

6/20/97

10182-95

PM 03

P9 129

Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060. Approval expires 05-31-98



United States
Environmental Protection Agency
Washington, DC 20460

Registration
Amendment
 Other

OPP Identifier Number
254702

Application for Pesticide - Section I

1. Company/Product Number 10182-95	2. EPA Product Manager George T. LaRocca	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) PRELUDE Termiticide/Insecticide	PM# 13	
5. Name and Address of Applicant (Include ZIP Code) Zeneca Agricultural Products P.O. Box 15458 Wilmington, DE 19850-5458 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submitting final printed labeling.

NOTIFICATION

JUN 20 1997

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Metal Plastic Glass Paper Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product.	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Nancy Bockrath	Title Regulatory Assistant	Telephone No. (Include Area Code) 302-886-1066
2. Signature <i>Nancy Bockrath</i>		5. Date Application Received (Stamped)
3. Title Regulatory Assistant		
4. Typed Name Nancy Bockrath		
		5. Date May 6, 1997



ZENECA Professional Products

Prelude

ONLY FOR SALE TO, USE AND STORAGE BY PROFESSIONAL PEST CONTROL OPERATORS

ACTIVE INGREDIENTS

Permethrin

(3-phenoxyphenyl) methyl (1S)-cis,trans-3-(2,2-dichloroethyl)-2,2-dimethylcyclopropanecarboxylate* ... 25.8%

INERT INGREDIENTS ... 74.2%

TOTAL ... 100.0%

* Cis/trans ratio: Min. 35% (s) cis and max. 65% (s) trans. PRELUDE contains 2 pounds active ingredient per gallon.

EPA Reg. No. 10182-95
EPA Est. No. 10182-AR-1
U.S. Patent No. 4,024,163

KEEP OUT OF REACH OF CHILDREN WARNING

See inside for Statement of Practical Treatment and Precautionary Statements

COMPLETE DIRECTIONS FOR USE



(01) 0 0799211 02705 9

Contents: 1 quart (0.95 L)

04002997
039502 (Rev. 10/95)

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. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of ZENECA or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold ZENECA and Seller harmless for any claims relating to such factors.

ZENECA 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 reasonably foreseeable to or beyond the control of Seller or ZENECA, and Buyer and User assume the risk of any such use. ZENECA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall ZENECA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ZENECA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ZENECA OR SELLER, THE REPLACEMENT OF THE PRODUCT.

ZENECA and Seller offer this product and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of ZENECA.

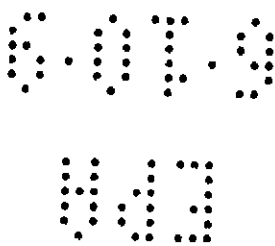


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STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Do not induce vomiting. Call a physician or Poison Control Center. Vomiting should be supervised by a physician or the professional staff because of the possible pulmonary damage from aspiration of the solvent.
IF IN EYES: Flush eyes with plenty of water. Get medical attention if irritation persists.
IF ON SKIN: Wash with plenty of soap and water.

FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL 1-800-F-A-S-T-A-I-E-D (327-8633).
FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC
1-800-424-9300.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING

HARMFUL IF SWALLOWED OR ABSORBED THROUGH SKIN. MAY CAUSE EYE IRRITATION. Avoid contact with eyes, skin or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwaters. This product is highly toxic to bees exposed to direct treatment or residues on crops or weeds. Do not apply PRELUDE, or allow it to drift to crops or weeds on which bees are actively foraging. Additional information may be obtained from Cooperative Extension Service. Apply this product only as specified on this label.

PHYSICAL AND CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

STORAGE: Keep container closed when not in use. Do not store near food or feed. Protect from freezing. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

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:

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

GENERAL INFORMATION ON THE USE OF THIS PRODUCT FOR TERMITE CONTROL

Chemicals for soil treatment are used to establish a barrier against termite attack. The chemical emulsion must be adequately dispersed in the soil to provide a barrier between the wood in the structure and the termite colonies in the soil.
For the effective use of this product, it is necessary that the service technician be familiar with current control practices including trenching, rodding, subslab injection, and low-pressure spray applications. These techniques must be correctly employed to prevent or control infestations by subterranean termite species of *Reticulitermes*, *Zootermopsis*, *Heterotermopsis* and *Coptotermes*. Choice of appropriate procedures should include consideration of such variable factors as the design of the structure, water table, soil type, soil compaction, grade conditions, location and type of domestic water supplied and drainage systems. The biology and behavior of the termite species involved are important factors to be known as well as suspected location of the colony and severity of the infestation within the structure to be protected.

Unchecked termite control also includes elimination of termite access to structures by reconstructing repair of faulty construction joints and/or plumbing. Remove all wood and cellulose containing debris in contact with soil from crawl spaces, porches, and around foundations.

For advice concerning current control practices with relation to the specific local conditions, consult resources at structural pest control and the State regulatory agency.

