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Item No. 11.1.4 Halifax Regional Council June 8, 2010

то:	Mayor Kelly and Members of Halifax Regional Council		
SUBMITTED BY:	Margae Causty		
	Wayne Anstey, Acting Chief Administrative Officer		
DATE:	May 17, 2010		
SUBJECT:	Acceptance of Tick Treatment Proposal: Braemar Pest Control		

ORIGIN

- 1. Staff receipt of a proposal for a tick control solution to the infestation in Admirals Cove Park.
- 2. Item 11.1.1, April 13, 2010 Report to Council: Blacklegged Tick Infestation, Admirals Cove Park.

RECOMMENDATION

It is recommended that Halifax Regional Council direct staff to accept the Tick Treatment Proposal and initiate the pest control action specifically for Admirals Cove Park, and in accordance with the Sole Source Policy (Administrative Order 35, Section 8 (11) attached), award a Purchase Order to Braemar Pest Control for a Total Price of \$15,000.00 (net HST included) with funding from Operating Account W183 as outlined in the Budget Implications section of this report.

BACKGROUND

In recent years, several residents and pets from Bedford have been diagnosed with Lyme Disease.

- 2 -

Admirals Cove Park, which is property owned by Halifax Regional Municipality (HRM) and Department of National Defense, is one location in Nova Scotia where Black Legged Ticks (BLT), the carrier of the bacteria that causes Lyme Disease, have been identified. Other areas in Nova Scotia have been identified to have BLT infestations, and it is likely that there are BLT's across the entire province.

On April 13, 2010, Regional Council approved a Recommendation Report assisting staff with achieving action on measures to address the infestation.

Provincial Information on Blacklegged Ticks can be located at: http://www.gov.ns.ca/ohp/cdpc/lyme.asp

Federal Information can be located at: http://www.phac-aspc.gc.ca/id-mi/lyme-fs-eng.php

DISCUSSION

The purpose of this report is to seek Regional Council approval on the action proposed.

Staff have been diligently working on solutions to manage the risk related to this infestation for over a year. Measures have included:

- Messaging/Communications;
- Advocating and Pressuring for a Control Measure (i.e. deer bait station);
- Collaboration with stakeholders.

On Tuesday May 11th, staff received a proposal from Braemar Pest Control to apply a pesticide, Dragnet (as per label in Attachment B), to the high risk areas in Admirals Cove Park (Attachment C). The high risk areas identified included two main paths in the park and the property abutting residents with heavy foliage.

For a budgetary cost of \$7,500 per treatment, the vendor will apply the control product to high risk areas, including the main pathways into the park and the HRM property that abuts residents that is identified as high risk. There would be a spring and fall treatment completed for a total cost of \$15,000.

Upon discussion with Municipal Operations and SEMO Managers, staff recommend this control measure as a risk mitigation measure in Admirals Cove Park.

There are a few points of note:

- 1. There is not a Health Canada approved pesticide for Black Legged Ticks. There is a Health Canada approved pesticide for Brown Dog Ticks, which is the same product used in the USA to control Black Legged Ticks. There are Brown Dog Ticks in Admirals Cove Park. Brown Dog Ticks do not carry Lyme Disease. By treating the high risk areas for Brown Dog Ticks, a collateral effect will be the control of Black Legged Ticks.
- 2. This is a Sole Source Purchase. The Procurement Services Sole Source Justification documentation was met. If this measure is required in future years, it is anticipated that there will be market availability of the solution. Despite significant work on identifying solutions, this is the first commercial offering that the municipality has received.
- 3. Control measures will <u>not eradicate</u> ticks. Ticks will be carried on mice, deer, racoons, dogs, birds, etc. Control measures reduce risk of exposure. There should not be an expectation of eradication.
- 4. The product being used is a pyrethroid, which is a strong chemical. Not withstanding its strength, it is used indoors for a variety of pest management measures. SEMO recommends that the risk to human health through the exposure to Lyme Disease greatly outweighs the risk to human health through potential exposure to this solution. The contractor and staff will be working on application procedures, including restricting access during treatment, signage, etc., in order to reduce risk of human exposure.
- 5. Staff are initiating this action as a risk management response to this particular infestation. However, staff may not be able to maintain pest control measures on a broader scale. There is risk and probability that there are Black Legged Ticks across HRM, as there are with Long Horn Beetles, European Fire Ants, etc. Based on the infections of Lyme Disease encountered to date, staff suggest the risk in Admirals Cove Park warrants this action. Expanded pest control actions may not be financially sustainable, let alone environmentally or socially. Should BLT's be identified in other parks and property across HRM, this relatively isolated action may mean that future activities of a similar nature are feasible.
- 6. A possible implication of approval of this action is the expectations that residents in HRM may have in the future of expanded or similar pest infestations (such as mosquitos carrying West Nile Virus). It is probably not financially possible to meet an expectation of a broad pesticide or pest management program on HRM parks and property. Endeavors to attempt such a broad scale program could cost in excess of \$1 million annually. Even this sort of program will not and can not ensure eradication of pests.

Provincial and Federal Parks

Upon discussion of this action with Department of Natural Resources (DNR) staff, HRM staff learned that DNR operates parks under the premise that when visitors enter a park, they are getting a nature based experience. That experience may include the presence of ticks or bugs or other pests. They provide information to the public on known risks, such as protecting from Ticks or Mosquitos, etc., and visitors enter at their own risk. They would not introduce chemical treatment solutions. Information from Parks Canada shows that the Federal approach is comparable.

Advice from Nova Scotia Department of Health Promotion and Protection

Senior staff at Health Promotion and Protection, strongly cautions HRM staff about using pesticides (either through spraying or deer bait stations) as <u>the</u> viable and sustainable option for tick control. There is concern of a false sense of security that these actions may provide. Other actions, as recommended in the HPP brochure, must be done for prevention to be effective. This includes landscaping and personal protective measures.

Additionally, while Admirals Cove park is home to the only identified infestation in HRM, we can be practically assured that the ticks are in other areas of the province and municipality. A province wide spray program is most likely not an economically, environmentally or socially sustainable solution.

Update to usage of Deer Bait Stations

Both letters that Regional Council recommended the Mayor send to the Federal Minister of Health and Provincial Minister of Health Promotion and Protection, were well received. As a result, it is anticipated that the efficacy study of the Deer Bait stations will be expedited and testing of the station will commence in the fall. There is considerable work to be completed by Federal and Provincial staff prior to that. HRM staff are monitoring and assisting with progress.

Jointly, these measures, along with other actions recommended in both the Nova Scotia Department of Health Promotion and Protection literature and Connecticut Tick Management Handbook, will assist with the control and management of the infestation risk in Admirals Cove Park

Domestic Chemical Control Solutions

The Connecticut Tick Management Handbook overviews the following domestic chemical control solutions (Attachment One).

Pyrethrins

Pyrethrum is a natural insecticide extracted from certain chrysanthemum plants, used with the synergist piperonyl butoxide (PBO) or insecticidal soap. While the Black Legged Tick infestation is a human health issue, outside the HRM Pesticide By-Law, it is worth noting that Pyrethrins are products allowed under the By-Law.

- 5 -

Pyrethroids

Permethrin is a synthetic pyrethroid, modified to increase toxicity and stability. Many concentrated pyrethroid formulations are restricted to commercial use, due to potential impacts to ecology. However, low concentration products are available for homeowner use. The product Braemar is offering to both residents and HRM is a Pyrethroid. Braemar is a Commercial Applicator licensed by the Province of Nova Scotia.

Carbamate insecticide

A toxic compound, Carabayl, is used in the control of ticks.

