



# MasterLine<sup>®</sup>

## PERMETHRIN PLUS-C

TERMITICIDE/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 pest control regulatory agency of your state prior to use of the product.

For use as a Termiticide and use on ornamentals grown in landscapes, for perimeter insect control on lawns, ornamental trees and shrubs around residential, institutional, public, commercial and industrial buildings, parks recreational areas and athletic fields, and for use on buildings/structures.

### SPECIMEN LABEL

**ACTIVE INGREDIENT**

Permethrin\* ..... 38.0%

**OTHER INGREDIENTS\*\*** ..... 62.0%

**TOTAL** ..... 100.0%

\*cis/trans ratio: Max 42% (±) cis and min. 58% (±) trans

\*\*Contains petroleum distillates.

Contains 3.2 pounds Permethrin per gallon as an emulsifiable concentrate.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**PRECAUCION AL USUARIO:** 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.)

#### First Aid

Note to Physician - Contains petroleum distillates, vomiting may cause aspiration pneumonia.

**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 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 IN EYES:** Hold eye open and rinse gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. 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 ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible. Call a Poison Control Center or doctor for further advice.

**NOTICE:** Before using this product, read the entire Precautionary Statements, Conditions of Sale and Warranty, Directions for Use, Use Restrictions and Storage and Disposal instructions inside booklet. If the Conditions of Sale and Warranty are not acceptable, return the product unopened within thirty days of purchase to the place of purchase.

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**FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE  
CALL 1-800-F-A-S-T-M-E-D (327-8633)**

**FOR CHEMICAL EMERGENCY:  
Spill, leak, fire, and exposure, or accident, call  
CHEMTREC 1-800-424-9300**

Have the product container or label with you when calling a poison center or doctor or going for treatment.

## **PRECAUTIONARY STATEMENTS**

### **Hazards to Human & Domestic Animals.**

**CAUTION:** Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin, eyes, or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. Do not allow people or pets on treated surfaces until the spray has dried. Do not touch treated surfaces until spray has dried.

### **Environmental Hazards**

This product is highly toxic to bees exposed to direct treatment or residues on crops or weeds. Do not apply this product or allow it to drift to crops or weeds on which bees are actively foraging. This product is extremely toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to inter tidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment wash waters. Do not apply when weather conditions favor drift from treated areas.

### **Physical/Chemical Hazards**

Do not use or store near heat or open flame.

### **Personal Protection Equipment (PPE)**

All pesticide handlers (mixers, loaders, and applicators) must wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves. 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 such as U-Turn, or an in-line injector system, shirt, pants, socks, shoes, and waterproof gloves are sufficient. In addition: all pesticide handlers must wear a respiratory protection device approved by the Mine Safety and Health Administration (MSHA)/National Institute for Occupational Safety and Health (NIOSH) such as TC-23C, TC-21C, TC-19C, TC-13F, and TC-14G when working in a non-ventilated space; all pesticide handlers must wear protective eyewear when working in a non-ventilated space or when applying termiticide by rodding or sub-slab injection.

## **DIRECTIONS FOR USE**

It is violation of Federal Law to use this product in a manner inconsistent with its labeling. States may have more restrictive requirements regarding qualifications of persons using this product. Consult your State Pest Control Regulatory Agency prior to use of this product.

## **GENERAL USE INFORMATION**

**Masterline Permethrin Plus-C** is a residual insecticide for use in and on buildings, structures, transports and their immediate surroundings but not limited to: industrial buildings, houses, apartment buildings, laboratories, buses, and the non-food/feed areas of stores, warehouses, vessels, railcars, trucks, trailers, aircraft (cargo areas only), schools, nursing homes, hospitals (non-occupied patient areas), restaurants, hotels, and food manufacturing, processing and servicing establishments.

### **Important:**

**Masterline Permethrin Plus-C** is toxic to fish. Exercise care when making applications near ponds, lakes, streams, reservoirs and other aquatic environments where fish are present.

**Masterline Permethrin Plus-C** may also be used as spot application in crawl spaces, wood, tile, concrete or other structural building materials as a crack and crevice injection, or paint-on treatment. Consult tables for specific use instructions.

**Masterline Permethrin Plus-C** can be applied to interior plantscapes, and landscape ornamental gardens including parks, golf courses, lawns and grounds.

Not for use on plants being grown for sale or other commercial use, or for commercial greenhouses, nurseries, or sod farms, or for commercial seed production, or for research purposes, For use on plants intended for aesthetic purposes or climatic modification and being grown in interior plantscapes, ornamental gardens or parks, golf courses, or lawns and grounds.

For advice concerning current control practices with relation to specific local condition, consult your local State Cooperative Extension or regulatory agencies.

