This information is for promotional purposes only. Space considerations may require information to be omitted.
Always refer to the actual package for complete label verbiage. This product may not yet be available or approved for sale or use in your area.

BIFENTHRIN | GROUP 3A | INSECTICIDE

TALAK™ 25.1% XTS

Insecticide

For use by individuals/firms licensed or registered by the State to apply termiticide products. States may have more restrictive requirements regarding qualifications of persons using this product. Consult the structural pest control regulatory agency of your State prior to use of this product.

ACTIVE INGREDIENT:	**(% by weight)**
Bifenthrin*	25.1%
OTHER INGREDIENTS:**	74.9%
TOTAL:	100.0%

Contains 2 pounds of active ingredient per gallon.
*Cis isomers 97% minimum, trans isomers 3% maximum.
**Contains petroleum distillates.
EPA Reg. No.: 91234-376

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KEEP OUT OF REACH OF CHILDREN
WARNING

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

See inside label booklet for First Aid, additional Precautionary Statements, and Directions for Use.

FIRST AID	
If swallowed:	• Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
NOTE TO PHYSICIAN: This product is a pyrethroid. This product also contains aromatic hydrocarbons and petroleum distillate. Vomiting may cause aspiration pneumonia. Because of the risk of hydrocarbon pneumonitis, if even tiny amounts are aspirated into the lung during emesis, consideration should be given to gastric lavage with endotracheal tube in place. Treatment is symptomatic and supportive. Animal and vegetable fats, milk, cream and alcohol may increase absorption and should not be administered.	
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at **1-844-685-9173** for emergency medical treatment information.	

For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident,

Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)

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PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING/AVISO

May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on skin or clothing. Harmful if inhaled, or absorbed through skin. Avoid breathing vapor or spray mist and contact with skin. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

All pesticide handlers (mixers, loaders, and applicators) must wear:

- Long sleeved coveralls worn over a minimum of short-sleeved shirt and short pants,
- Socks,
- Chemical-resistant footwear,
- Chemical-resistant gloves made of barrier laminate or Viton ≥ 14 mil.,
- Protective eyewear.

After the product is diluted in accordance with label directions for use, and/or when mixing and loading using a closed spray tank transfer system, or an in-line injector system, shirts, pants, socks, shoes, and chemical-resistant gloves are sufficient.

In addition, all pesticide handlers must wear a minimum of a NIOSH approved elastomeric half mask respirator with organic vapor (OV) cartridges and combination R or P filters OR a NIOSH-approved gas mask with OV canisters; OR a NIOSH approved powered air purifying respirator with OV cartridges and combination HE filters., when handling the concentrate or when working in a non-ventilated space.

All pesticide handlers must wear protective eyewear when working in non-ventilated spaces or applying as a termiticide by rodding or sub-slab injection.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and aquatic invertebrates. Do not apply when weather conditions favor drift from treated areas. Care should be used when spraying to avoid fish and reptile pets in/around ornamental ponds. Do not apply **Talak 25.1% XTS** or allow it to drift to crops or weeds on which bees are visiting the treatment area. Additional information may be obtained from your Cooperative Extension Service.

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid runoff to water bodies or drainage systems.

NON-TARGET ORGANISM ADVISORY: This product is highly toxic to bees and other pollinating insects exposed to direct treatment or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and reduce pesticide risk to these organisms.

PHYSICAL OR CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame. Do not apply this product in or on electrical equipment due to the possibility of shock hazard.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

For both indoor and outdoor use.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard, 40 CFR part 170. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, and greenhouses.

DO NOT allow people or pets on treated areas until the spray has dried.

GENERAL INFORMATION

Do not use on plants being grown for commercial seed production, or research purposes. For use on plants intended for aesthetic purposes or climatic modifications and being grown in ornamental parks and gardens, interior plantscapes, lawns and grounds.

Talak 25.1% XTS prevents and controls termite infestations in and around structures and building constructions.

BUFFER ZONE AND WATER PROTECTION STATEMENTS

Do not apply this product into fish pools, ponds, streams, or lakes. Do not apply directly to sewers or storm drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur.

Do not allow the product to enter any drain during or after application.

Do not apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment.

Do not apply or irrigate to the point of run-off.

BUFFER ZONES TO WATER BODIES

For soil or foliar applications, do not apply by ground within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds.

In New York State, this product may not be applied within 100 feet (using ground equipment) of coastal marshes or streams that drain into coastal marshes.

RAIN-RELATED STATEMENTS

Do not make applications during rain. Avoid making applications when rainfall is expected before the product has sufficient time to dry (minimum 4 hours). Rainfall within 24 hours after application may cause unintended runoff of pesticide application.

VEGETATIVE FILTER STRIPS

Construct and maintain a vegetative filter strip, according to the width specified below, of grass or other permanent vegetation between the field edge and nearby down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; rivers; streams; marshes or natural ponds; estuaries; and commercial fish farm ponds).

Only apply products containing bifenthrin onto fields where a maintained vegetative filter strip of **at least 25 feet** exists between the field edge and where a down gradient aquatic habitat exists. This minimum required width of 25 feet may be reduced or removed under the following conditions:

- For Western irrigated agriculture, a maintained vegetative filter strip of at least 10 feet wide is required. Western irrigated agriculture is defined as irrigated farmland in the following states: WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM, and TX (west of I-35).
    - For Western irrigated agriculture, if a sediment control basin is present, a vegetative filter strip is not required.

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- In all other areas, a vegetative filter strip with a minimum width of 25 feet is required, unless the following conditions are met. The vegetative filter strip requirement may be reduced from 25 feet to 15 feet if at least one of the following applies:
    - The area of application is considered prime farmland (as defined in 7 CFR § 657.5).
    - Conservation tillage is being implemented on the area of application. Conservation tillage is defined as any system that leaves at least 30% of the soil surface covered by residue after planting. Conservation tillage practices can include mulch-till, no-till, or strip-till.
    - A functional terrace system is maintained on the area of application.
    - Water and sediment control basins for the area of application are functional and maintained.
    - The area of application is less than or equal to 10 acres.

For further guidance on vegetated filter strips, refer to the following publication for information on constructing and maintaining effective buffers: Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. https://www.regulations.gov/document?D=EPA-HQ-OPP-2008-0331-0175

RESIDENTIAL OUTDOOR SURFACE AND SPACE SPRAYS

All outdoor applications must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses:

1. Applications to pervious surfaces such as soil, lawn, turf, and other vegetation;
2. Perimeter band treatments of 7 feet wide or less from the base of a man-made structure to pervious surfaces (*e.g.*, soil, mulch, or lawn);
3. Applications to underside of eaves, soffits, doors, or windows permanently protected from rainfall by a covering, overhang, awning or other structure;
4. Applications around potential exterior pest entry points into man-made structures such as doorways and windows, when limited to a band not to exceed one inch;
5. Applications to vertical surfaces (such as the side of a man-made structure) directly above impervious surfaces (e.g., driveways, sidewalks, etc.), up to 2 feet above ground level;
6. Applications to vertical surfaces directly above pervious surfaces, such as soil, lawn, turf, mulch or other vegetation) only if the pervious surface does not drain into ditches, storm drains, gutters, or surface waters.

SPOT TREATMENTS

Spot treatments must not exceed two square feet in size (for example, 2 ft. by 1 ft. or 4 ft. by 0.5 ft.).

CRACK AND CREVICE TREATMENTS

Treat surfaces to ensure thorough coverage but avoid runoff.

To treat insects harbored in voids and cracks-and-crevices, applications must be made in such a manner to limit dripping and avoid runoff onto untreated structural surfaces and plants.

MANDATORY SPRAY DRIFT MANAGEMENT

Ground Boom Applications:

- User must only apply with the nozzle height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to select a nozzle and pressure that deliver medium or coarser droplets (ASABE S572).
- Do not apply when wind speeds exceed 15 mph at the application site.
- Do not apply during temperature inversions.

