

Just the Facts FAQs

Termidor® Termiticide/Insecticide

Q: Does Termidor termiticide/insecticide last longer than five years when applied as a termiticide to soil?

A: YES. U.S. Department of Agriculture Forest Service (USDA-FS) thoroughly evaluates termiticides for federal registration. Finalized results of USDA-FS testing on Termidor show (Shelton et al 2015):

- Termidor termiticide/insecticide outperformed all other commercially available professional termite control products, providing effective, long-lasting control and protection against termites at research sites in four states (AZ, MS, FL & SC).
- Untreated control plots placed near Termidor termiticide/insecticide-treated plots were also impacted, which had not happened in prior USDA-FS testing and supports the Transfer Effect from exposed to non-exposed termites in untreated areas.
- **One hundred percent** termite control for at least 10 years in concrete slab tests (in some cases 15 years).
- **One hundred percent** termite control for at least five years in ground board tests, with **96%** control through **11 years** after treatment.

Q: Will Termidor termiticide/insecticide survive a hurricane or flooding event?

A: YES. Termidor termiticide/insecticide (active ingredient fipronil) has low water solubility, virtually no volatility and binds very tightly to organic matter and clay in soils (Holmes and Castle 2005). Termidor termiticide/insecticide remains in the soil where it is applied and isn't moved by leaching, even in areas of consistently high moisture (Keefer and Gold 2014). These physical and chemical characteristics contribute to the ability of Termidor termiticide/insecticide to remain active in the treated zones proximal to structure foundations if the treated soil has not been physically moved or the foundations have not been compromised (BASF 2015).

Q: Must hundreds of gallons of termiticide be applied to protect structures?

A: NO. This is a common misunderstanding. Pest professionals use water as the carrier to apply formulated Termidor termiticide/insecticide to the soil adjacent to or associated with structure foundations or slab penetrations. For example, to treat a 200 linear-foot structure at one foot of soil depth, 80 gallons of water carries approximately eight ounces of the product's active ingredient to approximately two tons of soil (Termidor® SC Termiticide/Insecticide Label 2020).

Q: Can a PMP apply less invasive termite treatments with Termidor termiticide/insecticide vs. other liquid termiticides and still expect structural protection?

A: YES. Termidor SC, 80 WG, HE and HPII termiticide labels support pre-construction, post construction conventional and post construction exterior perimeter/localized interior treatments (EP/LI). EP/LI, also referred to as PerimeterPLUS treatments, provide excellent structural protection (approximately 1% retreatment rates) from termites while applying less material with less disruption vs. full conventional treatments listed on many other termiticide labels (Potter and Hillery 2002).

Q: Are Termidor termiticide/insecticide treatments "barrier" treatments?

A: NO. Older liquid soil termiticides with pyrethroid active ingredients (e.g., bifenthrin, permethrin) are considered barrier treatments as termites will not tunnel through areas of treated soil. Termidor termiticide/insecticide is applied along the foundation walls of the building to create **continuous treatment zones** (Potter and Hillery 2000). Termites are not repelled by Termidor termiticide/insecticide-treated zones and will unknowingly tunnel in these areas, allowing the product to begin working (transferring) immediately (Bagneres et al 2009, Hu 2005, Shelton and Grace 2003). Similar methods (trenching, trenching/rodding, drilling and sub-slab application) are used to apply the two different types of termiticides (barrier repellents and continuous treated zone non-repellents).

Termidor termiticide/insecticide causes high amounts of mortality in termite populations by contact, ingestion and Transfer Effect. Termite mortality will decrease termite pressure on property and provide structural protection. First registered with the U.S. Environmental Protection Agency (EPA) in 1999, and then launched in 2000, pest management professionals (PMPs) have since relied on Termidor termiticide/insecticide to protect over eight million homes. The unique, spiraling process of the Termidor termiticide/insecticide Transfer Effect delivers devastating results to termite colonies, eliminates termites from the infested structure, and maximizes structural protection (BASF 2012, Vargo and Parman 2012).

Q: Does Termidor termiticide/insecticide treatment cause a secondary repellency in the continuous treated zone leading to treatment failure around structures?

A: NO. The behavior of “burying” or sealing off foraging tunnels in response to dead or poisoned termites (due to bacteria, fungi, or termiticide treatment) has been studied extensively in laboratory experiments. These laboratory experiments often force termites to forage in one-dimensional artificial setups (rather than in three-dimensional soil that exists around structures). The termites are restricted to foraging in a test tube bioassay (e.g., through treated soil) or through Tygon® tubing (increasing foraging distance from a nest) that leads to specific “choice” treated soils (e.g., fipronil treated or not fipronil treated). In this scenario, termites eventually begin dying and the foraging tunnel (the only option or one of two choice options) is physically blocked. A recent report described this behavior as “secondary repellency” from the termiticide treatment and suggested this could lead to liquid termiticide treatment failure.