**Masterline Permethrin Plus-C** is formulated as an emulsifiable concentrate (EC) formulation and is to be diluted with water and applied as an emulsion. When tank mixing as an emulsion with other products, observe all precautions and limitations on the labels of each product in the mixture.

**Masterline Permethrin Plus-C** can be tank-mixed with natural pyrethrin-containing products or Insect Growth

Regulators (IGRS). Do not tank mix with dichlorvos (DDVP) or other fumigant products.

## **Applications for the Control Of subterranean Termites**

### **General Application Instructions**

**Masterline Permethrin Plus-C** acts as an insecticidal barrier to control and prevent subterranean termite (*Coptotermes*, *Heterotermes*, *Reticulitermes* and *Zootermopsis*) infestations in and around structures. For effective control the insecticide emulsion must be adequately dispersed in the soil to establish a barrier between the structure and the termites in the soil. To establish an effective insecticidal barrier with this product the proper control practices and application techniques should be selected by a trained service technician familiar with current termite control practices.

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.

When applying **Masterline Permethrin Plus-C** indoors, procedures should include structural design consideration and variable post-application effects from heating, ventilation and air conditioning systems (HVAC). Outdoor application procedures should include consideration of such variable factors effected by soil type, soil compaction, grade conditions, utilities and, location and type of domestic water supply. Contamination of public and private water supplies must be avoided by using anti-backflow equipment or procedures to prevent siphonage of insecticide into water supplies.

Do not contaminate wells or cisterns.

### **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 emulsion 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 the label.
  - (c) After the treated soil has absorbed the diluted emulsion, replace the soil into the trench.
- (2) Treat infested and/or damaged wood in place using an injection technique such as 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 evaluation 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 treatment.
- (3) When appropriate (i.e., on the waterside of structure), the treated backfill technique (described above) can also be used to minimize off-site movement of Termiticide.

**Application Rate:** Use a 0.5% up to 2.00% emulsion for subterranean termites. See Rate/Volume Conversion Chart. For other pests on the label use specific listed rates.

The dilute pesticide emulsion must be adequately dis-

pensed in the soil to establish a barrier between the wood and the termites in the soil. As a good practice: 1) all non-essential wood and cellulose-containing materials should be removed from around foundation walls, crawl spaces and porches; 2) eliminate termite access to moisture by repairing faulty plumbing and/or construction grade. Soil around untreated structural wood in contact with soil should be treated as described below.

To establish an effective insecticidal barrier with this product, the service technician must be familiar with current termite control practices such as: trenching, rodding, sub-slab injection, coarse fan spraying of soil surfaces, crack and crevice (void) injection, excavated soil treatment, and brush or spray applications to infested or susceptible wood. These techniques must be correctly employed to prevent or control infestations to subterranean termites such as *Coptotermes*, *Heterotermes*, *Reticulitermes*, and *Zootermopsis*. The biology and behavior of the species involved should be considered by the service technician in determining which control practices to use to eliminate or prevent termite infestation.

**Important:**

Contamination of public and private water supplies must be avoided by following these procedures: Use anti-backflow equipment or procedures to prevent siphonage of insecticide into water supplies. Do not contaminate

cisterns or wells. Do not treat soil that is water saturated or frozen.

Do not treat while precipitation is occurring.

Do not apply to drainage systems such as sumps, French drains, leach beds or other effluent discharge systems.

Follow all State and Local specifications for recommended treatment distance of wells and aquatic habitat.

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.

**Note:** Crawlspace are considered inside of structure.

**Critical Areas:** Critical areas include areas where the foundation is penetrated by utility services, cracks and expansion joints, bath traps and areas where cement constructions have been poured adjacent to foundation such as stair, patios, and slab additions.

**Mixing Directions**

**Mixing Instructions:** To produce an emulsion, mix **Masterline Permethrin Plus-C** with water only.

For the desired application rate, use the chart below to determine the amount of product required for a given volume of finished emulsion.