Airblast Applications:

- Sprays must be directed into the canopy.
- Do not apply when wind speeds exceed 15 mph at the application site.
- User must turn off outward-pointing nozzles at row ends and when spraying outer row.
- Do not apply during temperature inversions.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.

BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- **Volume** – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- **Pressure** – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- **Spray Nozzle** – Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

BOOM HEIGHT – Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Handheld Technology Applications:

- Take precautions to minimize spray drift.

RESISTANCE MANAGEMENT

For resistance management, **Talak 25.1% XTS** contains a Group 3A Insecticide. Any insect/mite population may contain individuals naturally resistant to **Talak 25.1% XTS** and other Group 3A insecticides. The resistant individuals may dominate the insect/mite population if this group of insecticides is used repeatedly in the same fields. Appropriate resistance management strategies should be followed.

To delay insecticide resistance, take the following steps:

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- Rotate the use of **Talak 25.1% XTS** or other Group 3A insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
    - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
    - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
    - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
    - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
    - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact an Atticus, LLC representative at 984-465-4800.

TANK MIXING

Talak 25.1% XTS may be tank-mixed with other products, including insect growth regulators. The addition of spreader stickers is not necessary. The physical compatibility of **Talak 25.1% XTS** may vary with different sources of pesticide products, and local cultural practices. Any tank mixture which has not been previously tested should be prepared on a small scale (pint or quart jar), using the proper proportions of chemicals and water to ensure the physical compatibility of the mixture. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

The following procedure is for preparation of a new tank mix, unless specified otherwise in label directions:

(1) Add wettable powders to tank water,
(2) Agitate,
(3) Add liquids and flowables,
(4) Agitate,
(5) Add emulsifiable concentrates, and
(6) Agitate. If a mixture is found to be incompatible following this order of addition, try reversing the order of addition, or increase the volume of water.

NOTE: If the tank-mixture is found to be compatible after increasing the amount of water, then the sprayer will need to be recalibrated for a higher labeled volume application. Do not allow tank mix to stand overnight.

ATTENTION

- Do not apply to pets, crops, or sources of electricity.
- Do not treat firewood.
- Use only in well-ventilated areas.
- During any application to overhead areas of structure, cover surfaces below with plastic sheeting or similar material (except where exempt).
- Do not allow spray to contact food, foodstuffs, food-contacting surfaces, food utensils or water supplies.
- Thoroughly wash dishes and food-handling utensils with soap and water if they become contaminated by application of this product.
- Do not treat areas where food is exposed.
- During indoor surface applications do not allow dripping or run-off to occur.
- Do not apply this product through any type of irrigation system.
- For turf treatment, apply with nozzles not more than 2 feet above the grass.
- DO NOT apply when grass areas are waterlogged, or the soil is saturated with water (i.e., will not accept irrigation).
- Do not apply by air.
- Do not use in greenhouses.

APPLICATION

TERMITE AND WOOD-DESTROYING PESTS

To institute a barrier between the wood and the termites in the soil, the chemical dilution must be effectively dispersed in the soil. It is important to remove unnecessary materials that contain cellulose and wood from around foundation walls, crawl spaces (inside of structure), and porches, and fix damaged plumbing and construction grade in order to deny termite access to moisture. Treat the soil around untreated structural wood in contact with soil as stated below.

To use **Talak 25.1% XTS** effectively, it is important that the service technician be familiar with current control practices including trenching, rodding, sub-slab injection, low-pressure spray applications, coarse fan spraying of soil surfaces, crack-and-crevice (void) injection, excavated soil treatment and brush and spray applications to infested or susceptible wood. Using these techniques correctly is essential to prevent or control infestations by subterranean termite species of genera *Reticulitermes*, *Zootermopsis*, *Coptotermes* and *Heterotermes*. When determining what procedures to follow, the service technician should consider certain variables. Some of the variables to consider are species biology and behavior, structure design, heating, ventilation, and air conditioning (HVAC) systems, water table, soil type and compaction, grade conditions, and the location and type of domestic water supplies and utilities.

When treating adjacent to an existing structure, the applicator must check the area to be treated, and immediately adjacent areas of the structure, for visible and accessible cracks and holes to prevent any leaks or significant exposures to persons occupying the structure. People present or residing in the structure during application must be advised to remove their pets and themselves from the structure if they see any signs of leakage. After application, the applicator is required to check for leaks. All leaks resulting in the deposition of termiticide in locations other than those prescribed on this label must be cleaned up prior to leaving the application site. Do not allow people or pets to contact contaminated areas or to reoccupy contaminated areas of the structure until the clean-up is completed.

For information concerning the most up-to-date control practices in a given region or locale, consult the local resources for structural pest control, state cooperative extensions or regulatory agencies.

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SUBTERRANEAN TERMITE CONTROL

Important: Observe the following precautions to avoid contamination of public and private water supplies:

- Use anti-backflow equipment and procedures to prevent insecticide from being siphoned into water supplies.
- Do not contaminate cisterns, wells, or other water tanks by treating the soil beneath these structures.
- Do not treat soil where runoff may occur.
- Do not treat water-saturated or frozen soil.
- Consult local and state specifications for recommended treatment practices in your area.
- If local or state specifications do not exist, consult the Federal Housing Administration (H.U.D.) guidance documents.

NOTE: For the purposes of this label, crawl spaces are defined as being inside of the structure.

Critical Areas: Points at which the foundation is penetrated or abuts another structure are critical areas. These include bath traps, cracks and expansion joints, utility entry points, and adjacent structures such as patios, slab additions, and stairs.

Structures with Wells/ Cisterns Inside Foundations

Structures that contain wells or cisterns within the foundation of a structure can only be treated using the following techniques:

1. Do not treat soil while it is beneath or within the foundation or along the exterior perimeter of a structure that contains a well or cistern. The treated backfill method must be used if soil is removed and treated outside/away from the foundation. The treated backfill technique is described as follows:
   a) Trench and remove soil to be treated onto heavy plastic sheeting or similar material or into a wheelbarrow.
   b) Treat the soil at the rate of 4 gallons of dilute dilution per 10 linear feet per foot of depth of the trench, or 1 gallon per 1.0 cubic feet of soil. See "**Mixing Directions**" section of this label. Mix thoroughly into the soil taking care to contain the liquid and prevent runoff or spillage.
   c) After the treated soil has absorbed the diluted dilution, replace the soil into the trench.
2. Treat infested and/or damaged wood in place using an injection technique described in the "**Control of Wood Infesting Insects**" section of this label.

Structures with Adjacent Wells/ Cisterns and/or Other Water Bodies

Applicators must inspect all structures with nearby water sources such as wells, cisterns, surface ponds, streams, and other bodies of water and evaluate, at a minimum, the treatment recommendations listed below prior to making an application.

1. Prior to treatment, if feasible, expose the water pipe(s) coming from the well to the structure if the pipe(s) enter the structure within 3 feet of grade.
2. Prior to treatment, applicators are advised to take precautions to limit the risk of applying the termiticide into subsurface drains that could empty into any bodies of water. These precautions include evaluating whether application of the termiticide to the top of the footer may result in contamination of the subsurface drain. Factors such as depth to the drain system and soil type and degree of compaction should be taken into account in determining the depth of the treatment.
3. When appropriate (i.e., on the water side of the structure), the treated backfill technique (described above) can also be used to minimize off-site movement of termiticide.

Before these techniques are used close to cisterns, wells, or other bodies of water, seek advice from local, state, or federal agencies for information on treatment practices that are accepted in your area.

Application Rate

Use a 0.06% dilution for subterranean termites. For other pests on the label use specific listed rates.

Mixing Directions

Mix the termiticide use dilution in the following manner: Fill tank 1/4 to 1/3 full. Start pump to begin bypass agitation and place end of treating tool in tank to allow circulation through hose. Add appropriate amount of **Talak 25.1% XTS**. Add remaining amount of water. Let pump run and allow recirculation through the hose for 2 to 3 minutes.