SUBTERRANEAN TERMITE CONTROL

USE DIRECTIONS

Apply only to establish subsurface termite control barriers specified on product labeling. Avoid contamination of public and private water supplies by following these precautions:

- Use anti-backflow equipment or procedures to prevent siphonage of pesticide back into water supplies.
- Do not treat soil beneath structures that contain wells or cisterns.
- Extreme care must be taken to avoid runoff. Do not treat soil that is water-saturated or frozen.

Consult State and local specifications for recommended distance of treatment areas from wells. Refer to Federal Housing Administration Specifications for guidance on preconstruction treatments if no State or local government recommendations are available.

After Treatment: Securely plug all holes drilled in construction elements of continuously occupied areas of structures, including unfinished basements, enclosed porches, garages, and work-shops.

APPLICATION VOLUMES

To ensure thorough coverage in different soil types, it may become necessary to adjust the volume being applied, provided there is a corresponding rate adjustment so that the amount of active ingredient applied to the soil remains the same. In situations which will not accept large amounts of water, such as clay-rich soils, reduced volumes of emulsion can be used which will deliver the appropriate concentration of termiticide to the soil. This may also apply to sensitive areas and/or applications where less volume may be desirable.

Where soil conditions will not accept application of specified volume (gallons) of emulsion, the 1% emulsion may be applied at one-half the application volume or a 2% emulsion may be applied at one-half the labeled application volume.

NOTE: When volume is reduced, the hole spacing for subslab injection and soil rodding may require similar adjustments to account for lower volume dispersal of the termiticide in the soil. Volume adjustments at 2% are not recommended for subslab injection.

VOLUME ADJUSTMENT CHART

Volume Allowed (gallons emulsion/10 ft ²)	Rate (% Emulsion)	
	0.5%	1%
Horizontal (gallons emulsion/10 ft ²)	1 gallon	1/2 to 1 gallon
Vertical (gallons emulsion/10 Linear ft)	4 gallons	2 to 4 gallons
		1 to 2 gallons*

* Not recommended for subslab injections.

PRECONSTRUCTION SUBTERRANEAN TERMITE TREATMENT

Effective preconstruction subterranean termite control requires the establishment of an unbroken vertical and/or horizontal chemical barrier between wood in the structure and the termite colonies in the soil.

To meet F.H.A. termite-proofing requirements, follow the latest edition of the *Termite and Urban Development (T.U.D.) Minimum Property Standards*.

Use a 0.5 to 1.0% emulsion for subterranean termite. Mix 2-4 gallons of PRELUDE in 88 gallons of water.

After grading is completed and prior to pouring of the slab, slab-supported or constructed porches, and other critical areas, make the following treatments:

HORIZONTAL BARRIERS: Before footings are poured, horizontal barriers may be established in footing trenches. Then, after interior grading is completed and prior to the pouring of concrete slabs, horizontal barriers may be established on soil that will be covered by floors, entrance plintoms, or porches, and in other critical areas that will be covered by construction. To provide

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a horizontal barrier, apply the emulsion at the rate of 1 gallon per 10 square feet to fill dirt. If fill is washed gravel or other coarse material, apply at 1 1/2 gallons per 10 square feet.

• It is important that the emulsion reaches the soil.

• Applications shall be made with low pressure (less than 50 p.s.i. at the nozzle) using a coarse-spray nozzle when establishing horizontal barriers.

• If concrete slabs cannot be poured over soil the same day it has been treated, a waterproof cover, such as polyethylene sheeting, should be placed over the soil to prevent erosion. This is not necessary if foundation walls have been installed around the treated soil.

VERTICAL BARRIERS: After the foundation walls have been poured or built, vertical barriers may be established around the perimeter of floating or supported slabs, around utilities penetrating the slab, and in other critical areas. After the final exterior grading is completed, vertical barriers may be created in back-filled soil against foundation walls. To produce a vertical barrier, apply the emulsion at the rate of 4 gallons per 10 linear feet per foot of depth from grade to the top of the footing. For example, a footing 3 feet deep would require 12 gallons of emulsion per 10 linear feet.

Outside and inside perimeter applications may be made by rodding and/or trenching. When rodding from grade or from the bottom of a shallow trench, rod holes should be spaced in a manner that will allow for application of a continuous chemical barrier. Rod holes should not extend beneath the top of the footings, except when the footing is exposed at or above grade. Special care should be taken to avoid soil wastage around the footing.

A trench need not be wider than 6 inches. Rod from the base of a shallow trench to the top of the footings. Low-pressure spray (less than 50 p.s.i. at the nozzle) may be used to treat soil which will be replaced in the trench. Mix the emulsion with the soil as it is being replaced in the trench.

Soil should be treated around sewer lines, plumbing, or around any other utility extending from the soil through a slab.

HOLLOW MASONRY UNITS OF THE FOUNDATION: In reconstruction situations in which application is not made to soil prior to pouring the footing, treat masonry to make a continuous chemical barrier in the voids. Apply the emulsion at the rate of 2 gallons per 10 linear feet. Apply the emulsion so it will reach the footing.

Do not treat in this manner through voids in walls constructed on interior slabs such as basement floors.