**Masterline Permethrin Plus-C  
Rate/Volume Conversion Chart**

Gallon of Finished Dilution Desired	Emulsion Concentration (Masterline Permethrin Plus-C + Water)		
	0.5%	1.0%	2.0%
1	1 1/3 fl. oz. + 126 2/3 fl. oz. water	2 2/3 fl. oz. + 125 1/3 fl. oz. water	5 1/3 fl. oz. + 122 2/3 fl. oz. water
5	8 1/3 fl. oz. + 4 gal. 119 2/3 fl. oz. water	16 2/3 fl. oz. + 4 gal. 111 1/3 fl. oz. water	33 1/3 fl. oz. + 4 gal. 94 2/3 fl. oz. water
10	16 2/3 fl. oz. + 9 gal. 111 1/3 fl. oz. water	33 1/3 fl. oz. + 9 gal. 2/3 fl. oz. water	66 2/3 fl. oz. + 9 gal. 61 2/3 fl. oz. water
19	0.25 gal. + 18.75 gal. water	0.5 gal. + 18.5 gal. water	1 gal. + 18 gal. water
38	0.50 gal. + 37.5 gal. water	1 gal. + 37 gal. water	2 gal. + 36 gal. water
58	0.75 gal. + 57.25 gal. water	1.5 gal. + 56.5 gal. water	3 gal. + 55 gal. water
76	1 gal. + 75 gal. water	2 gal. + 74 gal. water	4 gal. + 72 gal. water
152	2 gal. + 150 gal. water	4.0 gal. + 148 gal. water	8 gal. + 144 gal. water

Dosage and mixing instructions for use to control carpenter ants and other pests, excluding subterranean termites. Use **Masterline Permethrin Plus-C** mixed as a 0.25% dilution as indicated in the following table:

Gallon of Finished Dilution Desired	0.25% Emulsion Concentration (Masterline Permethrin Plus-C + Water)
1	5/6 fl. oz. + 127 1/6 fl. oz. water
5	4 1/6 fl. oz. + 4 gal. 123 5/6 fl. oz. water
10	8 1/3 fl. oz. + 9 gal. 119 2/3 fl. oz. water
19	15 5/6 fl. oz. + 18 gal. 112 1/6 fl. oz. water
38	31 2/3 fl. oz. + 37 gal. 96 1/3 fl. oz. water
58	48 1/3 fl. oz. + 57 gal. 79 2/3 fl. oz. water
96	80 fl. oz. + 95 gal. 48 fl. oz. water
192	1 gal. 32 fl. oz. + 190 gal. 96 fl. oz. water

\*See Application Volume Considerations section for Pre- & Post-Construction Applications below.

Common Units of Measure:

1 pint = 16 fluid ounces (oz.)

1 gallon = 4 quarts = 8 pints = 128 oz.

Mix the Termiticide use dilution in the following manner:

1. Fill tank 1/4 to 1/3 full.
2. Start pump to begin by-pass agitation and place end of treating tool in tank to allow circulation through hose.
3. Shake well then add appropriate amount of **Masterline Permethrin Plus-C**. (See Rate/Volume Conversion Chart)
4. Add remaining amount water.
5. Let pump run and allow recirculation through the hose for 2 to 3 minutes.

**Application Volume:** To provide maximum control and protection against termite infestation apply the specified volume of the finished water emulsion and active ingredient as set forth in the directions for use section of this label. If soil will not accept the labeled application volume, the volume may be reduce 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 label directed rates and a continuous barrier can still be achieved.

## Pre- and Post-Construction Applications

**Application Volume Considerations:** Adjustment to application volumes are often needed to ensure thorough and complete coverage in different soil types while keeping the application rate as close as possible to the recommended use rate. Certain types of soils, such as clay, require lower volumes of water due to their low permeability characteristics. In such reduced volumes of emulsion can be used while still delivering the recommended concentration of termiticide to the soil (see Rate/Volume Conversion Chart above).

**Application Volume Adjustments:** Where necessary to reduce the application volume for pre and post-construction treatments, the volume of a 1.0% emulsion may be reduced by 1/2 the labeled volume or a 2.0% emulsion may be applied at 1/4 the labeled volume (see Volume Adjustments for Horizontal and Vertical Applications.)

**Important:** *In Mississippi volumes may not be reduced more than 1/2 rates (1% solution applied at 0.5 gallons per square foot or 1% solution applied at 2.0 gallons per vertical foot.)*

## Pre-Construction Treatment

**Masterline Permethrin Plus-C** may be applied as a vertical and/or horizontal insecticidal barrier to control or prevent infestation of subterranean termites using a 0.5% emulsion.

Prior to each application, applicators must notify the general contractor, construction superintendent, or similar responsible party, of the intended termiticide application and the 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.

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.

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 four 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 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.

**Horizontal Barrier:** Pre-Construction horizontal termite barrier applications are most commonly made to soil that will be covered (i.e., concrete slabs and footing, porches, stairs, and crawl spaces.) Using a course spray nozzle at low pressure (less than 50 psi) apply 1 gallon of a 0.5% to 2.0% emulsion per 10 square feet (see Volume Adjustment Chart below.) If more than 24 hours is expected between the time of application and pouring of the concrete, it is recommended that the site be covered with a water proof barrier (polyethylene.)