Talak 25.1% XTS may also be combined into full tanks of water. If combined into full tanks of water, allow sufficient time for agitation and/or recirculation to ensure consistency of the dilution.

To prepare a 0.06% water dilution, ready-to-use, dilute 1 quart of **Talak 25.1% XTS** with 99.75 gallons of water.

Mixing: Using the chart below, determine the volume of **Talak 25.1% XTS** and water required to produce the desired volume of finished dilution.

Amount of Talak 25.1% XTS (Gallons except where noted)			
Dilution Concentrate	**Amount of Talak 25.1% XTS**	**Amount of Water**	**Desired Gallons of Finished Dilution**
0.06%	0.32 fl. oz.	127.68 fl. oz.	1
	1.60 fl. oz.	4.99	5
	3.20 fl. oz.	9.975	10
	8 fl. oz.	24.94	25
	0.50 qt.	49.875	50
	0.75 qt.	74.8125	75
	1 qt.	99.75	100
	1.50 qt.	149.62	150
	2 qt.	199.5	200
0.12%[1]	0.64 fl. oz.	127.36 fl. oz.	1
	3.20 fl. oz.	4.975	5
	6.40 fl. oz.	9.95	10
	0.50 qt.	24.875	25
	1 qt.	49.75	50
	1.50 qt.	74.625	75
	2 qt.	99.500	100
	3 qt.	149.250	150
	1	199	200
Units of measure: 1 pint =16 fluid ounces (fl. oz.) 1 quart = 2 pints = 4 cups = 32 fluid ounces (fl. oz.)			

[1]When treating for termites, use this rate only in conjunction with volume adjustments, foam applications or underground services applications.

Application Volume

To provide maximum control and protection against termite infestation apply the specified volume of the finished water dilution and active ingredient as set forth in the "**Mixing Directions"** section of this label. If soil will not accept the labeled application volume, the volume may be reduced provided there is a corresponding increase in concentration so that the amount of active ingredient applied to the soil remains the same.

Note: Large reductions of application volume reduce the ability to obtain a continuous barrier. Variance is allowed when volume and concentration are consistent with the label-directed rates and a continuous barrier can still be achieved.

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The volume of the 0.12% dilution may be reduced by 1/2 the labeled volume where desirable for pre- and post-construction applications. When the volume is reduced, the hole spacing for subslab injection and soil rodding may also need to be adjusted to account for lower volume dispersal of the termiticide in the soil. Consult the following "**Volume Adjustment Chart"** for details.

Volume Adjustment Chart		
Rate (% Dilution)	**0.06%**	**0.012%**
Volume allowed		
• Horizontal (Gallons dilution /10 ft²)	1.0 Gallons	0.5 Gallons
• Vertical (Gallons dilution/10 linear ft.)	4.0 Gallons	2.0 Gallons

After Treatment: All holes in commonly occupied areas into which material has been applied must be plugged. Plugs must be of a non-cellulose material or covered by an impervious, non-cellulose material.

PRE-CONSTRUCTION SUBTERRANEAN TERMITE TREATMENT
Do not apply at a lower dosage and/or concentration than specified on this label for applications prior to the installation of the finished grade.

The treatment site must be covered prior to a rain Event in order to prevent run-off of the pesticide into non-target areas.

The applicator must either cover the soil themselves or provide written notification of the above requirement to the contractor on site and to the person commissioning the application (if different than the contractor). If notice is provided to the contractor or the person commissioning the application, then they are responsible under FIFRA to ensure that:

1) if the concrete slab cannot be poured over the treated soil within 24 hours of application the treated soil is covered with a waterproof covering (such as polyethylene sheeting), and
2) the treated soil is covered if precipitation is predicted to occur before the concrete slab is scheduled to be poured.

Do not treat soil that is water-saturated or frozen.

Do not apply within 10 feet of storm drains.
Do not make on-grade applications when sustained wind speeds are above 10 mph (at application site) at nozzle end height.

When treating foundations deeper than 4 feet, apply the termiticide as the backfill is being replaced, or if the construction contractor fails to notify the applicator to permit this, treat the foundation to a minimum depth of 4 feet after the backfill has been installed. The applicator must trench and rod into the trench or trench along the foundation walls and around pillars and other foundation elements at the rate prescribed from grade to a minimum depth of 4 feet. When the top of the footing is exposed, the applicator must treat the soil adjacent to the footing to a depth not to exceed the bottom of the footing. However, in no case should a structure be treated below the footing.

To produce effective pre-construction subterranean termite control, create vertical and/or horizontal chemically-treated zones of protection using 0.06% dilution of **Talak 25.1% XTS**.

Horizontal Barriers
Establish a horizontal chemical barrier wherever treated soil will be covered by a slab such as basement floors, carports, entrance platforms, footing trenches, and slab floors.

Apply 1 gallon of 0.06% dilution per 10 sq. ft., or use 0.32 fl. oz. of **Talak 25.1% XTS** per 10 sq. ft. in sufficient water (no less than 1/2 gallon or more than 2 gallons) to provide a uniform treated barrier for the area being treated.

If the fill is coarse aggregate, such as washed gravel, a sufficient volume of dilution must be applied to allow it to reach the soil beneath the coarse fill.

Make applications with a low-pressure spray (less than 50 p.s.i.), using a coarse spray nozzle. If foundation walls have not been installed around the treated soil and the slab will not be poured the same day as treatment, the treated soil must be covered with a water-proof barrier. Polyethylene sheeting may be used for this purpose.

Vertical Barriers
Establish vertical barriers in critical areas, such as along the inside of foundation walls, plumbing, bath traps, utility services and other features that will penetrate the slab.

Using a 0.06% dilution, apply 4 gallons of dilution per 10 linear feet per foot of depth or 1.28 fl. oz. of **Talak 25.1% XTS** per 10 linear feet per foot of depth from grade level to the top of the footing in sufficient water to provide a uniform treated barrier. Use no less than 2 gallons to no more than 8 gallons of water per 10 linear feet.

When trenching and rodding into the trench, or trenching, take care to ensure that the dilution reaches the top of the footing. Space the rod holes so that a continuous treated barrier is created, but not exceeding 12 inches apart. Avoid washing-out the soil around the footing. Trenches should be about 6 inches wide and 6 inches deep. Mix the chemical dilution with the soil as it is being replaced in the trench. Inside vertical barriers may not be required for monolithic slabs. When treating hollow block voids, use 2 gallons of dilution per 10 linear feet to assure that the dilution reaches the top of the footing.

Hollow block voids may be treated at the rate of 2 gallons of emulsion per 10 linear feet so that the emulsion reaches the top of the footing.

Prior to each application, applicators must notify the general contractor, construction superintendent, or similar responsible party, of the intended termiticide application and intended sites of application and instruct the responsible person to notify construction workers and other individuals to leave the area to be treated during application and until the termiticide is absorbed into the soil.

POST-CONSTRUCTION SUBTERRANEAN TERMITE TREATMENT
Application Volume
To provide maximum control and protection against termite infestation apply the specified volume of the finished water dilution and active ingredient as set forth in the "**Mixing Directions"** section of this label. If soil will not accept the labeled application volume, the volume may be reduced provided there is a corresponding increase in concentration so that the amount of active ingredient applied to the soil remains the same.

Note: Large reductions of application volume reduce the ability to obtain a continuous barrier. Variance is allowed when volume and concentration are consistent with the label-directed rates and a continuous barrier can still be achieved.

The volume of the 0.12% dilution may be reduced by 1/2 the labeled volume where desirable for pre- and post-construction applications. When the volume is reduced, the hole spacing for subslab injection and soil rodding may also need to be adjusted to account for lower volume dispersal of the termiticide in the soil. Consult the following "**Volume Adjustment Chart"** for details.

