TERMIDOR® TECH

TERMIDOR® TECHNICAL BULLETIN

RESPONSIBLE USE & CARE

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Proper Application Techniques

Although Termidor® termiticide/insecticide is the most effective termiticide ever seen, studies have repeatedly shown it to be low in mammalian toxicity. With proper handling, Termidor can be used with confidence in every situation listed on its label. This brochure aims to provide direction for handling unusual situations such as spills and well contamination, safely and effectively.

Before Treatment

Before treating a home or other property, discuss with the owner the fact that there could potentially be a slight odor following application of Termidor. Also mention again that Termidor is virtually odor-free.

Listen to the homeowners about their concerns. Answer their questions to the best of your ability. Be prepared for the possibility that some people may decide not to treat after all.

If possible, get plans or blueprints of the structure you will be treating. Review the application techniques that you will be using. Discuss any of your work that might be apparent or visible (trenching, drilling into concrete, drilling into cinder blocks, etc.). Do not assume that homeowners know what a termiticide application involves.

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Complete a thorough pre-application inspection of the structure. Be sure to identify the location of all ducts, electrical conduits, water and radiant heating pipes, cable, telephone and computer lines, gas supply lines, and any other surface or sub-surface lines. It's especially important to determine their location under concrete slabs and pads adjacent to the building, including patios, porches, sidewalks, garages, and carports. Also locate water supply sources, cisterns, wells, springs, septic systems, and waste and drainage lines. Be aware of downspouts, French drains, ditches, curbs, and gullies that might carry treated soil away. It's also a good idea to note the location of water and gas cut-offs and electric breaker boxes prior to treatment and make sure they're accessible in the event of an emergency.

Wells or cisterns close to the structure require extra precaution and procedures. The Termidor® termiticide/insecticide label permits applications to the foundation if the well or cistern is 5 feet or more from the foundation. The well or cistern could be outside or inside the structure being treated. However, consult local authorities for appropriate state regulations that might apply. If the application is permitted, consult the product label and product literature or technician's manual for specific directions.

In-slab/subslab duct and arrangements

In-slab ductwork can vary widely - radial systems, loop systems, or combinations of both are possible. They may be in or below the concrete slab.

If plans aren't available, you can determine the location of metal ductwork with a metal detector. Locating the airduct vents gives you an idea of the location of the system and provides access for you to obtain measurable depths, widths, and distances from interior and foundation walls. You can remove the outlet and/or return vents and use a flashlight and mirror to look down into the ductwork to determine its size, direction, and condition.

If a structure with slab ductwork will be treated, it is best that drill holes be checked to ensure that soil lies underneath. Air tests can be conducted to check for leaks in the system after drilling. Loosely cover the outlet registers and turn the system fan on. Check all drilled holes for forced air currents, plugging any that check positive so as not to administer Termidor near any leak in the system.

For exterior treatments, follow the standard procedures of trenching and rodding to the footing (but not below the footing) and treating all appropriate voids. If you need to treat under the slab from the exterior, take care to drill at an angle deep enough to get under the ducts.

If it's just not possible to be certain of ductwork locations, consider alternative treatment procedures, or leave that portion of the structure untreated and grant a waiver for that area.

Note: If there are holes in the ductwork or the ductwork is rusted or made of cardboard, it is strongly recommended that you not make a complete treatment unless these ducts are rendered useless and an alternative heating system is put in place.

During Treatment

The best protection from subterranean termite attack is to create a continuous chemical application in the soil beneath the structure, along foundation walls, and around supporting piers. When not applying termiticide directly to the soil as in trenching and rodding, be sure Termidor is placed only beneath the slab and within the hollow bricks and brick veneers. Be extremely careful to prevent the chemical from surfacing and contacting interior floors, carpet, wallpaper, paneling, or any furnishings.

When making an outside application above grade, such as with basements and split-level homes, a professional should be stationed inside for early detection of any chemical seepage or breakthrough.

If such occurs, the treatment should be stopped immediately and the situation evaluated. Two-way radios or walkie-talkie headsets work well for easy and continuous communication between workers.

Keep watch on the treating hose and the connections so that hose breaks or small leaks can be noted and corrected.