**Vertical Barrier:** Vertical barriers **must** be established in areas such as around the base of foundations, plumbing, utility entrances, backfilled soil against foundation walls, and other critical areas. For a 0.5% rate, apply 4 gallons of dilution per 10 linear feet per foot of depth or 1.6 fluid ounces of **Masterline Permethrin Plus-C** per 10 linear feet of depth to top of footing in sufficient water (no less than 2 gallons or more than 8 gallons) to ensure complete coverage.

- (1) When **trenching and rodding into the trench** or trenching, it is important that emulsion reaches the top of the footing. Rod holes **must** be spaced **so as to achieve** a continuous insecticidal barrier, **but in no case more than 12 inches apart.**
- (2) Care should be taken to avoid soil washout around footing.
- (3) Trenches need to be wider than 6 inches. Emulsion should be mixed with the soil as it is being replaced in the trench.
- (4) For a monolithic slab, an inside vertical barrier may not be required.

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

**Volume Adjustments for  
Horizontal and Vertical  
Masterline Permethrin Plus-C Applications**

**Application Rate**

<b>Application Type</b>	<b>%Emulsion:</b>	<b>0.5%</b>	<b>1.0%</b>	<b>2.0%</b>
HORIZONTAL (gallons per sq. ft.)		1.0	0.5	0.25
VERTICAL (gallons per linear ft.)		4.0	2.0	1.0

\*Not recommended for sub-slab injection

**Post-Construction Treatment**

Apply **Masterline Permethrin Plus-C** by injection, rodding and/or trenching as a 0.5% emulsion for post-construction treatment. Do not use excessive pressure (above 25 psi) when injecting to avoid soil washout around the foundation.

Do not apply emulsion until location of wells, radiant heat pipes, water and sewer lines, and electrical conduits are known and identified. Care must be taken to avoid puncturing and injection into these elements.

**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 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.

**Treating Slabs:** Vertical barrier applications may be established by the sub-slab injection within the structure and rodding and/or trenching outside using a treatment rate of 4 gallons of emulsion per 10 linear feet per foot of depth. If necessary, adjust the spacing of the drill holes, or volume required (see Volume Adjustment Chart above) for adequate dispersal of the emulsion in the slab sub-soil.

**Note:** Sub-slab volume adjustments greater than 1% is not recommended. Treatment should not extend below the bottom of the footing. Treat along the outside of the foundation and where necessary beneath the slab on the inside of the foundation walls. Treatment may also be required beneath the slab along both sides of interior footing-supported walls, one side of interior partitions and along all cracks and expansion joints. Horizontal barriers may be established where necessary by long-rodding or by grid pattern injection vertically through the slab. Plug all holes in the interior structure after injection.

- (1) Drill holes in the slab and/or foundation to allow for the application of a continuous insecticidal barrier no more than 12 inches apart.
- (2) For shallow foundations (1 foot or less) dig a narrow trench approximately 6 inches wide along the outside of the foundation walls. Do not dig below the bottom

of the footing. The emulsion should be applied to the trench and soil at 4 gallons per 10 linear feet per foot of depth as the soil is replaced in the trench.

- (3) For foundations deeper than 1 foot follow the rates for basements.
- (4) Exposed soil in bath traps may be treated with a 0.5% emulsion.

## **Basements and Crawl Spaces**

### ***Basements***

Where the footing is greater than 1 foot in depth from grade to the bottom of the foundation, application must be made by trenching and rodding into this trench, or injecting at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth. When the footing is more than 4 feet below grade, the applicator may trench and rod into the trench, or trench along foundation walls at the rate prescribed 4 feet of depth. Rod holes must be spaced so as to achieve a continuous termiticide barrier, but in no case more than 12 inches apart. The actual depth of treatment will vary depending on soil type, degree of compaction, and location of termite activity. However, in no case should a structure be treated below the footing. Sub-slab injection may be necessary along the inside of foundation walls, along cracks and partition walls, around pipes, conduits, piers and along both sides of interior footing-supported walls.

### ***Accessible Crawl Spaces***

For crawl spaces, apply vertical termiticide barriers at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth from the 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 section 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 chemical 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 be wider than 6 inches. When trenching in sloping (tiered) soil, the trench must be stepped to ensure adequate distribution and to prevent termiticide from running off. The emulsion must be mixed with the soil as it is replaced in the trench.
- (4) When treating 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. ***Do not broadcast spray.***

### ***Inaccessible Crawl Spaces***

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 instructions 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 emulsion per 10 sq. ft. 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 Tee Jet 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 emulsion per square feet. Drill spacing must be at intervals not to exceed 16 inches. Many states have smaller intervals so check state regulations that may apply.

When treating 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.