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Volume Adjustment Chart		
Rate (% Dilution)	**0.06%**	**0.12%**
Volume allowed		
• Horizontal (Gallons dilution /10 ft.^{2})	1.0 Gallons	0.5 Gallons
• Vertical (Gallons dilution/10 linear ft.)	4.0 Gallons	2.0 Gallons

After Treatment: All holes in commonly occupied areas into which material has been applied must be plugged. Plugs must be of a non-cellulose material or covered by an impervious, non-cellulose material.

For post-construction treatment, use a 0.06% dilution. Post-construction treatments shall be made by subslab injection, trenching and rodding into the trench or trenching using low-pressure spray not exceeding 25 p.s.i. at the nozzle. Proper precautions should be taken to avoid soil wash-out around the footing.

Locate, identify, and mark wells, electrical conduits, water and sewer lines, and radiant heat pipes prior to application of **Talak 25.1% XTS**. Do not puncture or inject **Talak 25.1% XTS** into such structures.

Foundations

For applications made after the final grade is installed, the applicator must trench and rod into the trench or trench along the foundation walls and around pillars and other foundation elements, at the rate prescribed from grade to the top of the footing. When the footing is more than four (4) feet below grade, the applicator must trench and rod into the trench or trench along the foundation walls at the rate prescribed to a minimum depth of four feet. The actual depth of treatment will vary depending on soil type, degree of compaction, and location of termite activity. When the top of the footing is exposed, the applicator must treat the soil adjacent to the footing to a depth not to exceed the bottom of the footing. However, in no case should a structure be treated below the footing.

Slabs

Create vertical barriers by trenching and rodding into the trench or trenching outside at a rate of 4 gallons of dilution per 10 linear feet per foot of depth and by sub-slab injection within the structure. Ensure an even distribution of chemical. Applications must not be made below the bottom of the footing.

Apply beside the outside of the foundation and under the slab on the inside of foundation walls, where needed. Treatment of slabs may also be necessary under and beside both sides of any interior footing-supported walls, in all cracks and expansion joints, and beside one side of interior partitions. By long-rodding or grid pattern injection vertically through the slab, horizontal barriers may be created where necessary.

a. To permit the creation of an uninterrupted insecticidal barrier, drill holes in the foundation and/or slab.
b. For foundations that are less than or equal to 1 foot, dig a narrow trench about 6 inches wide beside the outside of the foundation walls. Do not dig beneath the bottom of the footing. As the soil is placed back into the trench, apply 4 gallons of 0.06% dilution per 10 linear feet per foot of depth to the trench and soil.
c. Follow the rates for Basements (below) for foundations that are deeper than 1 foot.
d. A 0.06% dilution may be used to treat exposed soil and wood in bath traps.

Basements

Treatment must be made by trenching and rodding into the trench, or trenching at the rate of 4 gallons of dilution per 10 linear feet per foot of depth wherever the footing, from grade to the bottom of the foundation, is greater than 1 foot of depth. When the footer is greater than four feet below grade, the applicator may trench and rod into the trench, or trench beside foundation walls at the rate designated for four feet of depth. Space rod holes to create a continuous insecticidal barrier, but in no case more than 12 inches apart. Depending on the type of soil, degree of compaction, and location of termite activity, the actual depth of treatment will differ. However, a structure should never be treated below the footer.

Sub-slab injection may be needed beside the inside of foundation walls, around conduits, piers, and pipes, beside both sides of interior footing-supported walls, and beside cracks and partition walls.

Crawl Spaces - Accessible

For crawl spaces, apply vertical termiticide barriers at the rate of 4 gallons of dilution per 10 linear feet per foot of depth from grade to the top of the footing, or if the footing is more than 4 feet below grade, to a minimum depth of 4 feet. Apply by trenching and rodding into the trench, or trenching. Treat both sides of foundation and around all piers and pipes. Where physical obstructions such as concrete walkways adjacent to foundation elements prevent trenching, treatment may be made by rodding alone. When soil type and/or conditions make trenching prohibitive, rodding may be used. When the top of the footing is exposed, the applicator must treat the soil adjacent to the footing to a depth not to exceed the bottom of the footing. Read and follow the "**Mixing"** and "**Use Direction"** sections of the label if situations are encountered where the soil will not accept the full application volume.

1. Rod holes and trenches must not extend below the bottom of the footing.
2. Rod holes must be spaced so as to achieve a continuous termiticide barrier but in no case more than 12 inches apart.
3. Trenches must be a minimum of 6 inches deep or to the bottom of the footing, whichever is less, and need not to be wider than 6 inches. When trenching in sloping (tiered) soil, the trench must be stepped to ensure adequate distribution and prevent termiticide from running off. The dilution must be mixed with the soil as it is replaced in the trench.
4. When treating plenums or crawl spaces, turn off the air circulation system of the structure until application has been completed and all termiticide has been absorbed by the soil.

Crawl Spaces - Inaccessible

For inaccessible interior areas, such as areas where there is insufficient clearance between floor joists and ground surfaces to allow operator access, excavate if possible, and treat according to the instruction for accessible crawl spaces.

Otherwise, apply one or a combination of the following two methods:

1. To establish a horizontal barrier, apply to the soil surface, 1 gallon of dilution per 10 square feet overall using a nozzle pressure of less than 25 p.s.i. and a coarse application nozzle (e.g., Delavan Type RD Raindrop®, RD-7 or larger, or Spraying Systems Co. 8010LP TeeJet® or comparable nozzle). For an area that cannot be reached with the application wand, use one or more extension rods to make the application to the soil. Do not broadcast or power spray with higher pressures.
2. To establish a horizontal barrier, drill through the foundation wall or through the floor above and treat the soil perimeter at a rate of 1 gallon of dilution per 10 square feet. Drill spacing must be at intervals not to exceed 16 inches. Many states have smaller intervals, so check State regulations which may apply.

When treating plenums and crawl spaces, turn off the air circulation systems of the structure until application has been completed and all termiticide has been absorbed by the soil.

Masonry Voids

Drill and treat voids in multiple masonry elements of the structure extending from the structure to the soil in order to create a continuous treatment barrier in the area to be treated. Apply at a rate of 2 gallons of dilution per 10 linear feet of footing, using a nozzle pressure of less than 25 p.s.i. When using this treatment, access holes must be drilled below the sill plate and should be as close as possible to the footing as is practical. Treatment of voids in block or rubble foundation walls must be closely examined: Applicators must inspect areas of possible runoff as a precaution against application leakage in the treated areas. Some areas may not be treatable or may require mechanical alteration prior to treatment.

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All leaks resulting in the deposition of termiticide in locations other than those prescribed on this label must be cleaned up prior to leaving the application site. Do not allow people or pets to contact contaminated areas or to reoccupy the contaminated areas of the structure until the clean-up is completed.

NOTE: When treating behind veneer structures (walls, etc.) take proper care to not drill beyond the veneer. If concrete blocks exist behind the veneer, both can be drilled and treated simultaneously.

Do not use in voids insulated with rigid foam insulation.

Excavation Technique: When treating in troublesome areas (e.g., beside fieldstone or rubble walls, beside faulty foundation walls, and around pipes and utility lines leading downward from the structure to a well or pond) apply using the following technique:

a. Prepare a trench, placing the removed soil onto heavy-weight plastic sheeting or similar, water-impermeable material.
b. Treat the soil with 4 gallons of 0.06% dilution per 10 linear feet per foot of depth of the trench. Completely mix the dilution into the soil, exercising care to avoid liquid running off the sheeting.
c. Place the treated soil back into the trench after it has absorbed the dilution.

Attention: Wear NIOSH approved respirator and unvented goggles when applying **Talak 25.1% XTS** in a confined area.

FOAM APPLICATIONS

Talak 25.1% XTS dilution, from 0.06 to 0.12% may be converted to foam with 2X - 40X expansion, characteristics and used to control or prevent termite infestations.

Depending on the circumstances, foam applications may be used alone or in combination with liquid emulsion applications. Applications may be made behind veneers, piers, chimney bases, into rubble foundations, into block voids or structural voids, under slabs, stoops, porches, or to the soil in crawlspaces, and other similar voids.