Actual Termidor termiticide/insecticide treatment field data does not support this conclusion. The Termidor termiticide/insecticide family of products has remediated and/or protected over 8 million structures since 2000 with an extremely low failure/retreatment rate (Potter and Hillery 2003). Experimental Use Permit (EUP) testing data since 1996 has a less than 1% retreatment rate as a result of remedial termiticide treatments at 647 structures (BASF EPA submitted EUP data). Under real world conditions, termites foraging in three-dimensional treated soil will continually enter the Termidor termiticide/insecticide-treated zones at multiple sites along the treated foundation (because the termites don’t “remember” the outcome of the previous foraging activity through the non-repellent Termidor termiticide/insecticide-treated zone) leading to enhanced movement of treated soil, transfer mechanisms and ultimately, mortality.

Q: Can liquid termiticides and bait termiticides be used in conjunction?

A: YES. PMPs using combined bait and liquid termiticide treatments report remediation of active infestation (structural protection) while also indicating continuing bait station hits and active feeding on bait. There are many potential termite colonies in the direct vicinity of a structure and its surrounding landscape. Parman and Vargo (2008) reported an average of 25 native subterranean termite colonies per acre in North Carolina. Termites within the same colony that was remediated from the structure or from a completely different colony could still hit the bait stations through alternate foraging galleries.

Bottom line: Termidor termiticide/insecticide protects the structure from all colonies!

For other Termidor termiticide/insecticide FAQs,

please visit BASF’s US Pest Control webpage @ <https://pestcontrol.basf.us/multimedia/termidor--frequently-asked-questions.html>

Product Stewardship is everybody’s responsibility. Always read and follow label directions.

References:

- Bagneres, A., R. Pinchon, J. Hope, R. Davis, and J. Clement. 2009. Contact Versus Feeding Intoxication by Fipronil in *Reticulitermes* Termites (Isoptera: Rhinotermitidae): Laboratory Evaluation of Toxicity, Uptake, Clearance, and Transfer Among Individuals. *Journal of Economic Entomology*. 102(1): 347-356.
- BASF Corporation. 2012. Proper Use. Frequently Asked Questions: Termidor termiticide/insecticide Family of Products.
- BASF Corporation. 2015. Questions and Answers: Termidor, Termites, and Flooding Technical Bulletin. 2 pp.
- Holmes, K. and F. Castle. 2005. Fipronil Worldwide Technical Bulletin. BASF Agricultural Products Fipronil Global Marketing Team. 24 pp.
- Hu, X.P. 2005. Valuation of efficacy and nonrepellency of indoxacarb and fipronil-treated soil at various concentrations and thicknesses against two subterranean termites (Isoptera: Rhinotermitidae). *Journal of Economic Entomology*. 98(2): 509-517.
- Keefer, T. C. and R. Gold. 2014. Recovery of Leachate and Soil Samples of Fipronil at Termiticide Concentrations. *Southwestern Entomologist*. 39(4): 705-716.
- Parman, V. and E. Vargo. 2008. Population Density, Species Abundance, and Breeding Structure of Subterranean Termite Colonies in and Around Infested Houses in Central North Carolina. *Journal of Economic Entomology*. 101(4): 1349-1359.
- Potter, M. F., and A. E. Hillery. 2000. The New Termite Killers. *Pest Control Technology*. 28(2) 54,55,58-63.
- Potter, M. F., and A. E. Hillery. 2002. Exterior-targeted Liquid Termiticides: An Alternative Approach to Managing Subterranean Termites (Isoptera: Rhinotermitidae) in Buildings. *Sociobiology*. 39: 373-405.
- Potter, M. F., and A. E. Hillery. 2003. Trench Warfare. *Pest Control Technology*. 31(2) 42-50, 52, 55.
- Shelton, T., D. Fye, J. Tang, and M. Mankowski. 2015. Command Performance: The USFS Presents Its Annual Termiticide Report for 2014. *Pest Management Professional*. March 2015. 5 pp.
- Shelton, T. and J. Grace 2003. Effects of exposure duration on transfer of nonrepellent termiticides among workers of *Coptotermes formosanus* *Shiraki* (Isoptera: Rhinotermitidae). *Journal of Economic Entomology*. 96: 456-460.
- Termidor® SC Termiticide/Insecticide EPA approved label. 2020. BASF Corporation. 17pp. <http://www.cdms.net/ldat/ld3DR006.pdf>
- Vargo, E. and V. Parman. 2012. Effect of Fipronil on Subterranean Termite Colonies (Isoptera: Rhinotermitidae) in the Field. *Journal of Economic Entomology*. 105(2): 523-532.
- Wang, C., G. Henderson, X. Chen, and B. Gautam. 2013. Horizontal Transfer of Fipronil Is Enhanced With Increased Group Size in *Coptotermes formosanus* (Isoptera: Rhinotermitidae). *Journal of Economic Entomology*. 106(6): 2630-2632.