In addition, for animals, there are flea shampoos that have Piperonyl Butoxide and Pyrethrins or the pyrethroid permethin in them that kill ticks. Flea and tick collars are also available. It is understood that vaccines for Lyme Disease prevention in dogs is available from some veterinarians (however, not confirmed at time of submission of this report).

While there are no chemical control solutions specifically approved for the usage on Black Legged Ticks in Canada, by the Pest Management Regulatory Agency, residents are able to find homeowner products at retail locations that contain the above described products. Many of these products are approved in the United States by the Environmental Protection Agency (EPA) for usage on Ticks. Residents are able to research approved products at the PMRA website: http://pr-rp.pmra-arla.gc.ca/portal/page?_pageid=34,17551&_dad=portal&_schema=PORTAL

Aside from chemical control measures, as per the attached Health Protection and Promotion Brochure, homeowners can take the following measures to reduce the number of Black Legged Ticks around the home:

- 1. Remove leaf litter and clear tall grass and brush around your home and at the edge of your lawn;
- 2. Keep lawns mowed short and clear brush and leaf litter from your lawn frequently;
- 3. Put playground equipment in sunny, dry places away from wooded areas, yard edges and trees;
- 4. Place wood chips or gravel between your lawn and any wooded areas to stop ticks from moving into areas used by family and pets;
- 5. Keep the ground under bird feeders clean. Place feeders in dry, sunny places away from your house;

- 6. Add hard surfaces (such as decking, stone, tiling or gravel) around your house and property. Use these surfaces for outdoor activities;
- 7. Keep your woodpile neat, dry, off the ground and away from your home;
- 8. Keep your yard sunny and dry by pruning bushes and trees to let in sunlight and air.

BUDGET IMPLICATIONS

The recommended action, costing \$15,000 (net HST included), will be funded from operating account W183 Playgrounds, Central. This is an unbudgeted specific activity for 2010/2011 and staff will be required to find savings to offset this expense during the fiscal year, which will result in reduction in other planned service delivery. Savings will be realized through reduced expenses in other expenditure areas.

This budget cannot sustain expanded domestic or invasive pest management pressures.

FINANCIAL MANAGEMENT POLICIES/BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Project and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Project and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

Regional Council could choose to not accept this proposal.

ATTACHMENTS

Attachment A - Sole Source Policy, Administrative Order 35, Section 8 (11) Attachment B - Product Label Attachment C - Map of Admirals Cove Park

Acceptance of Tick Treatment Proposal: Braemar Pest Control Council Recommendation Report

June 8, 2010

A copy of this report can be obtained online at <u>http://www.halifax.ca/council/agendasc/cagenda.html</u> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

- 7 -

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Administrative Order 35 Procurement Policy Section 8 (11) Sole Source/Single Source Purchases

(11) Sole Source/Single Source Purchases: The terms and conditions of a sole source/single source purchase shall be negotiated. A sole source/single source purchase occurs:

(a) To ensure compatibility with existing products, facilities or service, to recognize exclusive rights, such as exclusive licences, copyright and patent rights, or to maintain specialized products that must be maintained by the manufacturer or its representative.

(b) Where, for technical reasons, there is an absence of competition and the goods or services can be supplied by a particular supplier and no alternative or substitute exists.

(c) For the procurement of goods or services the supply of which is controlled by a supplier that is a statutory monopoly.

(d) For the purchase of goods on a commodity market.

(e) For work to be performed on or about a leased building or portions thereof that may be performed only by the lessor.

(f) For work to be performed on a property by a contractor according to the provisions of a warranty or guarantee held in respect of the property or the original work.

(g) For the procurement of a prototype of a first good or service to be developed in the course of and for a particular contract for research, experiment, study or original development, but not for any subsequent purchases.

(h) For the procurement of a good or service for testing or trial use.

(i) For the purchase of goods under exceptionally advantageous circumstances such as bankruptcy or receivership, but not for routine purchases.

(j) For the procurement of original works of art.

(k) For the procurement of goods intended for resale to the public.

(1) Where the Municipality has a rental contract with a purchase option and such purchase option could be beneficial to the Municipality.

(m) Notwithstanding anything in this policy, where a purchase is determined by Council to be fair and reasonable and is made from a nonprofit corporation supported by the Municipality, such a purchase may be made as a single source purchase.

(n) Where items are offered by sale by tender, auction or negotiation such purchase will be deemed to be a single source purchase and the CAO may authorize the submission of a bid or the conduct of negotiations where the CAO

determines the purchase to be clearly in the best interest of Halifax Regional Municipality. (o) Where goods or consulting services regarding matters of a confidential or privileged nature are to be purchased and the disclosure of such matters through an open tendering process could reasonably be expected to compromise government confidentiality, cause economic disruption or otherwise by contrary to the public interest. Purchases of this nature must be approved by the CAO

(p) Where compliance with an open tendering process may interfere with the Municipality's ability to maintain security or order or to protect human, animal or plant life or health.

1784



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 structural pest control regulatory agency of your State prior to use of this product.

EPA REG. NO. 279-3062	EPA Est. 279-
Active Ingredient: Permethrin** Inert Ingredients:***	
** <i>cis/trans</i> ratio: Max. 55% (±) <i>cis</i> and min. 45% (±) ***Contains petroleum distillates. Contains 3.2 pounds permethrin per gallon.	100.0% trans

U.S. Patent No. 4,024,163

KEEP OUT OF REACH OF CHILDREN CAUTION

See other panels for additional precautionary information.



FMC Corporation Agricultural Products Group Philadelphia PA 19103

Net Contents

FIRST AID			
 If swallowed Call poison control center or doctor immediate for treatment advice. Do not induce vomiting unless told to do so by t poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscio person. 			
If inhaled	 Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice 		
lf 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. 		
lf in eyes	 Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. 		
HOTLINE NUMBER			

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-(800)-331-3148 for Emergency Assistance.

NOTE TO PHYSICIAN

This product contains aromatic hydrocarbons which can produce a severe pneumonitis if aspirated, consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

For Information Regarding the Use of this Product Call 1-800-321-1FMC (1362).

PRECAUTIONARY STATEMENTS Hazards to Humans (and Domestic Animals)

Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin, eyes or clothing. Avoid breathing dust (vapor or spray mist). Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

All pesticide handlers (mixers, loaders and applicators) must wear longsleeved 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' when working in a non-ventilated space. All pesticide handlers must wear protective eyewear when working in non-ventilated space or when applying termiticide by rodding or sub-slab injection. ¹Use one of the following Mine Safety and Health Administration (MSHA) /National Institute for Occupational Safety and Health (NIOSH) air purifying respirator types with approval number prefixes such as: TC-23C, TC-21C, TC-19C, TC-13F and TC-14G.

or a NIOSH approved respirator with any R, P or HE filter.

or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE prefilter.

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.

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. Additional information may be obtained from your Cooperative Extension Service.

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 intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters. Do not apply when weather conditions favor drift from treated areas.

Physical/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.

Shake Well Before Using

STORAGE AND DISPOSAL

Pesticide Storage

Store at temperatures above 40°F (5°C).

If separation occurs, and less than entire contents of container are to be used, remix by agitation. For the 1.25 and 2.5 gallon containers, invert and shake several times until contents are homogeneous. For the 5 gallon U-Turn[®] container, grasp handle and rock container forward and backward vigorously until contents are homogeneous.

If crystals form, warm to room temperature 70°F (21°C) by room heating only for 24-48 hours and shake occasionally until crystals dissolve and product appears uniform. Do not use external source of heat for warming container.

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

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. 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. Confine spills. Call FMC: (800) 331-3148.