CRAWL SPACES: For crawl spaces apply at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth from grade to the top of the footing. Application may be made by rodding and/or trenching. If the footing is exposed at or above grade, application should be made with special care to avoid wastage around the footing. Treatment should include both sides of foundations and around all piers and pipes extending from the soil.

• Rod holes should be spaced to provide a continuous chemical barrier.

• Trench need not be wider than 6 inches nor below the foundation. The emulsion should be mixed with the soil as it is being replaced in the trench.

MONOLITHIC SLABS: In the case of a single-story monolithic slab that does not have a separate foundation or footing, an overall horizontal barrier should be created before the concrete is poured using a rate of 1 gallon of emulsion per 10 square feet. If fill is washed gravel or other coarse material, apply at the rate of 1 1/2 gallons per 10 square feet. Critical areas beneath the slab such as utility pipe entries may be treated at the rate of 4 gallons per 10 linear feet around the pipes.

Exterior vertical barriers should be created after the concrete has been poured and final grade established. Apply the emulsion at the rate of 4 gallons per 10 linear feet per foot of depth to the bottom of the concrete.

POSTCONSTRUCTION TREATMENTS

Use a 0.5 to 1.0% emulsion for subterranean termites. Mix 2-4 gallons of PRELUDE in 98 gallons of water.

Postconstruction applications shall be made by subslab injection, rodding, and/or trenching using low-pressure spray not exceeding 25 p.s.i. at the nozzle.

• Rod holes or trenches should not extend below the footing because of the possibility of soil washout by the emulsion.

Do not apply emulsion until location of heat or air-conditioning ducts, vents and water and sewer (or plumbing) lines are known and identified. Extreme caution must be taken to avoid contamination of these structural elements and airways.

SLAB-ON-GROUND: Vertical barriers may be established by subslab injection inside and rodding and/or trenching outside at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth. Special care must be taken to distribute the treatment evenly. Injectors should not extend below the tops of the footings.

Treat the soil from grade to the top of the footing along the outside and, where necessary, along the inside of the foundation perimeter. Treatment may also be required along one side of a partition wall (especially where the wall is connected to the floor by fixtures inserted in the slab) and along cracks, expansion joints, and other critical areas.

Horizontal barriers may be established where necessary by long rodding or by a grid pattern injection using a rate of 1 to 1 1/2 gallons of emulsion per 10 square feet depending on fill type and condition.

Drill holes should be spaced in a manner that will allow for application of a continuous chemical barrier.

Where necessary, drill through the foundation walls from the outside and inspect the chemical just beneath the slab or along the inside of the foundation.

Along the outside of the foundation walls where shallow foundations exist (1 foot or less), dig a narrow trench, approximately 6 inches wide and not below the top of the footing. Apply the emulsion at the rate of 2 gallons per 10 linear feet. As the soil is being replaced into the trench, apply another 2 gallons per 10 linear feet to the backfill.

When making soil applications to the foundations extending deeper than 1 foot, follow instructions under BASEMENTS - Outside Perimeter. (See exception for monolithic slabs.)

HOLLOW MASONRY UNITS OF FOUNDATION WALLS: Treatment may be made through masonry voids to establish a continuous chemical barrier at the top of the footing. Apply at the rate of 2 gallons of emulsion per 10 linear feet of footing. Where this treatment is necessary, access holes must be drilled below the sill plate and should be through a lower mortar joint before treatment through masonry walls, seal the interior wall and floor expansion joint with mortar, caulk, waterproofing material, or similar impervious sealant. Also, seal openings at the top of the foundation wall. Do not treat in this manner through voids in walls constructed on exterior slabs such as basement floors.

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

BASEMENTS: Apply the emulsion at the rate of 4 gallons per 10 linear feet per foot of depth from the grade to the top of the footing. For example, a footing 3 feet deep would require 12 gallons of emulsion per 10 linear feet. Application shall be made by subslab injection, rodding and/or trenching. Inside treatment may be required along inside of foundation walls and along one side of interior partition walls (or bearing walls) especially where the wall is connected by fixtures inserted in the floor. Application may also be necessary around sewer pipes, floor drains, conduits, or any cracks in the basement floor. Drill holes should be spaced in a manner that will allow for application of a continuous chemical barrier. **NOTE:** Sandy soils will tend to give less lateral dispersion than clay soils. Spacing should be determined by soil type.

Outside Perimeter: Applications must be made by rodding and/or trenching. When rodding from grade or from the bottom of a shallow trench, rod holes should be spaced in a manner that will allow for application of a continuous chemical barrier. Rod holes should not extend beneath the top of the footings.

A trench need not be wider than 6 inches. Rod from the base of a shallow trench to the top of the footings. Low-pressure spray (not exceeding 25 p.s.i.) may be used to treat soil which will be replaced in the trench. Mix the emulsion with the soil as it is being replaced in the trench.

ACCESSIBLE CRAWL SPACES: Apply the emulsion at the rate of 4 gallons per 10 linear feet per foot of depth from the grade to the top of the footing. For best results, application should be made by rodding and/or trenching.

