole. Use the high rate in and around critical areas and for longer control period.
Mixing Directions: Mix the termiticide in the following manner: 1. Fill tank 1/4 to 1/3 full with water. 2. Start pump to begin by-pass agitation and place end of treating tool in tank to allow circulation through hose. 3. Add appropriate amount of Optigard® Termite Liquid. 4. Add remaining amount of water. 5. Let pump run and allow recirculation through the hose for 2-3 minutes.		
Application Volumes: To provide maximum control and protection against termite infestation, apply the specified volume of the finished water and active ingredient suspension as set forth in the use directions. If soil will not accept the labeled application volume, the volume may be reduced provided there is a corresponding increase in concentration so the amount of active ingredient applied to soil remains the same.		

Chemical and Physical Properties of the Active Ingredient

Common Name: Thiamethoxam
Chemical Name: 4H-1,3,5-Oxadiazin-4-imine,
3-[(2-chloro-5-thiazolyl)methyl]
tetrahydro-5-methyl-N-nitro

CAS Registry No.: 153719-23-4
Chemical Class: Neonicotinoid
Subclass: Thianicotinyl
Water Solubility (25 °C): 4.100 mg/l

Chemical Structure:



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To learn more about Optigard® Termite Liquid, please visit www.SyngentaPMP.com

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USE INSECTICIDES SAFELY. ALWAYS READ THE LABEL AND PRODUCT INFORMATION BEFORE USE.
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Toxicological Profile

Hazard Indicator	Species	Optigard® Termite Liquid
Oral LD ₅₀	Female Rat	>5,000 mg/kg body weight (Practically Non-Toxic)
Dermal LD ₅₀	Rat	>5,050 mg/kg body weight (Practically Non-Toxic)
Inhalation	Rat	>2.61 mg/l air -4hours (Practically Non-Toxic)
Eye Irritation	Rabbit	Minimally Irritating
Skin Irritation	Rabbit	Slightly Irritating
Skin Sensitization	Guinea Pig	Not a Sensitizer

Thiamethoxam and its formulations have low acute toxicity to mammals by oral, dermal and inhalation routes of exposure. Skin and eye irritation studies indicate that thiamethoxam is not mutagenic, teratogenic, neurotoxic, or a developmental toxicant. Toxicity studies have demonstrated a wide margin of safety to humans when applied following the label's directions for use and rates.

Important: Always read and follow label instructions before buying or using these products. Syngenta and its affiliates warrant that their products conform to the chemical description set forth on the products' labels. NO OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY TO SYNGENTA PRODUCTS. Syngenta and its affiliates neither assume nor authorize any representative or other person to assume for them any obligation or liability other than such as is expressly set forth herein. UNDER NO CIRCUMSTANCES SHALL SYNGENTA AND ITS AFFILIATES BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THEIR PRODUCTS. No statements or recommendations contained herein are to be construed as inducements to infringe any relevant patent now or hereafter in existence. ©2013 Syngenta. Syngenta Asia Pacific Pte.Ltd, No. 1 Harbour Front Avenue, #03-03 Keppel Bay Tower, Singapore 098632