To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter, commercial clay or gel absorbents. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

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.

Metal Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Do not cut or weld metal containers.

Returnable/Refillable Sealed Container: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

General Information on the Use of This Product

Not for use on plants being grown for sale or other commercial use, 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, or lawns and grounds.

Choice of appropriate procedures should include consideration of such variable factors as the design of the structure, location of heating, ventilation, and air conditioning (HVAC) systems, water table, soil type, soil compaction, grade conditions, and location and type of domestic water supplies and utilities.

For advice concerning current control practices with relation to the specific local conditions, consult resources in structural pest control and state cooperative extension and regulatory agencies.

SUBTERRANEAN TERMITE CONTROL

The use of this product prevents and controls termite infestations in and around structures and constructions.

The dilute insecticidal emulsion must be adequately dispersed 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 by 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 the termite infestation.

Important: Contamination of public and private water supplies must be avoided by following these precautions: 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 or in any conditions where runoff or movement from the treatment area (site) is likely to occur.

Permethrin the active ingredient in Dragnet[®] SFR termiticide/insecticide, is extremely toxic to fish and aquatic invertebrates. Care should be used when making applications near bodies of water. As part of FMC's stewardship program, refer to available support literature on well water, ponds and stream concerns. Locate sources of water discharge from structures, such as french drains and sump systems. Turn off discharge pumps until after application is complete. Observe for any change in color or odor of effluent discharge.Consult state and local specifications for recommended distances of wells from treated areas, or if such regulations do not exist, refer to Federal Housing Administration Specifications (H.U.D.) for guidance.

Note: Crawlspaces are to be considered inside of the 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 the foundation such as stairs, patios, and slab additions.

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:

- 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. Mix thoroughly into the soil taking care to contain the liquid and prevent runoff or spillage.
 - c. After the treated soil has absorbed the diluted emulsion, replace the soil into the trench.
- 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 evaluating whether application of the termiticide to the top of the footer may result in contamination of the subsurface drain. Factors such as depth to the drain system and soil type and degree of compaction should be taken into account in determining the depth of treatment.
- When appropriate (i.e., on the water side of the structure), the treated backfill technique (described above) can also be used to minimize offsite movement of termiticide.

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

Application Rate: Use a 0.5% emulsion for subterranean termites. For other pests on the label use specific listed rates.

Mixing Directions: Mix the termiticide use dilution in the following manner: Fill tank 1/4 to 1/3 full. Start pump to begin by-pass agitation and place end of treating tool in tank to allow circulation through hose. Add appropriate amount of Dragnet SFR. Add remaining amount of water. Let pump run and allow recirculation through the hose for 2 to 3 minutes.

Dragnet SFR may also be mixed into full tanks of water, but requires substantial agitation to insure uniformity of the emulsion.

To prepare a 0.5% water emulsion, ready to use, dilute 1.25 gallons of Dragnet SFR with 94.75 gallons of water.

Mixing: For the desired application rate, use the chart below to determine the amount of Dragnet SFR for a given volume of finished emulsion:

Amount of Dragnet [®] SFR termiticide/insecticide (Gallons except where noted)				
Emulsion	Amount	Amount	Desired Gallons	
Concentration	of Dragnet SFR	of Water	of Finished Emulsion	
0.5%	1²/₃ fl. oz.	7.9 pints	1	
	6²/₅ fl. oz.	31.6 pints	4	
	8²/₅ fl. oz.	39.5 pints	5	
	16²/₅ fl. oz.	9.9	10	
	0.25	18.75	19	
	0.5	37.5	38	
	0.75	57.25	58	
	1.25	94.75	96	
	2.5	189.5	192	
1.0%*	1²/₃ fl. oz.	62 ^{1/₃} fl. oz.	0.5	
	3¹/₃ fl. oz.	7.8 pints	1	
	6²/₃ fl. oz.	15.6 pints	2	
	16²/₃ fl. oz.	4.9	5	
	33¹/₄ fl. oz.	9.7	10	
	0.5	18.5	19	
	1	37	38	
	1.5	56.5	58	
	2.5	91	96	
	5	187	192	
2.0*	1²/₃ fl. oz.	30 ¹ / ₈ fl. oz.	.25	
	6²/₃ fl. oz.	7.6 pints	1	
	33³/₅ fl. oz.	4.74	5	
	66²/₅ fl. oz.	9.5	10	
	1	18	19	
	2	36	38	
	3	55	58	
	5	91	96	
	10	182	192	

Common units of measure:

1 pint = 16 fluid ounces (oz.)

1 gallon = 4 quarts = 8 pints = 128 fluid ounces (oz.)

*For termite applications, only use these rates in conjunction with the application volume adjustments as listed in the section below or in the foam or underground service application sections.

Pre-Construction Subterranean Termite Treatment

Pre-Construction Treatment: Do not apply at a lower dosage and/or concentration than specified on this label for applications prior to the installation of the finished grade.

When treating foundations deeper than 4 feet, apply the termiticide as the backfill is being replaced, or if the construction contractor fails to notify the applicator to permit this, treat the foundation to a minimum depth of 4 feet after the backfill has been installed. The applicator must trench and rod into the trench or trench along the foundation walls and around pillars and other foundation elements, at the rate prescribed from grade to a minimum depth of 4 feet. When the top of the footing is exposed, the applicator must treat the soil adjacent to the footing to a depth not to exceed the bottom of the footing. However, in no case should a structure be treated below the footing. Effective pre-construction subterranean termite control is achieved by the establishment of vertical and/or horizontal insecticidal barriers using 0.5% emulsion of Dragnet SFR. To meet termite proofing requirements, follow the procedures in the latest edition of the Housing and Urban Development Minimum Property Standards.

Horizontal Barriers: Create a horizontal barrier wherever treated soil will be covered, such as footing trenches, slab floors, carports, and the soil beneath stairs and crawlspaces.

For a 0.5% rate, apply 1 gallon of dilution per 10 square feet, or use 1.6 fluid ounces of Dragnet SFR per 10 square feet in sufficient water (no less than 1/2 gallon or more than 2 gallons) to provide thorough and continuous coverage of the area being treated.

If the fill is washed gravel or other coarse material, it is important that a sufficient amount of dilution be used to reach the soil substrate beneath the coarse fill.

Applications shall be made by a low pressure spray (less than 50 p.s.i.) using a coarse spray nozzle. If slab will not be poured the same day as treatment, cover treated soil with a water-proof barrier such as polyethylene sheeting. This is not necessary if foundation walls have been installed around the treated soil.

Vertical Barriers: Vertical barriers must be established in areas such as around the base of foundations, plumbing, utility entrances, back-filled 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 6.4 fluid ounces of Dragnet SFR per 10 linear feet per foot of depth from grade to top of footing in sufficient water (not less than 2 gallons or more than 8 gallons) to ensure complete coverage.

- a. 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 termiticidel barrier, but in no case more than 12 inches apart.
- b. Care should be taken to avoid soil wash-out around the footing.
- c. Trenches need not be wider than 6 inches. Emulsion should be mixed with the soil as it is being replaced in the trench.
- d. 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.

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

Post-Construction Subterranean Termite Treatment

Application Volume: To provide maximum control and protection against termite infestation apply the specified volume of the finished water 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 reduced provided there is a corresponding increase in concentration so that the amount of active ingredient applied to the soil remains the same.

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

Where desirable for post construction treatments, the volume of the 1.0% emulsion may be reduced by $\frac{1}{2}$ the labeled volume or a 2.0% emulsion may be applied at $\frac{1}{4}$ the labeled volume (see Volume Adjustment Chart). Volume adjustments at 2.0% are not recommended for subslab injection. See Volume Adjustment Chart below.