Foam and liquid application must be consistent with volume and active ingredient instructions in order to ensure proper application has been made. The volume and amount of active ingredient are essential to an effective treatment. At least 75% of the labeled liquid emulsion volume of product must be applied, with the remaining percent delivered to appropriate areas using foam application. Refer to label and use recommendations of the foam manufacturer and the foaming equipment manufacturer.

Foam applications are generally a good supplement to liquid treatments in difficult areas, but may be used alone in difficult spots.

Application Under Slabs or to Soil in Crawlspaces to Prevent or Control Termites

When making applications, **Talak 25.1% XTS** foam can be used alone or in combination with liquid dilution. Whether applied as a dilution, foam, or some of both, the equivalent of at least 4 gallons of 0.06% dilution (1.28 fl. oz. of **Talak 25.1% XTS** concentrate) per 10 linear feet must be applied for a vertical barrier, or at least 1 gallon of 0.06% dilution (0.32 fl. oz. of **Talak 25.1% XTS** concentrate) per 10 sq. ft. must be applied for a horizontal barrier. For a foam only application, apply **Talak 25.1% XTS** concentrate in sufficient concentration and volume to equal 1.28 fl. oz. of concentrate per 10 linear feet or 1 fl. oz. of concentrate per 10 sq. ft. For example, 2 gallons of 0.12% dilution converted to foam and used to cover 10 linear feet is the equivalent of 4 gallons of 0.06% dilution per 10 linear feet.

Sand Barrier Installation and Treatment

As long as termites have access to soil that has not been treated and can avoid soil that has been treated with **Talak 25.1% XTS**, they can build mud tubes over surfaces that have been treated. Cracks and spaces should be filled with play box or builder's sand and then treated in the same manner as soil. Follow the rates listed on the **Talak 25.1% XTS** label.

Retreatment for subterranean termites can only be performed if there is clear evidence of reinfestation or disruption of the barrier due to construction, excavation, or landscaping and/or evidence of the breakdown of the termiticide barrier in the soil. These vulnerable or re-infested areas may be retreated in accordance with application techniques described in this labeling. The timing and type of these retreatments will vary depending on factors such as termite pressure, soil types, soil conditions and other factors which may reduce the effectiveness of the barrier.

Annual re-treatment of the structure is prohibited unless there is clear evidence that reinfestation or barrier disruption has occurred.

APPLICATION IN CONJUNCTION WITH THE USE OF ABOVE-GROUND TERMITE BAITS

As part of an integrated pest management (IPM) program for termite control, **Talak 25.1% XTS** may be applied to critical areas of the structure including plumbing and utility entry sites, bath traps, expansion joints, foundation cracks and areas with known or suspected infestations at a rate of 0.06% as a spot treatment or complete barrier treatment. Applications may be made as described in the "**Post-Construction Treatment"** section of this label.

Specific Pest Control Applications

Underground Services (e.g., cables, conduits, pipes, utility lines, wires, etc.): May be in right-of-ways, inside of structures or to guard long range (miles) of installations of services.

Treat the soil using a 0.06 to 0.12% **Talak 25.1% XTS** dilution to prevent and control termite and ant infestations.

Treat the bottom of the trench with 2 gallons of dilution per 10 linear feet and let it soak into the soil. Place the services on the treated soil and cover with about 2 inches of fill soil. Apply another 2 gallons per 10 linear feet over the fill soil to complete the chemical barrier. Only treat the soil in the area near the services in wide trenches, but ensure a continuous barrier of treated soil surrounding the services.

In the event that the soil will not accept the volume stated above, 1 gallon of 0.12% **Talak 25.1% XTS** may be applied per 10 linear feet of trench over the soil that covers the services and to the base of the trench. Fill the remainder of the trench with the treated fill soil. Where each service sticks out of the ground, the soil may be treated by trenching/rodding no more than 1 to 2 gallons of dilution into the soil.

Precautions: Do not treat electrically-active underground services.

Posts, Poles, And Other Constructions

Around wooden constructions (signs, fences, and landscape ornamentation) an insecticidal barrier can be established by treating with a 0.06% dilution. Sub-surface injection and gravity-flow through holes in the bottom of the trench, are two treatment methods that can be used on poles and posts that have already been installed. Establishing a complete chemical zone around the pole can be accomplished by treating on all sides. For poles and posts that are fewer than 6 inches in diameter use 1 gallon of dilution per foot of depth and 1.5 gallons for larger poles, applying under the wood to a depth of 6 inches. 4 gallons per 10 linear feet per foot of depth should be used for larger constructions.

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Control Of Wood-Infesting Insects in Wood (Localized Areas in Structures)

Insects	Application Rate	Remarks
Termites Ants Carpenter Ants Wood-infesting beetles (Including Old House Borer & Powder Post)	Apply a 0.06% dilution to voids and galleries in damaged wood and in spaces between wooden members of a structure and between wood and foundations where wood is at risk.	Can be applied as a paint or fan spray. Areas to which access is difficult can be treated by drilling, and then injecting dilution with a crack and crevice injector into the damaged wood or void spaces. (Not intended as a replacement for soil treatment, mechanical alteration or fumigation to control widespread infestation of wood-infesting insects.
Controlling termite carton nests in building voids can be accomplished by injecting with a 0.06% dilution. To obtain control, various depths of injection and numerous injection points may be needed. After treatment is complete and when feasible, remove the carton nest material from the building void. To control bees, wasps, hornets, and yellow-jackets, apply a 0.06% dilution late in the evening or when insects are at rest. Direct the spray at nest openings in the ground, bushes, and in cracks and crevices where the insects may nest. Saturate the openings and contact as many insects as possible.		

Important: Locate, identify, and mark wells, electrical conduits, water and sewer lines, and radiant heat pipes prior to application of **Talak 25.1% XTS**. Do not puncture or inject **Talak 25.1% XTS** into such structures. Do not apply into electrical fixtures, switches, or sockets.

In the home, cover all food-processing or food-handling surfaces and cover or remove all food and cooking utensils in the treatment area during treatment, or thoroughly wash after treatment and before re-use. Remove pets, birds, and cover aquariums before spraying. Do not permit humans or pets to contact treated surfaces until the spray has dried.

Place plastic sheeting under overhead areas that are spot treated except for soil surfaces in crawl spaces.

Wear protective clothing, unvented goggles, gloves and respirator, when applying to overhead areas or in poorly ventilated areas. Avoid touching sprayed surfaces until spray has completely dried.

Do not use in food/feed areas of food/feed handling establishments, restaurants or other areas where food/feed is commercially prepared or processed. Do not use in serving areas while food is exposed, or facility is in operation. Serving areas are areas where prepared foods are served such as dining rooms, but exclude areas where food may be prepared or held.

Non-food/feed areas of food/feed establishments include garbage rooms, lavatories, floor drains (to sewers) entries and vestibules, offices, locker rooms, machine rooms, boiler rooms, garages, mop closers, and storage (after bottling or canning).

Do not use in *Federally Inspected* Meat and Poultry Plants.

Control of Wood-Infesting Insects and Nuisance Pests (Outside of Structures)
In order to control listed wood-infesting insects active inside trees, utility poles and/or fences, inject 0.06% dilution into the infested cavity, which can be found by drilling into the wood. If treating nuisance pests on the exterior of the structure, use a fan spray at a maximum pressure of 25 p.s.i. and apply up to the point of runoff. To control bees, wasps, hornets, and yellow-jackets, apply late in the evening. Direct the spray at nest openings in the ground, bushes, and in cracks and crevices, where the insects may nest. Saturate the openings and contact as many insects as possible.

Pests Under Slabs
To control infestations of Arthropods (e.g., ants, cockroaches, and scorpions) that live beneath the slab area, drill or horizontally rod and inject 1 gallon of a 0.06% to 0.12% dilution per 10 sq. ft. or 2 gallons of dilution per 10 linear feet.