### ***Do not broadcast spray.***

**It is highly recommended that prior to treatment, inadequately ventilated crawl spaces be brought into the compliance with FHA Property Standards specifying 1 square foot of ventilator opening per 150 square feet of crawl space area.**

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

Wear respiratory protection when treating crawl spaces.

**Masonry or Hollow Block 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 the rate of 2 gallons of emulsion 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. Care should be exercised not to drill entirely through and into the structure. 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. 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.

In treating voids containing rigid foam insulation, holes must be drilled through the sill plate and through the foam to the base of the footing before the emulsion is applied.

Use low pressure to ensure penetration of the emulsion into the void area between the base of the foam and footer. Slowly remove the spray rod as the emulsion is being delivered, avoiding excess buildup in the foam insulation.

**Note:** When treating behind veneer, care should be taken not to drill beyond veneer. If concrete blocks are behind the veneer, both the blocks and the veneer may be drilled and treated at the same time.

**Excavation Technique:** If treatment must be made in difficult situations, such as near wells, cisterns, along fieldstone or rubble walls, along faulty foundation walls, or around pipes and utility lines which lead downward from the structure to a well or pond, application may be made in the following manner:

- (1) Trench and remove soil to be treated onto heavy plastic sheeting or similar material.
- (2) Treat the soil at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth of the trench. Mix the emulsion thoroughly into the soil taking care to prevent liquid from running off the liner.

- (3) After the treated soil has absorbed the liquid emulsion, replace the soil in the trench. Prior to using this technique near wells or cisterns, consult state, local or federal agencies for information regarding approved treatment practices in your area.

### **Foam Applications**

**Masterline Permethrin Plus-C** emulsion may be converted to foam, and the foam used to control and prevent termite infestation. When applying the product as either a foam application alone, or in combination with an emulsion treatment, do not exceed the maximum-labeled application rate. Exercise care and safety around electrical utilities. Note location of electrical sources prior to foaming voids to avoid possible shock hazard.

### **Localized Application**

Foam may be used to treat voids to control or prevent localized infestations of: termites, ants, bees, wasps or other arthropods harboring in voids. Application may be made to voids such as: behind veneers, piers (concrete or wood), and chimneys, into rubble and stone foundations, into block voids, structural voids (i.e., between stud walls), poles, stumps, and wood in crawlspaces using either the foam alone or in combination with liquid emulsion.

Note location of electrical sources prior to foaming voids to avoid possible shock hazards.

### **Application under Slabs or to Soil in Crawlspaces to Prevent or Control Termites**

Application may be made using **Masterline Permethrin Plus-C** foam alone or in combination with liquid emulsion. The equivalent of at least 4 gallons (6.4 oz. of **Masterline Permethrin Plus-C** concentrate) of 0.5% emulsion per 10 linear feet (vertical barrier), or at least 1 gallon (1.6 oz. of **Masterline Permethrin Plus-C** concentrate) of 0.5% emulsion per 10 square feet (horizontal barrier) must be applied either as emulsion, foam or a combination of both. For a foam only application, apply **Masterline Permethrin Plus-C** concentrate in sufficient foam concentration and foam volume to deposit 6.4 oz. of concentrate per 10 linear feet or 1.6 oz. of concentrate per 10 square feet. For example, 1 gallon of 2% emulsion generated as foam to cover 10 linear feet is equal to the application of 4 gallons of 0.5% emulsion per 10 linear feet.

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.

### **Sand Barrier Installation and Treatment**

Termites can build mud tubes over treated surfaces as long as they have access to untreated soil and do not have to move **Masterline Permethrin Plus-C**-treated soil. Fill in cracks and spaces with builders or play box sand and treat the sand with **Masterline Permethrin Plus-C**. The sand should be treated as soil following the Termiticide rates listed on the **Masterline Permethrin Plus-C** label.

### **Re-treatment Intervals**

Re-treatment for subterranean termites can only be performed if there is clear evidence of re-infestation 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 product's labeling. The timing and type of these re-treatments will vary, depending on factors such as termite pressure, soil types, and soil conditions and to other factors, which may reduce the effectiveness of the barrier. Annual re-treatment of the structure is prohibited unless there is clear evidence that re-infestation or barrier disruption has occurred.

### **Pest Control Specialty Applications**

#### **General Application Instructions**

**Masterline Permethrin Plus-C** has been demonstrated excellent plant safety; however, not all cultivars have been tested. Before treating large numbers of plants of a particular cultivar, treat a few plants and observe prior to full-scale application.

Use the higher rates for heavy pest infestations. Use sufficient volume to cover plant surface. Higher volumes should be used if arid or drought conditions exist. Repeat applications as necessary to maintain control.

Do not apply more than 2.0 lb. a.i./Acre/Year for lawn and ornamental use.