Treat both sides of foundation and around all piers and pipes. Where rodding from grade or from the bottom of a shallow trench, rod holes should be spaced in a manner that will allow for application of a continuous chemical barrier. Rod holes should not extend beneath the top of the footings.

A trench need not be wider than 6 inches. Rod from the base of a shallow trench to the top of the footings. Low-pressure spray (not exceeding 25 p.s.i.) may be used to treat soil which will be replaced in the trench. Mix the emulsion with the soil as it is being replaced in the trench.

To prevent subterranean termites from constructing tubes from soil to crawl space wood members above, an overall soil treatment of this product may be applied. Remove all extraneous debris before application of 1 gallon per 10 square feet overall. Use fans to exhaust crawl space air while working in a confined space. Wear appropriate protective clothing, gloves, and inverted goggles. Keep children and pets out of treated area in crawl space until surface is dry.

When treating plexiglass or crawl spaces, turn off the air circulation system of the structure until application-generated dust or spray mist has settled.

INACCESSIBLE CRAWL SPACES: Inaccessible crawl spaces are those in which the interior clearance prohibits entry and treatment by the applicator. The following methods of treatment may be used:

- Excavation of the crawl space to make it accessible space, then treat as an accessible space.
- Drill through the foundation wall or through the floor above and treat the soil perimeter at a rate of 4 gallons of emulsion per 10 linear feet per foot of soil depth.*
- Apply to the soil surface of the crawl space with a coarse fan spray with pressures not exceeding 25 p.s.i. at the nozzle. Apply at the rate of 1 gallon of emulsion per 10 square feet.

*NOTE: Children and pets should be kept out of treated area until surface is dry. If adequate ventilation is not available in the crawl space, wear a respirator approved by the Mine Safety and Health Administration during treatment.

It is recommended that inadequately ventilated crawl spaces be brought into compliance with FRIA Minimum Property Standards specifying 1 square foot of ventilated opening per 150 square feet of crawl space area.

BATH TRAPS: Where there is exposed soil beneath and around plumbing/waist pipe entrances through a concrete slab, this soil may be treated with 0.5% emulsion of this product. An access door for inspection and treatment should be cut and installed if not already present. After inspection and removal of any wood (from boards) or cellular materials, treat the soil by rodding and/or flooding with 0.5% emulsion of this product.

FOAM APPLICATIONS
PRELUDE emulsion may be converted to a foam and the foam used to treat voids to control or prevent termite, ant, bee, wasp infestations or other arthropod's harboring under slabs.

Notes: Use a 0.5% to 2.0% emulsion converted to a foam with expansion characteristics from 2 in 20 inches.

Notes: When using a foaming product be sure that it is compatible with PRELUDE.

Applications Under Slabs or to Soil in Crawl Spaces:

- Applications should be made using PRELUDE foam in combination with liquid emulsion applications.
- The total amount of product applied with the combination of foam and liquid emulsion should be equivalent to that of an application using a liquid emulsion only.
- Applications to Other Areas:**
 - Applications may be made using either PRELUDE foam alone or in combination with a liquid emulsion.
 - Applications may be made behind vapors, piers (concrete or wood), chimney bases, into rubble foundations, into block voids, structural voids (i.e., between stud walls), joists, stumps, and voids in crawl spaces.
 - Applications may be made in other areas, which include but are not limited to:
 - Foundations penetrated by utility services.
 - Cracks and expansion joints.
 - Bath traps.
 - Areas where cement constructions have been poured adjacent to the foundation such as stairs, patios and slab additions.

POSTS, POLES AND OTHER CONSTRUCTIONS

Application may be made to create a chemical barrier in the soil around wooden construction such as signs and landscape ornamentation by applying a 0.5% to 1.0% emulsion. Treat on all sides to create a continuous barrier around posts and poles.

Use 1 gallon of emulsion per foot of depth for poles and posts less than six inches in diameter. For larger poles, use 1 1/2 gallons of emulsion per foot of depth. For large constructions, use 4 gallons per linear/feet per foot of depth.

For treatments made during installation, the emulsion may be applied to the soil as it is replaced around the pole or post. Previously installed poles and posts may be treated by subsurface injection or treated by gravity-flow through holes made from the bottom of a trench around the pole or post. Treat on all sides to create a continuous chemical barrier. Apply to a depth of six inches below the bottom of the wood.

EXCAVATION TECHNIQUE: If treatment must be made in difficult situations such as near walls or cisterns, along faulty foundation walls, and around pipes and utility lines which lead downward from the structure, application may be made in the following manner:

- Trench and remove soil to be treated onto heavy plastic sheeting or similar material.
- 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.
- After the treated soil has dried adequately, replace the soil in the trench.

Prior to using this technique near wells or cisterns consult State, local or Federal regulatory agencies for information regarding approved treatment practices in your area.

AFTER TREATMENT: Before leaving the job site, securely plug all holes drilled in construction elements of commonly occupied areas of structures, including unfinished basements, enclosed porches, garages, and workshops.