Note: When volume is reduced, the hole spacing for subslab injection and soil rodding may require similar adjustment to account for lower volume dispersal of the termiticide in the soil.

Volume Adjustment Chart				
Rate (% emulsion)	0.5%	1.0%	2.0%	
Volume allowed Horizontal (gallons emulsion/10 sq. ft.) Vertical (gallons emulsion/10 lin. ft.)	1.0 gallons 4.0 gallons	0.5 gallons 2.0 gallons	0.25 gallons* 1.0 gallons*	

*Not recommended for subslab injection.

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

Use a 0.5% emulsion for post-construction treatment. Post-construction soil applications shall be made by injection, rodding, and/or trenching or coarse fan spray with pressures not exceeding 25 p.s.i. at the nozzle. Care should be taken to avoid soil wash-out around the footing

Do not apply emulsion until location of wells, radiant heat pipes, water and sewer lines and electrical conduits are known and identified. Caution must taken avoid puncturing and injection these be into to 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 a min-imum depth of four feet. The actual depth of treatment will vary depending on soil type, degree of compaction, and location of termite activity. When the top of the footing is exposed, the applicator must treat the soil adjacent to the footing to a depth not to exceed the bottom of the footing. However, in no case should a structure be treated below the footing.

Slabs: Vertical barriers may be established by sub-slab injection within the structure 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. 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 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.

- a. Drill holes in the slab and/or foundation to allow for the application of a continuous insecticidal barrier
- b. 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 of emulsion per 10 linear feet per foot of depth as the soil is replaced in the trench.
- c. For foundations deeper than 1 foot follow rate for basement.
- d. Exposed soil and wood in bath traps may be treated with a 0.5% emulsion.

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 the trench, or trenching at the rate of 4 gallons of emul-sion per 10 linear feet per foot of depth. When the footing is more than four feet below grade, the applicator may trench and rod into the trench, or trench along foundation walls at the rate prescribed for four 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 foun-dation 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 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 a provided the applicator must treat the soil adjacent to the footing is a space. 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 termiticide barrier but in no case more than 12 inches apart.
- 3. Trenches must be a minimum of 6 inches deep or to the bottom of the footing, whichever is less, and need not be wider than 6 inches. When trenching in sloping (tiered) soil, the trench must be stepped to ensure adequate distribution and to prevent termiticate from running off. The emulsion must be mixed with the soil as it is replaced in the trench.
- 4. When treating plenums or crawl spaces, turn off the air circulation system of the structure until application has been completed and all termiticide has been absorbed by the soil.

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 square feet overall using a nozzle pressure of less than 25 p.s.i. and a coarse application nozzle (e.g., Delavan Type RD Raindrop, RD-7 or larger, or Spraying Systems Co. 8010LP TeeJet or comparable nozzle). For an area that cannot be reached with the application wand, use one or more extension rods to make the application to the soil. Do not broadcast or powerspray 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 10 square feet. Drill spacing must be at intervals not to exceed 16 inches. Many States have smaller intervals, so check State regulations which may apply.

When treating plenums and crawl spaces, turn off the air circulation sys-tem of the structure until application has been completed and all termiti-cide has been absorbed by the soil.

Masonry Voids: Drill and treat voids in multiple masonry elements of the structure extending from the structure to the soil in order to create a continuous treatment barrier in the area to be treated. Apply at 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. 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.

Note: 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.

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

- a. Trench and remove soil to be treated onto heavy plastic sheeting or similar material.
- b. 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.
- c. After the treated soil has absorbed the liquid emulsion, replace the soil in the trench.

Foam Applications Dragnet® SFR termiticide/insecticide emulsion, from 0.5 to 2.0%, may be converted to a foam with expansion characteristics from 2 to 40 times.

Localized Application

Foam Applications: The emulsion may be converted to a foam and the foam used to control or prevent termite infestations

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

Foam and liquid application must be consistent with volume and active ingredient instructions in order to insure 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.

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

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

Application may be made using Dragnet SFR foam alone or in combination with liquid emulsion. The equivalent of at least 4 gallons (6.4 ounces of Dragnet concentrate) of 0.5% emulsion per 10 linear feet (vertical barrier), or at least 1 gallon (1.6 ounces of Dragnet 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 Dragnet SFR concentrate in sufficient foam concentration and foam volume to deposit 6.4 ounces of concentrate per 10 linear feet or 1.6 ounces 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.

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 Dragnet SFR treated soil. Fill in cracks and spaces with builder's or playbox sand and treat the sand with Dragnet SFR. The sand should be treated as soil following the termiticide rate listed on the Dragnet SFR label.

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

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

APPLICATION IN CONJUNCTION WITH THE USE OF FIRSTLINE[®] TERMITE BAITS

As part of the integrated pest management (IPM) program for termite con-trol, Dragnet[®] SFR termiticide/insecticide may be applied to critical areas of the structure including plumbing and utility entry sites, bath traps, expansion joints, foundation cracks and areas with known or suspected infestations at a rate of 0.5% as a spot treatment or complete barrier treat-ment. Applications may be made as described in the Postconstruction treatment section of this label.

SPECIFIC PEST CONTROL APPLICATIONS **Underground services**

Such as: wires, cables, utility lines, pipes, conduits, etc. Services may be within structures or located outside structures, in right-of-ways or to pro-tect long range (miles) of, installations of services.

Soil treatment may be made using 0.5% to 1.0% Dragnet SFR 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 services. It is important to establish a continuous barrier of treated soil surrounding the correspondence. services.

Where soil will not accept the above labeled volume, 1 to 2 gallons of 1.0% Dragnet SFR may be used per 10 linear feet of trench both to the bottom of the trench and over the soil on top of the services.

Finish filling the trench with treated 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.

Precautions:

Do not treat electrically active underground services.

Posts, Poles, and Other Constructions

Create an insecticidal barrier in the soil around wooden constructions such as signs, fences and landscape ornamentation by applying a 0.5% emulsion.

Previously installed poles and posts may be treated by sub-surface 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 insecticidal barrier around the pole. Use 1 gallon of emulsion per foot of depth for poles and posts less than six inches in diameter. For larger poles, use 1.5 gallons of emulsion per foot of depth. Apply to a depth of 6 inches below the bottom of the wood. For larger constructions, use 4 gallons per 10 linear feet per foot of depth.

Treatment of Wood-in-Place for Control of Wood-Infesting Insects

(Localized Areas in Structure)

For the control of insects such as termites, ants, carpenter ants, and wood-infesting beetles such as Old House Borer and Powder Post in localized areas of infested wood in and around structures, apply a 0.5% 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. Paint on or fan spray applications may also be used. 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 injecting 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 Indoors: To control bees, wasps, hornets, and yellow jackets apply a 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 0.5% 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. Caution must be taken to avoid puncturing and injection into these structural elements. Do not apply into electrical fixtures, switches, or sockets.

GENERAL INFORMATION

Dragnet SFR 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, greenhouses and the non-food/feed areas of stores, warehouses, vessels, railcars, trucks, trailers, aircraft (Do not use in aircraft cabins), schools, nursing homes, hospitals (non-patient areas), restaurants, hotels, and food manufacturing, processing and servicing establishments.

Do not tank mix this product with dichlorvos (DDVP) containing products. Can be tank-mixed with Insect Growth Regulators (IGR's) or pyrethrincontaining products. When mixing Dragnet SFR with other products, observe all precautions and limitations on the labels of each product. To prepare the emulsion, dilute Dragnet SFR with water only. To prepare a 0.50% emulsion, mix 1.6 oz. (50 ml) in 1 gallon of water.