#### **Spray Drift Precautions:**

**Masterline Permethrin Plus-C** may be applied by most conventional ground application sprayers. Exercise care

not to apply when wind velocity favors non-target movement or temperature inversions.

#### **Do not apply by air.**

Do not apply within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fishponds.

#### **Underground Structures and Services**

**Post, Poles, and Other Constructions:** Previously installed poles and posts may be treated by sub-surface injection. Treat on all sides to create a continuous insecticidal barrier around the pole. Use 1 gallon of a 0.25 to 0.5% emulsion per foot of depth for poles and posts less than six inches in diameter. For larger poles, use 1.5 gallons emulsion per foot of depth. Apply to a depth of 6 inches below the bottom of the wood. For larger diameter constructions, use 4 gallons of emulsion per 10 linear feet per foot of depth.

To control wood infesting insects, such as, termites, ants, carpenter ant, wood infesting beetles (Old House Borer, Powder Post), bees, wasps, hornets and yellow-jackets in posts, poles and other wood constructions in and around structures, paint on, spot spray, or fan spray a 0.25% to 0.5% emulsion to voids and galleries in damaged wood and in spaces between wooden members of a structure and between wood and foundation where wood is vulnerable. Plastic sheeting must be placed immediately below overhead areas that are spot treated except for soil surfaces in crawlspaces. Application may be made to inaccessible areas by drilling and then injection emulsion with a crack and crevice injector into the damaged wood or void spaces. This type of application is not intended to be a substitute for soil treatment, mechanical alteration or fumigation to control extensive infestation of wood infesting insects.

**Control of Bees and Wasps Outdoors:** To control bees, wasps, hornets and yellow jackets apply a 0.25% to 0.5% emulsion; Application should be made in the late evening when insects are at rest. Spray liberally into hiding and breeding places, especially under attic rafters, contacting as many insects as possible. Repeat as necessary.

Termite carton nests in trees or building voids may be injected with 0.25% to 1.0% emulsion. Multiple injection points to varying depths may be necessary. It is desirable to physically remove carton nest material from building voids when such nests are found.

**Important:** Do not apply emulsion until location of heat pipes, ducts, water, and sewer lines and electrical conduits are known and identified. Care must be taken to

avoid puncturing and injection into these structural elements. Do not apply into electrical fixtures, switches, or sockets.

**Services: Masterline Permethrin Plus-C** may be applied as a soil treatment to control termites and ants from attacking underground services, such as, utility lines, pipes, cables, conduits and wires.

Apply 2 to 4 gallons of a 0.25% to 0.5% emulsion per 10 linear feet to the bottom of the trench and allow into soak into the soil. Lay services on the treated soil and cover with approximately 2 inches of fill soil. Apply another 2 to 4 gallons per 10 linear feet over the soil surface to complete the treatment barrier. Volume adjustments for non-porous soil can be made by using 1 to 2 gallons of 1.0% emulsion per 10 linear feet of trench.

Do not treat electrically active underground services.

### **Pest Control on Outside Surfaces and Around Buildings**

#### **Broadcast Treatment for Control of Nuisance Pests:**

Apply using a 0.25% to 0.5% emulsion as a residual spray to outside surfaces of buildings including, but not limited to, exterior siding, foundations, porches, window frames, eaves, patios, garages, and dumps.

**Lawns: Masterline Permethrin Plus-C** can be applied to lawns adjacent to or around private homes, duplexes, townhouses, condominiums, house trailers, apartment

complexes, carports, garages fence lines, storage sheds, barns, residential structures, commercial and institutional buildings, and other areas where pests congregate or have been seen. Repeat treatment as necessary to maintain effectiveness.

**Perimeter Treatment:** Apply a band application 6 to 10 feet wide around and adjacent to the structure. Also, treat the base of the structure to a height of 2 to 3 feet. Use a spray volume of 2 to 10 gallons of emulsion per 1000 square feet. If mulch or debris is present, a higher volume application rate may be needed to ensure adequate coverage. Treat the base of structure to prevent insects from entering the structure.

**Pest under Slabs:** Ants, cockroaches, scorpions and other nuisance pests inhabiting under paved areas may be controlled by drilling and injection or horizontal rodding and then injection 1 gallon of a 0.25% to 1.0% emulsion per 10 square feet or 2 gallons per 10 linear feet.