UNDERGROUND SERVICES

Examples of underground services are viators, cables, utility lines, pipes and conduits. Services may be within structures or located outside structures, in tight-of-ways or to protect long range (lines) or installations of services.

Soil treatment may be made using a 0.5% to 1% PRELUDE emulsion to prevent attack by termites and ants.

Apply 2 to 4 gallons of emulsion per 10 linear feet to the bottom of the trench and allow to 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. In wide trenches, only treat the soil in the area near the service. It is important to establish a continuous barrier of treated soil surrounding the services.

Where soil conditions will not accept application of specified volume of 0.5% emulsion, the 1% emulsion may be applied at one-half the application rate or 2 gallons per 10 linear feet. Finish filling the trench with untreated fill soil. The soil where each service protrudes from the ground may be treated by trenching/rodding of no more than 1 to 2 gallons of emulsion into the soil.

Precaution: Do not treat electrically-active underground services.

RE-TREATMENT

Retreatment for subterranean termites should be made when there is evidence of reinfestation subsequent to the initial treatment, or there has been a disruption of the chemical barrier in the soil due to construction, excavations, landscaping, etc. Retreatment should be made as a spot application to these areas.

If 0.5% rate is used, the property should be inspected annually for possible reinfestation and retreatment if necessary.

Retreatment may be made to vulnerable areas in accordance with the application techniques described above. This application should be made as a spot treatment to these areas. Routine or annual retreatment of the entire premises should be avoided.

TREATMENT OF WOOD IN PLACE FOR CONTROL OF TERMITES

AND WOOD-INFESTING BEETLES

(Localized areas in Structures) In addition to subsurface applications, this product may be used for treating infested wood in place. It can be applied to wood by crack and crevice tool, coarse fan spray or injection. Overall broadcast spray applications must be limited to attics, crawl spaces, unfinished basements and similar generally unoccupied areas. In occupied indoor areas, treat wood trim and exposed beams by brush or coarse spray directed only onto the wood to be treated.

TERMITES ABOVE GROUND: For control of termites, subterranean aerial colonies, Formosan aerial colonies, or drywood termites in localized areas of infested wood in structures, apply a 0.25% emulsion to voids and galleries in damaged wood and in spaces between wooden members of a structure and between wood and foundations where wood is vulnerable. Application may be made to inaccessible areas by drilling, and then injecting emulsion with a crack and crevice injector into the damaged wood or void spaces. Application to attics, crawl spaces, unfinished basements, or man-made voids may be made with a coarse fan spray of 0.25% emulsion to control workers and winged reproduction forms of termites in wood shelter tubes. This type of application is not intended to be a substitute for soil treatment or mechanical alteration in control subterranean termites, or fumigation for extensive infestation of drywood termites or other wood-infesting insects.

For termites active inside trunks, utility poles and/or fence posts, drill to find the interior infested cavity and inject 0.25% emulsion using treatment tool with a splashback guard.

Termite carton nests in trees or building voids may be injected with 0.5% emulsion using a ported injection tool. 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.

Mixing Information: For wood in place and above-ground treatments, use a 0.25% concentration. To prepare a 0.25% emulsion, add 1.3 fluid ounces of PRELUDE to 1 gallon of water. To prepare 50 gallons of emulsion, add 0.5 gallons (2 quarts) of PRELUDE to 49.50 gallons of water. To prepare 100 gallons of emulsion, add 1 gallon of PRELUDE to 99 gallons of water. Use this spray at a rate of 1 gallon of diluted spray per 1,000 square feet of surface area.

CONTROL OF WOOD-INFESTING BEETLES*

To control wood infesting insects such as powderpost beetles (Lyctidae), lesser powderpost beetles (Bostrychidae), deathwatch beetles

*Not registered for use in California.

(Anobiidae), old house borers (Cerambycidae) and ambrosia beetles (Scolytidae) in homes and other structures, apply as an emulsion containing 0.5% PRELUDE. For treatment of small areas, apply by brushing the emulsion evenly on wood surfaces. For large or overhead areas, apply as a coarse spray. When making applications to overhead interior areas of homes, apartment buildings, etc., cover all surfaces below the area being treated, except soil surfaces in crawl spaces, with plastic sheeting or other material which could be disposed of by placing in trash if contamination from dripping occurs. Treated surfaces should be avoided until application has completely dried. 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.

IMPORTANT: Do not apply emulsion until location of heat pipes, ducts, water and sewer lines and electrical conduits are known and identified. Caution must be taken to avoid puncturing and injection into these structural elements. Do not apply into electrical fixtures, switches, or sockets. In the home, all food processing surfaces and utensils in the treatment area should be covered during treatment or thoroughly washed before reuse. Remove pets, birds, and cover aquariums before spraying indoors. Do not permit humans or pets to contact treated surfaces until the spray has dried.

During any overhead applications to overhead interior areas of structures, cover surfaces below with plastic sheeting or similar materials.