All spills, leaks, seepage, etc. should be handled as soon as they are detected. In fact, any time that the chemical concentrate or solution gets on non-target areas it should be cleaned up immediately. Minor spills or chemical deposits can be cleaned with detergent and water. Even drippings that might occur between treatment holes should be wiped up immediately. (Carrying a rag and using this rag to catch drips at the tip of the injector will help prevent the drips to the owners' property.) Rags used for this purpose or any cleanup should be placed in plastic bags, taken back to your place of business, and cleaned or disposed of in accordance with local regulations.

Major spills or leaks should first be contained, then the excess liquid and resulting residue cleaned up using procedures outlined in this brochure and/or on the MSDS label.

After Treatment

Problems can arise even when you have followed through with a careful pre-application inspection and careful application. The following suggestions might prove useful:

- Always conduct a post-treatment inspection immediately after application and before the crew leaves, making sure no chemical seepage or spill went unnoticed.

- Carefully check to see that all drill holes that were created for termiticide injection within living areas and outside slabs or walls are filled.

- Explain to the homeowner any precautions or corrective measures that were necessary. Again address concerns and questions openly and honestly. If you're not sure of an answer, let the homeowner know that you will get the answer and get back to him or her. Let the homeowner know that he or she may contact your office with questions and concerns after you leave.

- Leave the customer your calling card listing contact numbers.

- Contact the local Termidor representatives (Sales and Development) to help solve problems as necessary. Be sure that you or your office has the names and current phone numbers for these Termidor representatives.

Even with the best care and prevention, accidents can happen. Fortunately, cleaning up Termidor is relatively easy. It consists of two basic approaches: The first step is physical removal of the chemical or its residue. The second is deactivation of the chemical residue. (This is rarely, if ever, required; however, you can feel confident knowing that deactivation is an option.)

Because state and local regulations vary, be sure to know how regulatory officials in your area will view an accidental off-target application. Some officials view accidents resulting in off-target applications as misapplications no matter how innocent.

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Procedures to Clean Up Spills

Physical removal

First and foremost, the source of the off-target chemical must be eliminated or rectified. Spills must be contained to reduce the total surface area requiring cleanup. Absorbent materials like cloth rags or paper towels should be onhand at every jobsite for small volumes of liquid (<2 quarts). Industrial absorbents (e.g. Spill Control™ and ZorbAll™), pillow snakes, cat litter or sawdust can be used to contain and remove larger volumes. (Take care when using cat litter as some products contain bleach, which will stain carpeting or other floor finishes.)

Once contained, large volumes of Termidor® termiticide/insecticide can also be removed quickly and effectively using a wet/dry shop vacuum. (Naturally, the shop vacuum will need to be cleaned later.)

If you use rags, paper towels or sawdust, take them back to the shop and dispose of them in accordance with your local regulations. Excess liquid, industrial absorbents, and/or cat litter can be put in a trench dug at the jobsite. Finish the trench according to label directions.

Using detergent (such as Murphy® Oil Soap or Pine-Sol®) and water to clean up spills or drips will remove practically all the detectable surface residue.

Carpet: Remove excess liquid as quickly as possible. Clean the area using a carpet cleaning machine with a carpet cleaning detergent solution. A home carpet cleaning machine can be rented for this purpose, or you can hire a professional carpet cleaning service. Liquid from the cleaning machine can be disposed of in the treatment trench at the jobsite, put in the truck's tank, or taken back to the shop and disposed of according to local regulations.

If carpet padding has been saturated, the affected area should be cut out and replaced. The subfloor might need to be washed. Use a detergent solution, rinse thoroughly, and dry.

Linoleum, concrete, and other smooth surfaces: After removing the excess liquid, wash the affected area with a detergent solution. Then wipe up and dry with absorbent materials like paper towels. Dispose of the material back at the shop according to local regulations.

To reduce any odors, use fans or portable air purifiers to circulate fresh air. A charcoal filter secured to a fan near the source of the odor works well.

Ducts: Physical removal of chemical that has found its way into ductwork should first be attempted from a register opening using absorbent materials that can be retrieved – a plumber's snake with a rag or towel attached, for example, or a wet-dry shop vacuum. You could also call in a professional duct cleaning firm equipped with longer hoses and more suitable equipment.

If termiticide cannot be removed from a register opening, but the liquid can be located in the duct, drill a hole through to the underside of the duct (and, if necessary, the rest of the slab) allowing the liquid to drain into the soil beneath.