Vinyl and Aluminum Siding
DO NOT spray directly onto vinyl or aluminum siding. If this product inadvertently contacts vinyl or aluminum siding (particularly light colored, aged, weathered or otherwise damaged), it may result in staining, bleaching or discoloration. Factors such as extreme heat and direct sunlight can promote damage when using emulsifiable concentrates. Avoid application to vinyl or aluminum siding while exposed to direct sunlight or during the heat of the day.

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TURF AND ORNAMENTAL PESTS

BROADCAST SPRAYS TO TURFGRASS
(Lawns)

USE SITE	PESTS	PRODUCT APPLICATION RATE (Fl. Oz./1,000 Sq. Ft.)	COMMENTS
Lawns	Armyworms[1] Cutworms[1] Sod Webworms[1]	0.05 – 0.08	Apply this product as a broadcast treatment. Use higher volumes up to 10 gallons of carrier per 1,000 sq. ft. to get uniform coverage when treating dense grass foliage. Apply using nozzles that provide the largest droplet size compatible with adequate coverage. The application rates listed will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, this product may be applied at up to 0.32 fl. oz. per 1,000 sq. ft. to control each of the pests listed in this table. Use the higher labeled application rates when maximum residual control is desired or heavy pest populations occur. To maximize efficacy against sub-surface pests, apply this product with a non-ionic or silicone-based surfactant (0.25% v/v) in sufficient water to ensure good penetration of spray to soil-thatch matrix. For low water volume usage, less than 2 gallons/1,000 sq. ft., addition of a non-ionic or silicone-based surfactant (0.25% v/v) is recommended. Irrigation to treated area within a few hours following application can improve efficacy to sub-surface pests such as mole crickets. Water treated areas with 0.25 to 0.5 inches of water immediately following application taking special care to prevent run-off or puddling.
	Annual Bluegrass Weevil[2] (*Listronotus*, formerly *Hyperodes*) (Adult) Banks Grass Mite[3] Billbugs (Adult)[4] Black Turfgrass Ataenium (Adult)[5] Crane Flies[6] Crickets Earwigs Fleas (Adults) Grasshoppers Mealybugs Mites[3]	0.08 – 0.16	
	Ants Chinch Bugs[7] Fleas (Larvae)[8] Imported Fire Ants[9] Japanese Beetles (adult) Mole Cricket (Adult, nymph)[10] Stink Bugs Ticks[11]	0.16 – 0.32	
	Ground-nesting (solitary) bees and wasps[12]	0.30	
	Fall Webworms Spittlebugs	0.07 - 0.15	

- **In New York State, this product may not be applied to any grass or turf area within 100 feet of a coastal marsh or water body (lake, pond, river, stream, wetland, or drainage ditch).**
- **In New York State, do make a single repeat application of this product if there are signs of renewed insect activity, but not sooner than two weeks after the first application.**
- DO NOT apply more than 14.7 fl. oz. of this product (0.23 lb. a.i.) per acre.
- Do not apply when wind conditions favor downwind drift to nearby water bodies.
- Do not apply when wind velocity exceeds 10 miles per hour.
- Avoid application when wind gust approach 10 mph.

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[1] **Armyworms, Cutworms, and Sod Webworms:** To ensure that the best control of Armyworms, Cutworms, and Sod Webworms is achieved, postpone watering or mowing for 24 hours following application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher labeled application rates (up to 0.32 fl. oz. per 1,000 sq. ft.) may be required during periods of high pest pressure.

[2] **Annual Bluegrass Weevil:** Time applications to control adult weevils with their earliest spring activity. This generally begins when Forsythia is in full bloom and concludes when flowering dogwood (*Cornus florida*) is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.

[3] **Mites:** To ensure optimum control of eriophyd mites, apply in combination with the labeled application rate of a surfactant. A second application, five to seven days after the first, may be necessary to achieve acceptable control.

[4] **Billbug adults:** Make applications when adult billbugs are first observed during April and May. Degree day models have been developed to optimize application timing. Consult your State Cooperative Extension Service for more information specific to your region. In temperate regions, spring applications targeting billbug adults will also provide control of over-wintered chinch bugs.

[5] **Black Turfgrass Ataenium adults:** Make applications during May and July to control the first and second generation of black turfgrass ataenium adults, respectively. Time the May application to coincide with the full bloom state of Vanhoutte spiraea (*Spiraea vanhouttei*) and horse chestnut (*Aesculus hippocastanum*). Time the July application to coincide with the blooming of Rose of Sharon (*Hibiscus syriacus*).

[6] **Crane Flies:** Make treatments to control early to mid-season larvae (approximately August – February) as they feed on plant crowns. Treatments made to late-season larvae (approximately March – April) may only provide suppression. Consult your local extensions agent for specific recommendations for your area.

[7] **Chinch Bugs:** Chinch bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration of the insecticide to the area where the chinch bugs are located. Use higher labeled volume applications if the thatch layer is excessive or if a relative long mowing height is being maintained. Chinch Bugs can be one of the most difficult pests to control in grasses and the higher labeled rates (up to 0.32 fl. oz. per 1,000 sq. ft.) may be required to control populations that contain both nymphs and adults during the middle of the summer.

[8] **Flea larvae:** Flea larvae develop in the soil of shaded areas that are accessible to pets or other animals. Use a higher labeled volume application when treating these areas to ensure penetration of the insecticide into the soil. Note: if the lawn area is being treated with this product at 0.08 fl. oz. per 1,000 sq. ft. for adult flea control, then the larval application rate may be achieved by increasing the application volume two- to four-fold.

[9] **Imported Fire Ants:** Control will be optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound drenches that will control existing colonies. If the soil is not moist, then it is important to irrigate before application or use a high-volume application. Broadcast treatments must apply 0.1 to 0.2 lb. a.i./A (0.16 to 0.32 fl. oz. per 1,000 sq. ft.). Use enough finished volume to penetrate thatch or sod. Treat mounds by applying 0.32 fl. oz. of this product per mound in 1 to 2 gallons of water by sprinkling the mound until it is wet and treat 3 ft. out around the mound. Use the higher labeled volume for mounds larger than 12". Treat mounds with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. For best results, apply in cool weather (65 – 80°F) or in early morning or late evening hours. See the **"Imported Fire Ant and Japanese Beetle Quarantine Treatment For Ornamentals"** section for quarantine use directions.

[10] **Mole Crickets:** Use a lower rate in the early Spring to control overwintered Mole Crickets. Use the higher labeled rate in late-Summer or early Fall to control adult Mole Crickets.

Mole Cricket adults: Achieving acceptable control of adult mole crickets is difficult because preferred grass areas are subject to continuous invasion during the early spring by this extremely active stage. Apply as late in the day as possible and water in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized. Treat grass areas that receive pressure from adult mole crickets at peak egg hatch to ensure optimum control of subsequent nymph populations (see **Mole Cricket Nymphs** below).

Mole Cricket nymphs: Treat grass areas that received intense adult mole cricket pressure in the spring immediately prior to peak egg hatch. Optimal control is achieved at this time because young nymphs are more susceptible to insecticides, and they are located near the soil surface where the insecticide is most concentrated. Control of larger, more damaging, nymphs later in the year may require both higher labeled application rates and more frequent applications to maintain acceptable control. Apply as late in the day as possible and water in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized.

[11] **Ticks (Including ticks that may transmit Lyme Disease and Rocky Mountain Spotted fever):** Do not make spot applications unless applying the product in an area designated only for crack and crevice and spot treatments. Treat the entire area where exposure to ticks may occur. Use higher labeled spray volumes when treating areas with dense ground cover or heavy leaf litter. Ticks may be reintroduced from surrounding areas on host animals. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed activity. Repeat application should be limited to no more than once per seven days.

***Deer ticks* (*Ixodes* spp.)** have a complicated life cycle that ranges over a two-year period and involves four life stages. Make applications in the late fall and/or early spring to control adult ticks that are usually located on brush or grass above the soil surface and in mid to late spring to control larvae and nymphs that reside in the soil and leaf litter.