Dragnet SFR 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.

Dragnet SFR may be used as a broadcast or spot application to carpeting, wood, lawns and soil (crawl space and perimeter) and as a crack and crevice injection, or paint-on treatment. Crawlspaces are considered inside the structure. Consult tables for specific use instructions.

Broadcast Treatment of Wood for the Control of Wood-Infesting Insects and Nuisance Pests Outside of Structure

Apply a 0.5% emulsion with a fan spray using a maximum of 25 psi. Treatment should be made just to the point of runoff.

To control wood-infesting insects active inside trees, utility poles and/or fence posts, drill to find the interior infested cavity and inject a 0.5% emul-sion. To control bees, wasps, hornets, and yellow-jackets, apply 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.

Pests Under Slabs

Infestations of Arthropods, such as ants, cockroaches and scorpions inhabiting under slab area may be controlled by drilling and injecting or horizontal rodding and then injecting 1 gallon of a 0.5% to 1.0% emulsion per 10 square feet or 2 gallons per 10 linear feet.

Pest Control in Crawlspaces Broadcast Dragnet SFR at 0.5% to all surfaces in crawlspace to control ants, fleas, roaches, 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.

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

Apply Dragnet SFR 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, lawn areas adjacent or around private homes, duplexes, townhouses, condominiums, house trailers, apartment complexes, carports, garages, fence lines, storage sheds, barns, other residential structures, commer-cial, industrial and institutional buildings, soil, trunks of woody ornamen-tals and other areas where pests congregate or have been seen. Repeat treatment as necessary to maintain effectiveness.

Vinyl and Aluminum Siding: The application of Dragnet SFR to vinyl and aluminum siding (particularly lightly colored, aged, weathered or otherwise damaged) may result in staining, bleaching or discoloration. Factors such as extreme heat and direct sunlight can promote damage when using emulsifiable concentrates. Before applying Dragnet SFR to vinyl or aluminum siding, treat a small area and evaluate 30 minutes later to allow any potential staining while avagadless of the test results, do not apply to using while avagadless of the test results, do not apply to vinyl or aluminum siding while exposed to direct sunlight or during the heat of the day.

Perimeter Treatment: Apply to 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 of emulsion per 1000 square feet. Higher volumes of water may be needed if mulch or leaf litter is present or foliage is dense. 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 I	nstructio	าร		
Ants ⁴ Ant Mounds ^{1,4} Armyworm ⁴ Fire Ants ⁴ Bees Carpenter Bees	spot treat pests are as window tion. Do r	tment or found or e w and doo not apply	m, as a fine/coa with a paintbrus entry points of the or frames and ale to structures with r blast sprayers.	h. Treat where e structure such ong the founda-	
Bark Beetles ³ Borers ³ Boxelder Bugs ^{2,4} Centipedes Cockroaches ⁴ Asian Cockroaches	each mou wet and mound. U than 12".	Ind area b treat a 4 Jse the hi For best re y morning	Apply 1-2 gallons y sprinkling the i foot diameter ci gher volume for sults, apply in co or late evening h	mound until it is rcle around the mounds larger ol weather, such	
Crickets⁴ Mole Crickets⁴ Earwigs	Caterpilla	rs: Spray	Elm Leaf Beetle tree trunks, bu gregate, to the po	ilding siding or	
Elm Leaf Beetles² Firebrats Fleas⁴		woody or	Beetles: To preve namentals, spray		
Ground Beetles⁴ Gypsy Moths (adults & Caterpillars)² Millipedes	rate 0.4 to volume of as 4 to 25 existing po	0.8 fluid water suf gallons. l ests and th	FR termiticide/in ounce per 1000 ficient for uniform Jse the lower rate higher rate whe dual is desired. F	square feet in a coverage such to knock down ere faster knock-	
Scorpions Silverfish	Lawn (Sq. Ft.) Oz of Dragnet® SFR Gals of Water				
Sod Webworm ⁴ Sowbugs Spiders ⁴ Wasps Ticks ^{4,5} Flies	Small Medium Large 1 Acre	1,000 2,000 3,000 6,000 12,000 44,000	0.4 to 0.8 0.8 to 1.6 1.2 to 2.4 2.4 to 4.8 4.8 to 9.6 17.0 to 34.0	4 to 25 8 to 50 12 to 75 24 to 150 48 to 300 176 to 1,100	

Chinchbugs⁴ Pill Bugs

Carpenter Ants Lawn should not be longer than 3 inches at the time of application. Repeat application if necessary. Application in combination with compatible surfactants may enhance penetration. Arid climates generally require the higher volumes.

5 Residual treatment for control of Deer tick (Ixodes dammini), western black-legged tick (Ixodes pacifficus) and other Ticks (important vectors for Lyme Disease, Rocky Mountain Spotted Fever).

Ornamental and Lawn Use

Not for use on plants being grown for sale or other commercial, 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, or lawns and grounds.

Dragnet SFR 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.

General Application Instructions

Dragnet SFR is a 3.2 pounds per gallon formulation of the insecticide permethrin. Apply Dragnet SFR 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. Dragnet SFR may be applied by ground equipment only. Use sufficient water to obtain full coverage.

Do not apply more than 2.0 lb. a.i./A/year.

Dragnet SFR 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

Sprav Drift Precautions:

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

Do not make ground applications during temperature inversions.

Make ground applications when the wind velocity favors on target product disposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph.

Do not apply by ground equipment within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds.

Recommended Application Rates

neconinended Application nates				
CROP	PEST	RECOM- MENDED RATE	SPECIFIC INSTRUCTIONS	
Ornamentals in interiorscapes, in residential landscaped areas and land- scaped areas around institu- tional, public, commercial and industrial build- ings, parks, recreational areas and ath- letic fields (including foliage and flow- ering plants, woody and herbacious non- edible ornamen- tals and non- bearing plants of fruiting species)	Ants Aphids Bagworm Beet Armyworm Birch Leafminer Cabbage Looper Cankerworms Citrus Thrips Fungus Gnat Gypsy Moth Caterpillars Heliothis spp. Japanese Beetles Lace Bug Leaf Feeding Caterpillars Leafhoppers Leaf	4 to 8 FI. Oz. per 100 Gals. – or – Broadcast 4 to 8 FI. Oz. per Acre	Apply sufficient vol- ume 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.	
Ornamental Trees	Bark Beetles Borers (Including but not limited to Dendroctonus spp., Ips spp., Scolytus spp., Ash Borer, Bronze Birch Borer, Elm Bark Beetles, Rhododendron borer and Turpentine Beetles	1 to 2 qts. per 100 Gals.	Apply to the lower branches and trunk directly prior to adult emergence. Emergence varies according to host tree, environmental conditions and geography of the country. Complete, heavy uniform cov- erage of bark on scatfold limbs to the ground level of the trunk is recom- mended for best control.	
Conifers	Nantucket Pine Tip Moth Coneworms*	4 to 8 Fl. Oz. per 100 Gals. — or — Broadcast 4 to 8 Fl. Oz. per Acre	Begin application when adults appear. Repeat applications may be made on 5–7 day intervals as needed.	
Lawns around residential, insti- tutional, public, commercial and industrial build- ings, parks, recreational areas and ath- letic fields.	Chinchbugs Pillbugs Sod Webworm (See also list of pests under "Pest control on outside sur- faces and around build- ings")	0.4 to 0.8 fl. oz. per 1,000 sq. ft.	Apply using suffi- cient water to pro- vide adequate cov- erage.	

*To control Coneworm - Use Dragnet SFR at the following rates: For high volume sprayers: Use 8 ounces in 100 gallons of water. Apply 5 to 10 gallons of finished spray per tree.