**Pest Control in Crawlspace:** **Masterline Permethrin Plus-C** may be applied at a rate of 0.2% to 0.5% in crawlspaces to control ants, fleas, roaches, scorpions, or other nuisance insects listed in the table below. For proper termite recommendations see section on Applications for the Control of Subterranean Termites. Spot treat surfaces until wet. Keep children and pets off surface until dry. ***Do not broadcast spray.***

## Insect Pests controlled by Masterline Permethrin Plus-C

PEST	SPECIFIC APPLICATION INSTRUCTIONS
<p>Ants            Ant Mounds<sup>1</sup>            Armyworm            Bark Beetles<sup>3</sup>            Bees            Beetles            Ips Beetle            Borers<sup>3</sup>            Box elder Bugs<sup>2</sup>            Carpenter Ants            Carpenter Bees            Centipedes            Chinchbugs<sup>4</sup>            Cockroaches            Cockroaches (Asian)            Crickets            Earwigs            Elm Leaf Beetles<sup>2</sup>            Fire Ants            Fleas<sup>4</sup>            Flies            Firebrats            Ground Beetles            Gypsy Moths              (Adults &amp; caterpillars)<sup>2</sup>            Millipedes            Mole Crickets            Pill Bugs            Scorpions            Silverfish            Sod Webworm            Spiders            Termites            Ticks (including              Deer Tick, and              Western Black-legged              Tick which may carry              Lyme disease and              Rocky Mountain              Spotted Fever)            Wasps</p>	<p><b>Application:</b> Apply as a pinstream, as a fine/course, low-pressure spray (20 psi or less), as a pot treatment or with a paintbrush. Treat where pests are found or entry points of the structure such as window and doorframes and along the foundation.</p> <p><b><sup>1</sup>Mound Drench Treatment:</b> Apply 1-2 gallons of emulsion to each mound area by sprinkling the mound until it is wet and treat a 4-foot diameter circle around the mound. Use the higher volume for mounds larger than 12". For best results, apply in cool weather, such as in early morning or late evening hours, but not in the heat of the day.</p> <p><b><sup>2</sup>Boxelder Bugs, Elm Leaf Beetles and Gypsy Moth Caterpillars:</b> Spray tree trunks, building siding or wherever pests congregate, to the point of run off.</p> <p><b><sup>3</sup>Borers, Bark Beetles and Ips Beetle:</b> To prevent infestation of trees and woody ornaments, spray the bark to the point of runoff.</p> <p><b><sup>4</sup>Lawns:</b> Mix 0.4-0.8 fl. oz. of <b>Masterline Permethrin Plus-C</b> in 4 to 25 gallons of water per 1000 square feet. Use the higher rate for fast knockdown and increased residual control. Dense or excessive (greater than 3 inches) lawn height and arid conditions may require higher volume application rates. Repeat application if necessary. Application in combination with compatible surfactants or wetting agents may enhance penetration.</p>

## Lawn and Ornamental Applications

### General Application Instructions

**Masterline Permethrin Plus-C** may be used to control insect pests on ornamentals, lawns, trees, shrubs, and vines in landscape areas around residential, public, institutional, commercial and industrial buildings, and on plants intended for aesthetic purposes in interior gardens and plantscapes.

**Masterline Permethrin Plus-C** has demonstrated

excellent plant safety; however not all cultivars have been tested. Before treating large numbers of plants of a particular cultivar, treat a few plants and observe prior to full-scale application.

Use the higher rates for heavy pest infestations. Use sufficient volume to uniformly cover plant surface. Higher volumes should be used if arid or drought conditions exist. Repeat applications as necessary to maintain control.

Do not apply more than 2.0 lb.a.i./Acre/Year.

### Recommended Application Rates for Ornamental Plants

PLANT	PEST	TREATMENT RATE	SPECIFIC APPLICATION
<b>Ornamental Plants</b> , foliage and flowering plants, woody and herbaceous non-edible ornamentals and non-bearing plants of fruiting species in landscapes areas around industrial, residential, and commercial buildings, non-crop, and for treatments of plants intended for aesthetic purposes in interior gardens and plantscapes.	Ants Aphids Bagworm Beet Armyworm Cabbage Looper Cankerworms Citrus Thrips Fungus Gnat Gypsy Moth Caterpillars Heliothis spp Japanese Beetles Lace Bug Leaf Feeding Caterpillars Leafminers Leafhoppers Leaf Rollers Lygus Bugs Mealybugs Pine Sawflies Plant Bugs Root Weevils (Adult) Tent Caterpillars Webworms Whiteflies Zimmerman Pine Moth	4 to 8 Fluid Ounces Per 100 Gallons	Apply sufficient volume of water to adequately cover foliage.  Use higher rate for moderate to high infestations.  Direct application to blooms may cause browning of petals. Marginal leaf burn may occur on Salvia, Dieffenbachia, and Pteris Fern.
	Bark Beetles and Boring insects (including, but not limited to: Ash Borer, Bronze Birch Borer, Rhododendron Borer, Elm Bark Beetles, Ips Beetles, and Turpentine Beetles.)	1 to 2 Quarts Per 100 gallons	Treat lower branches and trunk area to the point of runoff prior to adult emergence.