GENERAL INFORMATION FOR INDOOR/OUTDOOR PEST CONTROL

PRELUDE is to be used for residual pest control in and on buildings and structures and their immediate surroundings and on modes of transport. Permitted areas of use include, but are not limited to, industrial buildings, houses, apartment buildings, laboratories, buses, noncommercial greenhouses and the nonfood/food areas of stores, warehouses, vessels, railcars, trucks, trailers, aircraft, schools, nursing homes, hospitals (non-patient areas), restaurants, hotels, and food manufacturing, processing and marketing establishments.

Do not tank mix this product with dichlorvos (DDVP) containing products. Can be tank mixed with Insect Growth Regulators (IGR's) or pyrethrin-containing products. When mixing PRELUDE with other products, observe all precautions and limitations on the labels of each product. To prepare the emulsion, dilute PRELUDE with water only. To prepare a 0.50% emulsion, mix 2.6 oz. in 1 gallon of water.

PRELUDE is an emulsifiable concentrate to be diluted with water and used to control pests in and around homes and other structures. The pests controlled are listed in the accompanying tables. PRELUDE may be used as a broadcast or spot application to carpentry, wood, frame or residential lawns only and soil (crawl space and perimeter) and as a crack and crevice injection, or paint-on treatment. Crawl spaces are considered inside the structure. Consult labels for specific use instructions.

CONTROL OF BEES AND WASPS INDOORS*

To control bees, wasps, hornets and yellow jackets, apply a 0.5% emulsion. Application should be in 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.

CONTROL OF BEES AND WASPS OUTDOORS*

To control bees, wasps, hornets, and yellow jackets, apply a 0.5% emulsion. Application should be made in late evening when insects are at rest. Aim spray at nest openings in ground, bushes, and in cracks and crevices which may harbor nests, saturating nest openings and contacting as many insects as possible.

RECOMMENDATION FOR CONTROL OF CLUSTER FLY

Apply PRELUDE to the outside of the structure. Mix 1 part PRELUDE to 5 parts deodorized lightweight mineral oil; apply to 1,000 square feet of wall area. Use a fogging apparatus which delivers the material in a strong air carrier, producing a small particle size. The apparatus should be held within three feet of the surface being treated. Apply only when air movement is less than 2 miles per hour.

The surface treated should be dry at the time of application. Attics and unoccupied lofts should be treated at the same time and at the same rate.

Generally the north side of structures need not be treated since flies seldom enter from areas of sunlight.

TREATMENT OF WOOD FOR CONTROL OF WOOD-INFESTING INSECTS AND NUISANCE PESTS OUTSIDE OF STRUCTURES

PRELUDE may be diluted with water for use to control pests in and around homes and other structures. Pests controlled are listed in the following tables.

INDOOR USES:

Infestations of Arthropods, such as ants, cockroaches and scorpions inhabiting under slab area may be controlled by drilling and injecting or horizontal rodcing and then injecting 1 gallon of a 0.5% to 1% emulsion per 10 square feet or 2 gallons of emulsion per 10 linear feet.

*Not registered for use in California.

IN CRAWL SPACES:

Broadcast PRELUDE at 0.5% to 1% to all surfaces in crawl spaces to control ants, fleas, cockroaches, scorpions, or other arthropods. Product may also be applied through under-structure insecticidal delivery systems such as piping or flexible tubing mounted under the structure. This treatment is not intended as a substitute for termite control. Treat surfaces to point of runoff. Keep children and pets off surface until dry.

LANDSCAPED LAWN AND ORNAMENTAL AREAS*

PRELUDE may be used to control insect pests on ornamentals and lawns in landscaped areas around residential, institutional, public, commercial and industrial buildings, parks, recreational areas, and athletic fields.

Apply PRELUDE when insects appear or feeding is noticed. The higher rate should be used as pest populations increase. Repeat the application as necessary to maintain control. Use sufficient water to obtain full coverage.

PRELUDE 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.

Precautions: All application equipment must be properly maintained and calibrated using appropriate carriers.

Recommended Application Rates:

USE	PEST	RECOMMENDED RATE	SPECIFIC INSTRUCTIONS
ORNAMENTALS IN RESIDENTIAL AND LANDSCAPED AREAS AROUND INSTITUTIONAL, PUBLIC, COMMERCIAL AND INDUSTRIAL BUILDINGS, PARKS, RECREATIONAL AREAS AND ATHLETIC FIELDS (including Trees, Shrubs, Flowers, Evergreens, Foliage Plants and Ground Covers)	Ants	0.04 - 12.8 fl. oz. 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, Dianella and Pteris Fern.
	Aphids		
	Bayworm		
	Beet Armyworm		
	Colorado Longhorn		
	Citrus Thrips		
	Fungus Gnat		
	Heliothis spp.		
	Japanese Beetles		
	Leaf Miner		
	Leaf Feeding Caterpillars		
	Leafminers		
	Leafhoppers		
	Leafrollers		
Lygus Bugs			
Mealybugs			
Root Weevils (Adult)			
Whiteflies			
LAWNS AROUND RESIDENTIAL, INSTITUTIONAL, PUBLIC, COMMERCIAL AND INDUSTRIAL BUILDINGS, PARKS, RECREATIONAL AREAS AND ATHLETIC FIELDS	Chinchbug	0.04 - 12.8 fl. oz. per 1000 ft ²	Apply using sufficient water to provide adequate coverage
	Grubs		
	Pit Bugs		
	Sod Webworm		
	(See also list of pests under Outside Surfaces and Around Buildings)		

APPLICATIONS TO AGRICULTURAL STRUCTURES

For Agricultural Use Only

GENERAL APPLICATION INSTRUCTIONS

PRELUDE can be used for residual pest control in and on buildings and structures used for agricultural purposes, and their immediate surroundings.