For low volume sprayers: Use 42 ounces in 100 gallons of water. Apply 100 gallons per acre.

To control Webbing Coneworm-make first application within 1 week of female flower closure or peak pollen flight.

To control other coneworms - make first application within 30 days following flower closure.

Applications to Agricultural Structures For Agricultural use only

General Application Instructions

Dragnet[®] SFR termiticide/insecticide can be used for residual pest control in and on buildings and structures used for agricultural purpose, their immediate surroundings.

Dragnet SFR 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.

Agricultural Structures

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

For Application in	Target Insects	Method of Applic.	Dilute	Applic. Rate
Dairies, Barns, feed- lots, stables, poultry hous- es, swine and livestock houses	House flies, stable flies and other manure breeding flies. Also aids in the reduction of cockroaches, mosquitoes and spiders.	Sprayer	4 ounces to 12.5 gal- lons water	1 gallon per 750 square feet of surface

Pest Control Indoors

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

Non-Food/Feed Areas: Includes garbage rooms, lavatories, floor drains (to sewers), entries 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.

Food/Feed Areas: Dragnet 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 serving areas while food is exposed or facility is in operation. Serving areas are areas where prepared foods are served such as dining rooms but 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.

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

Pest	Specific Instructions
Fleas	Prior to treatment, carpets and furniture should be vacuumed thoroughly and vacuum cleaner bag dis- carded in an outdoor trash container. Evenly apply a broadcast spray at a rate of 1 gallon/per 800 to 1600 square feet to infested areas such as crawlspaces, rugs, carpets, pet beds and other pet resting areas. Avoid wetting or soaking. For crawlspace applica- tions, the applicator must wear a respirator recom- mended by NIOSH for filtering spray mists and organ- ic vapors. When treating upholstered furniture take care to treat between and under cushions. Pay par- ticular attention to areas which are frequented by pets. Old pet bedding should be replaced with clean, fresh bedding after treatment. To control the source of flea infestations, pets inhabiting the treated premises should be treated with a flea-control product regis- tered for application to animals.
Pest	Specific Instructions
Centipedes Ants* Carpenter Ants* Fire Ants Bat Bugs Bed Bugs Bees and Wasps Carpenter Bees Boxelder Bugs Cockroaches Asian Cockroaches Crickets Flies—such as Drain, Cluster, House Earwigs Firebrats Ground Beetles Millipedes Pantry Pests** Such as: Flour Beetles, Indian Meal Moths Larder Beetles Pillbugs Scorpions Silverfish Sowbugs	Apply crack and crevice, as a pinstream, as a fine/coarse, low pressure spray (20 psi or less), spot application or with a paint brush. Treat where pests are found or normally occur, such as crack and crevices in walls, in and around kitchen cabinets and drawers, along baseboards, behind sinks and around plumbing and other utility installations. *Ant infested wood may be drilled and injected with Dragnet SFR. **Remove all utensils, uncovered foodstuffs (or any having original package opened), shelf paper and other objects before spraying. Allow treated surfaces to dry and cover shelves with clean paper before replacing any utensils, foodstuff or other items. Any foodstuff accidentally contaminated with spray solu- tion should be discarded.
Spiders Carpet Beetles	For the control of carpet beetles, evenly apply the spray to rugs, carpets, along baseboards and edges of carpeting, under carpeting, rugs and furniture, in closets, on shelving, and wherever else these insects are seen or suspected. Avoid wetting or soaking.
Brown Dog Ticks	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 base- boards, windows and doorframes, and areas of floor and floor coverings where these pests may be present. Avoid wetting or soaking. Old bedding should be removed and replaced with clean, fresh bedding after treatment.

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.

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 in patient rooms or in any rooms while occupied by 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.

Not for use in voids insulated with rigid foam.

Dealers Should Sell in Original Packages Only.

Terms of Sale or Use: On purchase of this product buyer and user agree to the following conditions:

Warranty: FMC makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Except as so warranted, the product is sold as is. Buyer and user assume all risk of use and/or handling and/or storage of this material when such use and/or handling and/or storage is contrary to label instructions.

Use of Product: FMC's recommendations for the use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice.

Damages: Buyer's or user's exclusive remedy for damages for breach of warranty or negligence shall be limited to direct damages not exceeding the purchase price paid and shall not include incidental or consequential damages.

Dragnet and FMC – FMC trademarks (1223-6/12/02)

U.S. Patent No. 6,251,415 (SFR chemical technology).

Revisions:

1. Addition of vinyl siding advisory statements.

2. Upgrade First Aid statements per PR Notice 2001-1.

3. Addition of SFR technology patent number.

Container Label

GROUP 3

INSECTICIDE

DRAGNET FT

Emulsifiable Concentrate Insecticide

COMMERCIAL

FOR USE ONLY BY LICENSED PEST CONTROL OPERATORS

REGISTRATION NO. 24175 PEST CONTROL PRODUCTS ACT

CANADIAN PATENT NO: 1,008,455

GUARANTEE: Permethrin ** 384 g/L ** 55% Maximum <u>cis</u> ** 45% Minimum <u>trans</u>

Store above 5°C

READ THE LABEL AND ATTACHED LEAFLET BEFORE USING (See the First Aid and Precaution statements on rear panel)

KEEP OUT OF REACH OF CHILDREN

CAUTION



NET CONTENTS: 1 L (4L)

Distributed by: Nu-Gro Corporation 10 Craig St. Brantford, ON Canada N3R 7J1

Registered by: FMC Corporation Agricultural Product Group Philadelphia, PA 19103 **PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN.** Do not leave mixing tank or hoses containing Dragnet FT EC Insecticide unattended during mixing or treatment. Harmful if swallowed, inhaled or absorbed through skin. Causes skin irritation. Avoid skin contact. Avoid breathing vapours or spray mist. Applicators must wear protective clothing inclusive of hand, foot and eye covering. A CSA-approved respirator must be used when applying Dragnet FT EC Insecticide. In an enclosed space provide adequate ventilation during treatment and until spray has dried completely.

- Do <u>not</u> store near feed or foodstuffs.
- Do not plant food crops in soil adjacent to building where there has been a Dragnet FT application.
- Do not use, pour, spill, or store near heat or open flame.
- Do not formulate with any diluent other than clean water.
- Do not apply to pets, or sources of electricity.
- Do not allow people or pets to contact treated surfaces until the spray has dried completely.
- Do not use concentrate or emulsion in fogging equipment.
- Firewood is not to be treated.
- During indoor surface applications do not allow dripping or run-off to occur.
- Do not apply this product in nurseries, patient rooms or any rooms occupied by elderly or infirm.
- Do not apply to classrooms when in use.
- Do not touch treated surface until dry.
- If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., refer to <u>www.cropro.org/</u>.

DO NOT APPLY BY AIR.

ENVIRONMENTAL HAZARDS: This product is highly toxic to bees and predatory mites. Do not apply this product or allow it to drift to crops or weeds where bees are actively foraging or to areas where integrated pest management is practiced. This product is toxic to fish, aquatic invertebrates, birds and other wildlife. Keep out of lakes, streams and ponds. Do not apply within 15 metres of any body of water. Do not apply when weather conditions favour drift from target area. Do not contaminate water through spray or drift, cleaning of equipment or disposal of waste.

FIRST AID: If swallowed, call a physician or poison control centre immediately. <u>Contains petroleum distillate</u>. DO NOT induce vomiting. Rush patient to nearest hospital or doctor and take the product label with you. **If on skin**, wash with soap and water and remove contaminated clothing. **If in eyes,** flush with plenty of water for 15 minutes and contact a physician immediately. **If inhaled,** remove victim to fresh air, apply respiration if indicated and seek medical attention immediately. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

FOR EMERGENCY ASSISTANCE CALL: 1-800-331-3148.