Deactivation

As mentioned previously, deactivation is rarely warranted. There are no hard and fast rules since quick removal of the liquid chemical followed by detergent and water do such a thorough job of removing surface residues. Each situation must be separately evaluated, considering the total liquid involved, the length of time before cleanup procedures were initiated, the surface type, and the need to further eliminate residues after the detergent wash. It may simply be a case of assuring the customer that every possible action has been taken to insure non-detectable, non-target residues.

Strong bases will hydrolize Termidor to inactive products, so 10% household bleach (5.25% sodium hypochlorite) can be used to neutralize finished spray solution. Clean up the bleach solution like you would clean up a spill using detergent and water (previously described). Liquid from this cleaning should be taken back to the shop and disposed of according to local regulations. Bleach water used for cleaning should not be put into the treatment trench at the job site or poured into the spray tank.

Responding quickly to spills, leaks, and other non-target applications of the chemical, and taking steps to physically remove as much of the chemical as possible will result in less remaining to be deactivated. Therefore, diluted bleach applied to the surface of small areas with a rag or sponge, rinsed, and wiped dry will be sufficient. For larger areas, mop the surface with diluted bleach, then rinse with water. Rubber gloves should be worn to protect hands from the bleach solution. Remember, bleach will deactivate Termidor but it will also stain carpeting, some finished floors, and any clothing or other material on furniture – use a mild carpet cleaning or furniture cleaning detergent before using bleach solution.

Clothing and Skin Contact

Long-sleeved shirts, full-length pants or coveralls made of washable cotton or cotton polyester blends are best when working with any termiticide. This clothing should be laundered regularly.

Clothing that becomes wet with insecticide should be removed, placed in a marked plastic bag, and handled according to label instructions. If they can be washed, don't wash them in the same load with other laundry. After washing, residues in the machine can be flushed out by running the washer empty.

The laundering process should begin with a pre-rinse using a large volume of water plus bleach. Then complete a pre-wash cycle using a pre-wash additive followed by a full wash cycle with detergent using the highest water level and temperature available on the machine. If possible, dry the clothes outdoors in fresh air and sunshine.

Gloves and boots worn while applying termiticides should be unlined and made of impermeable material like neoprene or rubber. They should be long enough to protect against spills, leaks or accidental spraying. They should never be worn off the job and should be kept in the truck or shop when not in use. Neoprene or rubber boots should be washed regularly, inside and out, with detergent and water.

If Termidor contacts the skin, wash the affected area with soap and water immediately. Additionally, it's a good idea to bathe or shower after every shift.

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Methods to Detect and Remedy Well Contamination

Although the salesperson should identify any existing wells on the property at the outset, the termite technician should also inspect the property to confirm the salesperson's findings before starting treatment. If a well is present on the property or nearby, the technician should further inspect for conditions that might lead to contamination during treatment.

Sources of well contamination

The most common cause of well contamination is a faulty seal or crack in the well casing. This permits surface water to enter the well, often along the pipes leading from the dwelling. Tree roots often reach to water sources and may serve as channels that termiticides will follow. Also, undetected subsurface rock or other impervious formations may be present and act as passages to the well.

Old cisterns or dug wells no longer in service that have not been properly closed may be contaminated by pesticides that can seep into the existing water supply. Unusual soil fill problems or changes in surface or subsurface grades may permit chemicals to move to the well also.

Note that it is only legal to treat a structure with a well or cistern within its confines if the label is followed strictly. Consult your local authorities for rules, regulations, and guidelines for treating structures with wells or cisterns nearby. If application is allowed, consult the Termidor® termiticide/insecticide label and support literature or reference manual for specific directions.

Special techniques may need to be used in applying Termidor near wells or cisterns. These may include the use of treated backfill, polyethylene lining, spot treatments, reducing the volumes of termiticide, and/or above ground spot treatments to the structure using products registered for this use. Always discuss such special situations with the property owner.

Precautions against contamination

During the pretreatment inspection, observe the well to see if the water level is close to the surface of the ground. This would indicate a high water table, saturated soil conditions, or possibly a faulty casing that allows surface water to enter the well. If there is repeated precipitation or snowmelt in the area and the soil is soggy, it can't accept much or any of the solution. If the termiticide were to be injected, trenched, rodded, etc., the solution would puddle or be forced elsewhere. Termidor, still in the solution, would be carried with it. The best option in such a case is to postpone treatment until the soil dries and the situation improves.