PRELUDE is an emulsifiable concentrate to be diluted with water and applied as an emulsion to control pests in and around agricultural structures. Pests controlled are listed in the accompanying tables. PRELUDE may be applied as a spray or spot treatment to walls and ceilings as a residual surface treatment. Do not treat manure or litter. Avoid contamination of feed and water. Do not apply directly to livestock or poultry.

*Not registered for use in California.

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AGRICULTURAL STRUCTURES*

Spray directly to walls and ceilings as residual surface treatment only. Do not treat manure or litter. Avoid contamination of food and water. Do not apply directly to livestock or poultry.

For Application In	Target Insects	Method of Application	Dilute	Application Rates
Dairies, barns, lockers, stables, poultry houses, swine and livestock houses	House flies, stable flies and other nuisance breeding flies. Also aids in the reduction of cockroaches, mosquitoes and spiders.	Sprayer	6 ounces to 11.5 gallons water	1 gallon per 750 square feet of surface

OUTSIDE SURFACES AND AROUND BUILDINGS*

Apply PRELUDE using a 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, refuse dumps, residential lawns only such as grass areas adjacent or around private homes, duplexes, townhouses, condominiums, house trailers, apartment complexes, carports, garages, fence lines, storage sheds, barns, and other residential and non-commercial structures, soil, trunks of woody ornamentals and other areas where pests congregate or have been seen. Repeat treatment as necessary to maintain effectiveness.

Keep children and pets off treated areas until dry.

BARRIER TREATMENT: Apply 0.5% of a band of soil and vegetation 6 to 10 feet wide around and adjacent to the structure. Also, treat the foundation of the structure to a height of 2 to 3 feet. Use a spray volume of 2 to 10 gallons per 1,000 square feet. Higher volumes of water may be needed if mulch or leaf litter is present or dense foliage. House siding may be treated if pests such as Gypsy moth adults and caterpillars, boxelder bugs, elm leaf beetles, earwigs or silverfish are present.

PEST	SPECIFIC INSTRUCTIONS		
	LAWN	SQ. FT.	OZ. OF PRELUDE
Ants			3 to 20
Ant Mounds ¹			1 to 50
Fireants ¹			16 to 100
Bark Beetles ³			24 to 140
Bees			48 to 330
Carpenter Bees			176 to 1,100
Borer ³			
Boxelder Bugs ²			
Caterpillars			
Cockroaches			
Asian Cockroaches			
Crickets			
Mole Crickets			
Earwigs			
Elm Leaf Beetles ²			
Fireflies			
Flies ⁴			
Ground Squirrels			
Gypsy Moths			
Millipedes			
Scorpions			
Silverfish			
Spiders			
Wasps			
Ticks ⁴			
Tree			
Carpenter Ants			
Chinchillas			
Pill Bugs			

*Not required for use in California.

PEST CONTROL INDOORS*

Food Handling Establishments: Places other than private residences in which food is held, processed, prepared or served.

Food/Feed Areas: PRELUDE is not labeled for use in food/feed areas. 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 service areas where food is exposed or facility is in operation. Service areas are areas where prepared foods are served such as dining rooms but excluding areas where foods may be prepared or held. In the home, all food processing surfaces and utensils should be covered during treatment or thoroughly washed before use. Exposed food should be covered or removed. Not for use in USDA Meat and Poultry Plants.

Nonfood/Feed Areas: Includes garbage rooms, lavatories, floor drains (to sewers), egress and vestibules, offices, locker rooms, machine rooms, garages, mop closets, and storage (after canning or bottling). All areas where insects hide or through which insects may enter should be treated.

Use PRELUDE to control pests listed in the following table by application of a 0.5% emulsion.