American dog ticks may be a considerable nuisance in suburban settings, particularly where homes are built on land that was previously field or forest. These ticks commonly congregate along paths or roadways where humans are likely to be encountered. Make applications as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

[12] **Ground nesting (solitary) bees and wasps (including bumble bees, sweat bees, mining bees, digger bees, leafcutting bees, digger or treadwaisted wasps)** are helpful biocontrol agents and valuable pollinators. They should be ignored if possible. If control is necessary, however, nest entrances must first be located. Watch the insects during the day when they are active. Groups of single nests occur in bare soil, grassy/weedy areas, or cavities of shrubs, stems, twigs, or logs. Treatment of tunnels and the surrounding area at dusk or after dark improves product contact to individual in-ground nest dwellers. Apply individual nest drenches using 0.07 fl. oz. per gallon of water in and around each cavity. Cover the entrance hole with soil after application. For preventative treatment, broadcast spray in enough finished volume of water to penetrate the groundcover so that 0.30 fl. oz. is applied per 1,000 sq. ft.

SPECIMEN

Atticus

Manufactured for:
Atticus, LLC
940 NW Cary Parkway, Suite 200
Cary, NC 27513

LAWN DILUTION CHART								
Application Rate		Fluid Ounces (mL) of Product Diluted to the Volumes of Finished Spray						
		1 Gallon		5 Gallons		10 Gallons		100 Gallons
Gallons/ 1,000 ft²	fl. oz./ 1,000 ft²	fl. oz.	mL	fl. oz.	mL	fl. oz.	mL	fl. oz.
1	0.05	0.05	1.48	0.25	7.39	0.50	14.8	5.00
	0.08	0.08	2.37	0.40	11.83	0.80	23.7	8.00
	0.16	0.16	4.73	0.80	23.66	1.60	47.3	16.00
	0.32	0.32	9.46	1.60	47.32	3.20	94.6	32.00
2	0.05	0.025	0.74	0.13	3.70	0.25	7.4	2.50
	0.08	0.040	1.18	0.20	5.91	0.40	11.8	4.00
	0.16	0.080	2.37	0.40	11.83	0.8	23.7	8.00
	0.32	0.160	4.73	0.80	23.66	1.60	47.3	16.00
3	0.05	0.017	0.49	0.08	2.46	0.17	4.9	1.67
	0.08	0.027	0.79	0.13	3.94	0.27	7.9	2.67
	0.16	0.053	1.58	0.27	7.89	0.53	15.8	5.33
	0.32	0.107	3.15	0.53	15.77	1.07	31.5	10.67
4	0.05	0.013	0.37	0.06	1.85	0.13	3.7	1.25
	0.08	0.020	0.59	0.10	2.96	0.20	5.9	2.00
	0.16	0.040	1.18	0.20	5.91	0.40	11.8	4.00
	0.32	0.080	2.37	0.40	11.83	0.80	23.7	8.00
5	0.05	0.010	0.30	0.05	1.48	0.10	3.0	1.00
	0.08	0.016	0.47	0.08	2.37	0.16	4.7	1.60
	0.16	0.032	0.95	0.16	4.73	0.32	9.5	3.20
	0.32	0.064	1.89	0.32	9.46	0.64	18.9	6.40
10	0.05	0.005	0.15	0.03	0.74	0.05	1.5	0.50
	0.08	0.008	0.24	0.04	1.18	0.08	2.4	0.80
	0.16	0.016	0.47	0.08	2.37	0.16	4.7	1.60
	0.32	0.032	0.95	0.16	4.73	0.32	9.5	3.20

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FOLIAR APPLICATION TO ORNAMENTAL PLANTS AND TREES

Talak 25.1% XTS formulation mixes readily with water and other aqueous carriers, and controls listed insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in interiorscapes including hotels, shopping malls, office buildings, and outdoor plantscapes, including around residential dwellings, parks, institutional, recreational, athletic fields, and home lawns. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity during one year of application.

PESTS	PRODUCT APPLICATION RATE		COMMENTS
	Lb. a.i./ 10 Gallons	Fl. Oz./ 10 Gallons	
Ants**	0.004 - 0.02	0.26 - 1.28	Apply the specified rate as a full coverage foliar spray. As foliage and pest pressure increases, repeat application as needed using higher labeled rates.
Aphids			
Bagworms[1]			
Black Vine Weevil (Adults)			Before treating an entire planting, treat a small amount of plants and observe for one week since certain cultivars may be sensitive to the final spray solution.
Brown Soft Scales[3]			
Broad Mites			
Budworms			Use an alternate class of chemistry to prevent or postpone pest resistance to **Talak 25.1% XTS**.
California Red Scale (crawlers)[3]			
Centipedes**			To achieve complete coverage, make sure enough water is used. Normal use rates are 10 gallons of spray per 4,356 sq. ft. (1/10 acre).
Clover Mites			
Crickets			
Cutworms			Dilute 0.26 to 1.28 fl. oz. of **Talak 25.1% XTS** per 10 gallons of water and apply at the rate of 10 gallons per 4,356 sq. ft. One gallon of finished spray will treat 435 sq. ft. If a higher labeled volume application is needed to sufficiently cover the plant canopy, **Talak 25.1% XTS** can be diluted in large volumes of water and applied through low volume equipment as long as the maximum label rate (1.28 fl. oz. per 4,356 sq. ft.) is not exceeded.
Douglas-fir Needle Midge[2]			
Earwigs			
Elm Leaf Beetles			
Fall Webworms			
Flea Beetles			
Fungus Gnats (adults)			
Glassywinged Sharpshooter			
Grasshoppers			
Gypsy Moth Caterpillars			
Lace Bugs			

Manufactured for:
Atticus, LLC
940 NW Cary Parkway, Suite 200
Cary, NC 27513

Leafhoppers Leaf Feeding Caterpillars Mealybugs Millipedes Mole Crickets[5]** Mosquitos** Nantucket Pinetip Moth Orchid Weevils Pillbugs Pine Sawflies Pine Needle Scales (crawlers)[3] Plant Bugs (incl. *Lygus* spp.) Psyllids San Jose Scales (crawlers)[3] Scale[3] Scorpions** Sowbugs Spiders** Spittlebugs Tent Caterpillars Tip Moths Weevils Whiteflies			
Citrus Thrips Beet Armyworm Diaprepes (larvae, adult) European Red Mite Leafrollers Spider Mites Thrips Treehoppers Twig Borers[3] Zimmerman Pine Moth	0.006 - 0.02	0.38 - 1.28	
Black Vine Weevil[4] Fungus Gnats (larvae)[4] Imported Fire Ant Foragers Japanese Beetles (adult) Leafminers Pecan Leaf Scorch Mite Black Vine Weevil (larvae)[4]	0.01 - 0.02	0.64 - 1.28	

[1] **Bagworm Control:** Treat when larvae start to hatch. Spray larvae directly. Applications will be most successful if they are made when the larvae are young.
[2] **Douglas-Fir Needle Midge:** Spray at the time of bud break to control Douglas-fir needle midge.
[3] **Scale Crawler and Twig Borer Control:** Treat trunks, stems, and twigs along with plant foliage.
[4] **Black Vine Weevil and Fungus Gnat Larvae Control:** Apply as a drench at the rate of approximately 8 fl. oz. of finished spray per 6 inch pot.
[5] ****Overwintered Mole Cricket Control:** Early Spring-use the lower rate Late-Summer or early Fall-use the higher labeled rate.
**In CA: use higher labeled rate

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PEST CONTROL ON OUTSIDE SURFACES AND AROUND BUILDINGS

Follow **Additional Application Restrictions for Residential Outdoor Surface and Space Sprays** under **DIRECTIONS FOR USE**.

Applications to vertical exterior surfaces (e.g., foundations) are permitted to a maximum height of 2 feet from ground level.