TOXICOLOGICAL INFORMATION: This product contains petroleum distillate. Treat symptomatically for ingestion, skin and eye contact. DO NOT induce vomiting.

STORAGE AND DISPOSAL: PESTICIDE STORAGE: Store at temperature above $5^{\circ}C$ (40°F). If separation occurs, and less than entire contents of container are to be used, allow to warm to $13^{\circ}C$ ($55^{\circ}F$) by room heating only and shake well to make uniform. If crystals form, warm to room temperature [21°C ($70^{\circ}F$)] by room heating only for 24-48 hours and shake occasionally until crystals dissolve and product appears uniform. Do not use external source of heat for warming container. Do not use or store near heat, open flame or hot surfaces. Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. 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. Confine spills. Call FMC 1-800-331-3148 and the Provincial Regulatory Agency.

To confine spill: If liquid, dike surrounding area and absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

DISPOSAL: Triple or pressure rinse empty container and add the rinsings to the spray tank. Follow Provincial instructions for any required additional cleaning of the container prior to its disposal. Make the container unsuitable for further use and dispose of in accordance with Provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offence under the Pest Control Products Act to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

Dragnet® is a registered trademark of FMC Corporation.

Booklet

GROUP 3 INSECTICIDE

DRAGNET FT Emulsifiable Concentrate Insecticide

COMMERCIAL

For Use Only By Licensed Pest Control Operators

REGISTRATION NO. 24175 PEST CONTROL PRODUCTS ACT

CANADIAN PATENT NO: 1,008,455

GUARANTEE: Permethrin ** 384 g/L ** 55% Maximum <u>cis</u> ** 45% Minimum <u>trans</u>

Store above 5[°]C

READ THE LABEL AND LEAFLET BEFORE USING (See the First Aid and Precaution statements on rear panel)

KEEP OUT OF REACH OF CHILDREN

CAUTION



POISON

Distributed by: Nu-Gro Corporation 10 Craig St. Brantford, ON Canada N3R 7J1

Registered by: FMC Corporation Agricultural Product Group Philadelphia, PA 19103 General Information on the use of this product: Dragnet FT EC Insecticide is a pyrethroid insecticide (permethrin) that offers a high level of activity against a broad spectrum of insect pests. The pests controlled are listed in the accompanying sections. Dragnet FT EC Insecticide is to be used for residual pest control indoors (A) in food areas during close-down periods, non food areas and outdoors (B & C) on buildings and structures and their immediate surroundings. The use of this product also prevents and controls Termite infestation (D) in and around structures and construction, (E) in residential areas on ornamentals, fruit trees and vegetables and (F) in farm buildings.

Dragnet FT EC Insecticide contains permethrin, which is a synthetic pyrethroid. Permethrin has low mammalian toxicity and rapid knockdown of insects. Although the synthetic process has increased the stability of permethrin giving it residual properties, it is still degraded by the ultraviolet rays of the sun. This results in a relatively short residual life in the presence of sunlight; however, when protected from the sun, permethrin (Dragnet FT EC Insecticide) will provide residual activity.

DIRECTIONS FOR USE: Shake Well Before Using

Mixing Instructions:

- 1. To prepare the emulsion, dilute Dragnet FT EC Insecticide with water only.
- 2. To make small volumes of a 0.5% emulsion, mix 50 mL of Dragnet FT EC Insecticide in 4 litres of water or 100 mL to achieve a 1.0% concentration.
- 3. To make larger volumes of a 0.5% emulsion, mix 12.5 litres of Dragnet FT EC Insecticide with 1000 litres of water or 25 litres to achieve a 1.0% concentration.

DO NOT TANK MIX THIS PRODUCT WITH ANY OTHER PRODUCT.

A. Pest Control Indoors

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

Non-Food Areas: Includes garbage rooms, lavatories, floor drains (to sewers), entries 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.

Food Areas: Food areas include areas of receiving, storage, packaging (canning, bottling, wrapping, boxing), preparing, edible waste storage, enclosed processing systems (mills, dairies, edible oils, syrups) and serving areas.

Application is limited to close-down periods only and during these periods to spot or crack and crevice treatments only. Remove or cover all food, preparation and serving areas, packaging materials and utensils before application. In warehouses, stores, storage areas and on aircrafts,

ships, trains and trucks, do not spray food or food packages. Do not treat bins, bulk cargo areas or other places which may be contacted directly by food or feed.

Prepare a spray solution as described under Mixing Instructions and apply in small amounts directly into cracks and crevices using equipment capable of delivering a pin stream of insecticide. Treat between different elements of construction such as, between equipment and floors, openings leading to voids and hollow spaces in walls, equipment legs and bases where pests hide.

Make application using low pressure so as to avoid possible atomization or splashing of the spray. After spraying, wash all surfaces that may contact food and rinse thoroughly with potable water before re-use for food processing, preparation or serving. Dishes, food-handling utensils and food-contacting surfaces should be thoroughly washed with soap and water if they become contaminated during application of this product.

Use Dragnet FT EC Insecticide to control pests listed below by applications of a 0.5% emulsion.

Pests: Ants*, Bed Bugs, Bees***, Brown Dog Ticks, Carpenter Ants*, Carpet Beetles, Cockroaches including Asian Cockroaches, Crickets, Earwigs, Firebrats, Fleas, House Flies, Indian Meal Moth**, Silverfish, Spiders and Wasps***.

For Spot Treatment: Spray area where these pests are found or may hide, including dark corners of rooms and closets, cracks and crevices in walls; along baseboards and door and window frames: Behind and beneath sinks, stoves, refrigerators, and cabinets and around garbage cans, plumbing and other utility installations. Pests driven out of hiding places should be sprayed directly. For Ants, apply to Ant trails, also around doors and windows, and wherever else these pests may find entrance. Repeat as necessary.

For Crack and Crevice: Apply spray in small amounts directly into cracks and crevices. Equipment capable of delivering a pin stream should be used in points between different elements of construction, between equipment and floors, openings leading to voids and hollow spaces in walls, equipment legs and bases where the above insects hide.

To Kill Brown Dog Ticks and Fleas: Thoroughly apply as a spot treatment to infested areas such as pet beds and resting quarters, nearby cracks and crevices, along and behind baseboards, window and door frames, and localized areas of floor and floor coverings where these pests may be present. Old bedding should be removed and replaced with clean fresh bedding after treatment. Do not spray pets with this product.

- * Ant infested wood may be drilled and injected with Dragnet FT EC Insecticide.
- ** Remove all utensils, uncovered foodstuffs (or any having original package opened), shelf paper and other objects before spraying. Allow treated surfaces to dry and cover shelves with clean paper before replacing any utensils, foodstuff or other items. Any foodstuff accidentally contaminated with spray solution should be discarded.
- *** For optimal control of Bees and Wasps, treat nests directly.

B. Pest Control Outdoors

Posts, Poles and Other Construction: Create an insecticidal barrier in the soil around wooden constructions such as signs, fences and landscape ornamentation by applying a 0.5% to 1.0% emulsion.

Previously installed poles and posts may be treated by sub-surface injection or treated by gravityflow through holes made from the bottom of a trench around the pole or post. Treat on all sides to create a continuous insecticidal barrier around the pole. Apply to a depth of 15 cm below the bottom of the wood. For larger constructions, use 15 litres per 3 linear metres per 30 cm of depth.