After locating the well, determine and mark where the underground supply pipes run from the well to the structure. Take special care not to rod adjacent to or through the pipes. An extra cautious approach would be to dig down and around supply lines from the structure to the well, or for at least five feet away from the structure. This way the technician can be sure not to hit the pipe. Any backwash or runoff during treatment would go below the pipe and not be able to follow it to the well.

The backfill technique mentioned earlier and described on the label and in the reference manual is an excellent procedure for treating structures with wells or cisterns close to foundations: The trenched soil is removed and placed on polyethylene sheeting to be treated. Using low pressure and a volume based on the linear feet per foot of depth removed, the technician sprays the soil while periodically mixing it for uniform coverage. It is then allowed to dry, which allows Termidor to bind to the soil. The treated soil is finally returned to the trench.

Determining the presence of Termidor

Although the first indication of well water contamination is usually an odor, Termidor does not have detectable odor, especially when diluted. Therefore, the only true confirmation of potential contamination is analysis of a water sample.

If contamination is suspected, the homeowner should switch to bottled water immediately until the situation is resolved.

Water sampling

The sampling procedure is extremely important for accurate analytical results. If contamination is suspected, measures should be put in place to prevent additional chemicals from flowing into the well. A water sample from the well is needed. This can be taken from the well-head or from the supply line. To get the water sample at the well-head, remove the well cap and lower the bottle into the water using strong twine or string. If the well-head is not accessible, take the sample from the pump or supply line (collect samples from the kitchen tap).

If Termidor contamination is suspected, contact the local Termidor representatives (Sales and Development) and have them assist with the water sampling procedures. Be sure that you or your office has the names and current phone numbers for these Termidor representatives. These Termidor representatives will send the water samples to BASF in Research Triangle Park, NC for analysis.

Always take initial water samples before any flushing procedure to provide a reference point for the cleanup operation, as well as to verify that a contamination exists. An initial check should also be made for coliform bacteria in the water, which would indicate a crack in the well. Subsequent samples can then give a better indication of the corrective measures taken. Water should be allowed to run for a short period of time prior to taking the sample.

When taking samples, use only sterilized glass bottles. Preferably, they should be brown or wrapped and taped to keep out UV light. Since the detection limit for Termidor is 10 parts per trillion, it's important to use a clean bottle that has not previously contained pesticides. A pharmacy is a good source for such bottles.

Each sample taken should be clearly marked with waterproof ink. The information should include your name and company, the city and state of the treatment site, the sample number, date, and active ingredient to analyze. Keep a record of the information you will need to match the sample to the interval at which it was taken during the cleanup procedures and the point in the water system from which it was taken, i.e., kitchen tap before cleanup, well-head after purging, etc. Always send a blank sample containing bottled water to serve as a check.

Place each sample bottle in a separate plastic bag and seal it. Package all carefully to prevent breakage. Mark "NONHAZARDOUS WATER SAMPLE" on the outside of the container and rush to a lab for immediate analysis. If the samples cannot be shipped until the next day, they should be kept in cold storage, but not frozen.

Filtering device

If the well is contaminated with Termidor an activated charcoal filter must be installed between the well and the structure. A typical model is equipped with

an activated charcoal cartridge and a back flush valve. BASF will recommend the proper unit to install. This hardware can be obtained through most major retailers, but it is best to hire a plumber to do the installation.

Activated charcoal filters are highly efficient at filtering low levels of Termidor. They will also filter out many other organic compounds that may already be present in the water system. Once they are installed, flush the water lines thoroughly through the filter and obtain samples from both an indoor tap and at the well to determine the filter's efficacy.

If the indoor tap sample proves to be below detectable limits, but termiticide is still detected at the well, the filter cartridge must be replaced in 30 days and another set of samples taken. This process must continue for as long as levels are detected at the well.

Additional information on wells and the disinfecting of them is available from the following resources:

Resources Manual of Individual Water Supply Systems
U.S. Environmental Protection Agency
Office of Drinking Water
Publication No. EPA-430/9-74-007

Ground Water and Wells, 2nd Edition, 1986
A Reference Book for the Water-Well Industry
Johnson Division, UOP Inc.
St. Paul, Minn. 55165

This guide to assist the Pest Management Professional with clean up procedures for minor spills and possibly major water contamination will be updated periodically. Old guidelines should be destroyed and replaced with current guidelines. This guide was updated in May 2001.

To contact the Termidor Sales or Technical representatives in your area please call 1-877-TERMIDOR.

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