Sections of vertical exterior surfaces that abut non-porous horizontal surfaces can only be treated if either 1) these sections are protected from rainfall and spray from sprinklers or 2) they do not drain into a sewer, storm drain, or curbside gutter (e.g., not to sections that abut driveways or sidewalks that drain into streets).

For sections of foundation that abut non-porous horizontal surfaces, the treated areas must be protected from rainfall and spray from sprinklers, so they do not drain into a sewer, storm drain, or curbside gutter (e.g., not to sections that abut driveways or sidewalks that drain into streets.)

USE SITES	PESTS	PRODUCT DILUTION RATE	COMMENTS
Outdoor siding Foundations Porches[2] Window frames Overhang and eaves Patios[2] Garages Garbage sites Soil Trunks of woody ornamentals Lawns next to: Private houses Duplexes Townhomes Condos Trailers Apartments Carports Garages Fence rows Utility sheds Barns Residential and non-commercial structures Areas where pests gather or have been seen	Ants (Carpenter Ants and Fire Ants[1]) Armyworms Bees Centipedes Chiggers Chinch Bugs Clover Mites Crickets Cutworms Dichondra Flea Beetles Earwigs European Crane Flies Fleas Grasshoppers Hornets Millipedes Mosquitoes Moths Roaches (Cockroaches) Scorpions Sod Webworms Sowbugs (Pillbugs) Spiders (Black Widow Spiders) Springtails Stink Bugs Ticks (Brown Dog Ticks) Wasps	**For a 0.03% dilution:** mix 1/6 fl. oz. / 1 gal. water (1 fl. oz. = 2 tablespoons) **For a 0.06% dilution:** mix 1/3 fl. oz. / 1 gal. water (1 fl. oz. = 2 tablespoons)	Apply **Talak 25.1% XTS** as a residual spray using a 0.03 to 0.06% dilution. Do not use household utensils to measure **Talak 25.1% XTS**. For heavy pest infestation, quicker knockdown or longer residual control, use the higher labeled rate. To sustain effectiveness, repeat treatment as needed. **Application to Home Lawns:** Apply **Talak 25.1% XTS** as a broadcast treatment in 2 to 10 gallons of carrier per 1,000 sq. ft. When treating thick grass foliage, use higher labeled volumes to get complete, uniform coverage. **Perimeter Treatment:** Apply to a 7 foot wide band of soil and vegetation around and next to the structure, and treat the foundation of the structure to a height of 2 feet. Use a spray volume of 2 to 10 gals, of dilution per 1,000 sq. ft. If foliage is thick or there is mulch or leaf litter nearby, higher labeled volumes of water may be necessary. If certain pests such as Gypsy Moth adults and caterpillars, Boxelder Bugs, Elm Leaf Beetles, Earwigs or Silverfish are nearby, apply to house siding.
[1] **For Optimal Control of Ant and Fire Ant Mounds use Talak 25.1% XTS 0.06% dilution as Drench Method:** Sprinkle the mound, using 1-2 gallons of dilution, until it is wet and apply to a 4 foot diameter circle around the mound. When treating mounds larger than 12", use the higher labeled volume. Do not treat in the heat of the day and for optimum results, apply in cool weather, such as in early morning or late evening hours. [2] **Spot or crack**-and-crevice treatment only. **Attention:** Keep children and pets off treated areas following application until the spray has dried.			

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TRUNK SPRAYS TO ORNAMENTAL TREES

Depending on certain local variables and target pests, application rates and timing will differ. Check with your local State Extension specialist or other qualified expert for specific recommendations.

PESTS	RATE FOR PREVENTIVE CONTROL (Fl. Oz./100 Gallons)	SPRAY VOLUME	SPECIFIC INSTRUCTIONS
Dendroctonus Bark Beetles including: Mountain Pine Beetle, Southern Pine Beetle, Western Pine Beetle and Black Turpentine Beetle	16 – 32 (0.25 – 0.5 lb. a.i.)	1 – 4 gallons of finished spray per tree	Make applications to the trunk of the tree with a hydraulic sprayer in the early spring, prior to adult beetle flight and tree infestation, or when trees nearby have become infested, posing a threat. Apply spray directly to the main trunk from the base of the tree to at least half-way into the live crown. Spray until the bark is thoroughly wetted by the spray. Do not apply more than 12.8 fl. oz. (0.2 lb. a.i.) of **Talak 25.1% XTS** per acre to trees. If reinfestation is probable it may be necessary to repeat treatment.
Engraver Beetles (*Ips*. spp.)		10 – 14 gallons of finished spray per tree	
Other Bark Beetles including: Ambrosia Beetles, Elm Bark Beetles and Metallic Wood Borers Such as Emerald Ash Borer		2 – 6 gallons of finished spray per tree	Make applications of a spray mixture to the trunk, scaffolding and limbs of the tree with a hydraulic sprayer and/or backpack sprayer in the early spring or prior to adult beetle flight and tree infestation. Spray until the bark is thoroughly wetted by the spray. Do not to apply more than 0.2 lb. a.i. to trees per acre. If reinfestation is probable, it may be necessary to repeat treatment.

Clearwing Moth borers including: Ash Borer, Banded Ash Clear-wing, Dogwood Borer, Lesser Peachtree Borer, Lilac Borer, Oak Borer, Peachtree Borer, Rhododendron Borer	6.4 – 12.8 (0.1 – 0.2 lb. a.i.)	1 – 4 gallons of finished spray per tree	Apply to the branches and trunks prior to adult emergence. Spray until the bark is thoroughly wetted by the spray (usually 1 to 4 gallons of spray per tree). For maximum residual control, use the highest labeled rate. Do not apply more than 100 gallons of diluted spray mixture to trees on a treated acre. If reinfestation is probable it may be necessary to repeat treatment. For maximum residual control, use highest labeled rate.
Coleopteran Borers including: Bronze Birch Borer, Flatheaded Appletree Borer			

Treatment of Infested Trees: To control emerging brood, treat trees that still have beetles in the bark by using a spray mixture containing 2.0 pints of **Talak 25.1% XTS** per 100 gallons of water. Treat the main trunk from the base of the tree to at least halfway into the live crown spraying the tree directly and until the bark is completely wet (usually 1 to 4 gallons of spray per tree). Do not apply more than 12.8 fl. oz. (0.2 lbs. a.i.) of **Talak 25.1% XTS** per acre to trees. Trees that have needles that have all turned brown normally have been vacated and should not be treated unless infestation is evident. Scrape off the outer bark to determine whether or not the tree is infested. If trunks are currently infested, fell the infested trees and cut into sections. Spray the trunk and large limbs of the sections thoroughly to treat the entire surface area. Do not apply more than 12.8 fl. oz. (0.2 lbs. a.i.) of **Talak 25.1% XTS** per acre.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Do not pour or dispose down-the-drain or sewer. Call your local solid waste agency for local disposal options.

PESTICIDE STORAGE: Store in a tightly closed container in a cool, dry place. Store in original container and out of reach of children, preferably in a locked storage area.

PESTICIDE DISPOSAL: Pesticide spray mixture or rinsate that cannot be used should be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING:

Nonrefillable container. Do not reuse or refill this container. If empty: Offer for recycling if available or discard in a sanitary landfill. If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

For plastic containers ≤ 5 gallons: Nonrefillable Container: Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by state and local authorities.

For plastic containers > 5 gallons: Nonrefillable container: Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Recap and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by state and local authorities.

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LIMITATION OF WARRANTY AND LIABILITY

IMPORTANT: READ BEFORE USE. Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Disclaimer of Warranties and Limitations of Liability. **CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of ATTICUS, LLC. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, ATTICUS, LLC makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond statements on this label. **LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, neither ATTICUS, LLC the manufacturer, nor the Seller shall be liable for any indirect, special, incidental or consequential damages resulting from the use, handling, application, storage, or disposal of this product. To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use, handling, application, or storage of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid.

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