PEST	SPECIFIC INSTRUCTIONS
Bees	Prior to treating, carpets and furniture should be vacuumed thoroughly and vacuum cleaner bag discarded in an outdoor trash container. Evenly apply a broadcast spray at a rate of 1 gallon per 800 to 1000 square feet to residential areas such as crawl spaces, rugs, carpets, pot beds and other pet resting areas. Avoid wetting or soaking. For crawl space applications, the applicator must wear a respirator recommended by MSDS for filtering spray mists and organic vapors. When treating upholstered furniture, take care to treat between and under cushions. Pay particular attention to areas which are frequented by pets. Old pet bedding should be replaced with clean, wash bedding after treatment. To control the source of flea infestations, pets inhabiting the treated premises should be treated with a flea control product registered for application to animals.
Carpenter Ants ¹ , Carpenter Ants ¹ , Fire Ants, Bat Bugs, Bed Bugs, Bees and Wasps, Carpenter Bees, Boxelder Bugs, Cockroaches, Asian Cockroaches, Crickets, Flies - Such as: Dren, Cluster, House Earwigs, Fireflies, Ground Squirrels, Leaf Beetles, Millipedes, Pantry Pests ^{2,3} - Such as: Flour Beetles, Indian Meal Moths, Larder Beetles, Pillbugs, Scorpions, Silverfish, Sowbugs, Spiders	Apply crack and crevice, as a pinstream, as a fine/coarse, low pressure spray (20 psi or less), spot application or with a pet in brush. Treat where pests are found or normally occur, such as cracks and crevices in walls, in and around kitchen cabinets and drawers, along baseboards, behind sinks and around plumbing and other utility installations. 1 Not infested wood may be drilled and inspected with PRELUDE. 2 Preserve all carpets, uncovered footstools for any heavy original package opened, shell paper and other objects before spraying. Allow treated surfaces to dry and cover shelves with clean paper before replacing any utensils, foodstuffs or other items. Any foodstuffs accidentally contaminated with spray solution should be discarded. 3 For the control of carpet beetles, evenly apply the spray to rugs, carpets, along baseboards and edges of carpeting, under clothing, bags and furniture, in closets, under shelves, and whenever else these insects are seen or suspected. Avoid walking on walking.
Carpet Beetles	For the control of Brown Dog Ticks, evenly apply the spray to infested areas, such as pet beds and resting quarters, nearby cracks and crevices, along baseboards, windows and door frames, and areas of floor and floor cushion rugs where these pests may be present. Avoid wetting or soaking. ON flecking should be removed and replaced with clean, wash bedding after treatment.
Brown Dog Ticks	

*Not required for use in California.

Notes

GENERAL PRECAUTIONS AND RESTRICTIONS

Do not use in food or feed areas of food handling establishments, restaurants or other areas where food or feed is commercially prepared or processed. Do not use in serving areas where food is prepared or where food is stored. Do not use in serving areas where food is served such as dining rooms but excluding areas where food may be prepared or held. Nonfood/feed areas are areas such as garage rooms, lavatories, floor drains (to sewers), unitrus and vestibules, offices, locker rooms, machine rooms, boiler rooms, garages, mop closets and storage (after bottling or canning).

Not for use in USDA meat and poultry plants.

DO NOT APPLY THIS PRODUCT TO EDIBLE CROPS

Do not apply in warehouses where raw or cured tobacco is stored.

Do not apply in warehouses where raw agriculture commodities for food or feed are being stored.

Do not apply in greenhouses where crops for food or feed are grown.

Do not allow spray to contact food, foodstuffs, food contacting surface 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 apply to puls, crops, livestock 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.

During indoor surface application, do not allow dripping or run-off to occur.

Do not apply this product in any rooms while occupied by patients, the elderly or infirm.

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.

When applying PRELUDE in a confined area, the user should wear protective clothing, untreated goggles, rubber gloves, and a respirator approved by the Mine Safety and Health Administration during application.

SPRAY DILUTIONS*

CONCENTRATION OF A.I.	AMOUNT OF PRELUDE	AMOUNT OF WATER
0.25%	1.3 fl. oz.	1 gal.
0.25%	2 qts.	49.5 gals.
0.25%	1 gal.	99 gals.
0.50%	2 gals.	98 gals.
1.0%	4 gals.	98 gals.
2.0%	10.4 fl. oz.	1 gal.
2.0%	8 gals.	98 gals.

*Fill sprayer with the desired volume of water and add PRELUDE[®] Termiticide/Insecticide. Close spray container and shake or agitate before use to ensure proper mixing. Make up diluted material only as required.

PRELUDE[®] is a trademark of a ZENECA Group Company.
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Extended Ixyl[™] IFRK00X[™] has the following Patents:
U.K. & Europe 0256672, U.S.A. 4933043, Canada 1244433.

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ZENECA Professional Products

Prelude

ONLY FOR SALE TO, USE AND STORAGE BY PROFESSIONAL PEST CONTROL OPERATORS

ACTIVE INGREDIENT:
 Permethrin
 (3-phenoxyphenyl)propanoic acid
 22.1% (including hydroxybenzoic acid)
 26.6%
INERT INGREDIENTS 73.4%
TOTAL 100.0%

*Oxzinon rate: 1/100 25% (1) required
 max. 65% (1) limit
 PRELUDE contains 2 pounds active
 ingredient per gallon.

EPA Reg. No. 10182-95
 EPA Est. No. 10182-AII-1
 U.S. Patent No. 4,024,163

THE BACK OF THIS PANEL IS FULLY GLUED

**KEEP OUT OF REACH OF CHILDREN
WARNING**

See attached booklet for complete Directions for Use

Contents: 1 quart (0.95 L)

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