(continued)

## Recommended Application Rates for Ornamental Plants *(continued)*

PLANT	PEST	TREATMENT RATE	SPECIFIC APPLICATION
<b>Conifers</b>	Nantucket Pine Tip Moth, Cone worms, Ips Beetle and Seed bugs.	4 to 8 Fluid Ounces Per 100 Gallons	Begin application when adults appear. Repeat applications may be made on 5-7 day intervals as needed. To control Webbing Cone worms make first application just prior to peak pollen flight. To control other Cone Worms and Seed bugs, make application 30 days following flower closure. <b>High Vol. Spray:</b> Mix 8 oz. in 100 gals. Of water and apply 5 to 10 gals. of spray per tree. <b>Low Vol. Spray:</b> Mix 42 oz. in 100 gals. Apply 100 gals. of spray solution per acre.
<b>Lawns</b> around residential, commercial, industrial, institutional, and public areas.	Ants Billbugs Chinch Bugs Fleas Mole Crickets Sod Webworms Ticks (including Deer Tick, and Western Black-legged Tick which may carry Lyme disease and Rocky Mountain Spotted Fever)	.4 to .8 Fluid Ounces Per 1000 Square Feet	Apply using 4-25 gallons of spray volume.  <b>Subsurface Injections:</b> For flushing of mole crickets, subsurface injection may be used as a flush treatment in conjunction with an EPA-registered mole cricket control product. Inject 0.2 to 0.8 fluid ounces of <b>Masterline Permethrin Plus-C</b> per 1000 square feet.  Observe precautions and restrictions on more restrictive label. Do not exceed label rates for these products. Do not mix products with label prohibitions against such mixing.

**Not labeled recommended for indoor use on the following insects:**

**(Non-Food/Feed Areas)**

Fleas, Ants (Including Carpenter Ants, Fire ants), Bat Bugs, Bees, Boxelder Bugs Carpenter Bees, Carpet Beetles, Centipedes, Cockroaches (Including Asian), Crickets, Earwigs, Firebrats, Flies (such as Drain, Cluster, House), Ground Beetles, Millipedes, Pantry Pests\*\*, (such as: Flour Beetles, Indian Meal Moths, Silverfish, Sowbugs, Spiders, Ticks (including Deer Tick and Western Black Legged Tick known to Transport Lyme disease and Rocky Mountain Spotted Fever Wasps.)

Not for use in Federally inspected Meat and Poultry Plants. Do not use in food/feed handling establishments, restaurants or other areas where food/feed is commercially prepared or processed.

**Agricultural Structures  
(Outside Surfaces Only):**

**Masterline Permethrin Plus-C** may be sprayed directly to walls and ceilings as a residual surface treatment only. Do not treat manure or litter. Avoid contamination of feed and water.

Do not apply directly to livestock or poultry.

### STORAGE AND DISPOSAL

**Pesticide Storage**

Store at temperature above 40 degrees F (5 degrees C).

Shake container well before using. If crystals form, warm to room temperature by placing container in a room at ambient temperature 70 degrees F (21 degrees C) until crystals dissolve.

Do not use or store near heat, open flame or hot surfaces.

Keep out of reach of children and animals.

Store in a dry place and avoid excess heat in storage. Store in original containers only.

Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. To confine spill, dike surrounding area or absorb with sand, cat litter, and commercial clay or get absorbents. If dry material,

*(continued)*

## **STORAGE AND DISPOSAL** *(continued)*

cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

### **Pesticide Disposal**

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by 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 Disposal**

Triple rinse (or equivalent.) Then offer for recycling or reconditioning, or puncture and dispose of it in a sanitary landfill, or incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## **ATTENTION**

Do not apply to pets, crops, or sources of electricity.

Do not allow people or pets on treated surfaces, such as carpets until the spray has dried.

Do not use concentrate or emulsion in fogging equipment.

Firewood is not to be treated.

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 to any rooms while occupied by patients, the elderly or infirm.

Do not use in aircraft cabins. For use in cargo areas only.

Do not apply when occupants are present in the immediate area in institutions such as libraries, sport facilities, etc.

Do not apply to classrooms when in use.

Do not touch treated surface until dry.

**Dealers Should Sell Original Packages Only**

**IMPORTANT INFORMATION  
READ BEFORE USING PRODUCT**

**CONDITIONS OF SALE AND  
LIMITATION OF WARRANTY AND LIABILITY**

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or strop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Univar USA, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and user agree to hold Univar USA, Inc. and Seller harmless for any claims relating to such factors.

Univar USA, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not

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