Treatment of Wood in Place for Control of Wood-Infesting Insects

(Localized areas in Structures, Spot Treatment Only)

For the control of insects such as Termites, Ants, and wood-infesting beetles such as Old House Borer, Powder Post in localized areas of infested wood in and around structures, apply a 0.5% 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. Paint on or fan spray applications may also be used. 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 injecting 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 Woodinfesting insects.

Termite carton nests in trees or building voids may be injected with 0.5% 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.

Broadcast treatment of wood for the control of wood-infesting insects and nuisance pests outside of structure: Apply a 0.5% emulsion with a fan spray using a maximum pressure of 170 kilopascals. Treatment should be made just to the point of runoff.

To control wood-infesting insects active inside trees, utility poles and/or fence posts, drill to find the interior infested cavity and inject a 0.5% emulsion. To control Bees, Wasps, Hornets and Yellow-jackets, apply in late evening when insects are at rest. Aim spray at nest openings in ground, bushes and in cracks and crevices which may harbour nests, saturating nest openings and contacting as many insects as possible.

Pest Control on Outside Surfaces and Around Buildings

(Spot and Perimeter Treatment)

Apply Dragnet FT EC Insecticide 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, home or residential lawns only, soil, trunks of woody

ornamentals and other areas where pests congregate or have been seen. Repeat treatment as necessary to maintain effectiveness.

Vinyl and Aluminum Siding: The application of Dragnet FT EC Insecticide to vinyl and aluminum siding (particularly lightly colored, aged, weathered or otherwise damaged) may result in staining, bleaching or discoloration. Factors such as extreme heat and direct sunlight can promote damage when using emulsifiable concentrates. Before applying Dragnet FT EC Insecticide to vinyl or aluminum siding, treat a small area and evaluate 30 minutes later to allow any potential staining to occur. Regardless of the test results, do not apply to vinyl or aluminum siding while exposed to direct sunlight or during the heat of the day.

Perimeter Treatment: Apply to a band of soil and vegetation 1.5 to 3.0 metres wide around and adjacent to the structure. Also, treat the foundation of the structure to a height of ½ to 1 metre. Use a spray volume of 10 to 40 litres per 100 square metres. 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 and Caterpillars, Earwigs or Silverfish are present.

Adult Mosquito Control as a Perimeter Application: Mix 130 mL Dragnet FT EC Insecticide per 10 L of water and apply around the perimeter of the property to shrubs, evergreens and tall grass where mosquitoes generally congregate. Apply spray solution until foliage is wet. Perimeter treatment is intended for application around homes, residences and other buildings. Dragnet FT EC Insecticide is not to be used for broadcast application on lawns or other large areas. Dragnet FT EC Insecticide is not intended for perimeter control around public facilities such as parks. Do not apply within 15 m of any body of water.

Pest	Specific Instructions
Ants	Apply as a pinstream, as a fine/coarse low-pressure
Ant Mounds ¹	spray 350 kilopascals or less, as a spot treatment or
Bark Beetles ³	with a paintbrush. Treat where pests are found or entry
Bees	points of the structure such as windowframes or
Borers ³	doorframes and along the foundation.
Carpenter Ants	
Cockroaches	¹ Drench Method: Apply 4 to 7.5 litres of emulsion to
Asian Cockroaches	each mound area by sprinkling the mound until it is wet
Crickets	and treat a 1 metre diameter circle around the mound.
Mole Crickets	Use the higher volume for mounds larger than 30 cm.
Earwigs	For best results, apply in cool weather, such as in early
Firebrats	morning or late evening hours, but not in the heat of the
Fleas	day.
Flies (House, Cluster)	² Gypsy Moth Caterpillars: Spray tree trunks, building
Gypsy Moths (Adult & caterpillars) ²	siding, or wherever pests congregate, to the point of
Hornets	run-off.
Spiders	³ Borers and Bark Beetles: To prevent borer infestation
Termites	of trees and woody ornamentals, spray the bark to the
Wasps	point of run-off.

Silverfish	
Yellow-jackets	

C. CLUSTER FLIES

Cluster flies are members of the Order (Diptera) and resemble house flies. They are distinguished by their sluggish and erratic behaviour and by wings that overlap when at rest. They derive their name from their habit of entering a building in the fall and clustering together to overwinter. The search for protected places to overwinter begins as days shorten in mid-August. Warm sunny walls draw the flies as the climate cools during this search. This offers an opportunity to control the fly population outside the building. Control within buildings when warranted is directed to the attic where the flies can overwinter if they gain access.

OUTDOOR CONTROL – Prepare a spray mixture of 130 mL of DRAGNET FT EC Insecticide in 10 L of water. Spray this mixture to the outside walls including under the eaves, soffits and window trim. Spray to the point of run-off (approximately 10 L of spray per 100 m²). The effective time of application is between mid-August and the end of September depending on weather conditions.

INDOOR CONTROL (ATTIC) – WHEN REQUIRED – Prepare a mixture of 130 mL of DRAGNET FT EC Insecticide in 1 L of clean water. Apply this mixture to the attic area using an electric mist blower. Operate the electric mist blower from the attic entrance moving it around to cover the whole attic area. Apply at the rate of 1 L per 200 m². Once the spraying is complete (usually a minute), close the attic entrance.

NOTE: The operator should wear a suitable pesticide respirator while performing this operation.

NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offence under the Pest Control Products Act to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

NATURE OF RESTRICTION: This product is to be used only by licensed pest control operators authorized with permits by government for control of subterranean Termite populations infesting buildings; for use only in areas designated as being Termite infested areas. Not for sale to the general public.

RESTRICTED USE

D. TERMITE CONTROL

For control or prevention of subterranean Termite infestations in buildings or masonry structures.

Dragnet FT is to be applied as a 0.5 to 1.0 % emulsion in water as a pre-treatment of new construction or as a treatment to existing structures according to the accompanying **DIRECTIONS FOR USE**. Use only as much Dragnet FT EC Insecticide emulsion necessary to form a continuous barrier against termite invasion. Dragnet FT EC Insecticide can be applied only after proper site preparations, including removal of all wood/soil contact, have been

completed. Attention should be paid to applicator safety and proper handling procedures. Consideration of the design of the structure, water table, soil type, soil compaction, grade condition and location and type of domestic water supplied will determine proper application methods. During and after treatment, clean-up of any spills is mandatory and drill holes must be properly sealed.

DIRECTIONS FOR USE: Site preparation: Dragnet FT EC Insecticide can control subterranean termites only when applied after proper site preparation.

New construction: Remove all wood and cellulose debris from property prior to erecting forms for pouring concrete. After pouring concrete slabs, walls, piers, etc., remove all framework wood from the building site. **Do not** use backfill containing wood or cellulose. It is important that new construction has a minimum wood-to-soil clearance of 50 cm in order to discourage termite invasion.

Existing Structures: Replace wood infested and damaged beyond repair and where there is wood/soil contact. Correct conditions leading to abnormally high moisture in and around the structure e.g., grading, eavestroughing, etc. Break wood-soil contact by the following measures:

- 1. Remove all loose wood and other cellulose debris from property around the structure to be protected.
- 2. Ensure adequate clearance (50 cm) exists between soil and structural wood or support posts under porches or in crawl spaces. Excavate and pour new concrete piers if necessary. Wooden support posts can be replaced with steel jack posts.
- 3. Windowsills below grade level require alteration employing a window well to retain soil.
- 4. Outdoor, wooden stair supports should be severed 10-15 cm above soil level and supported by concrete slabs or blocks.
- 5. Where wooden siding is used, lower grade to expose a minimum of 15 cm of foundation wall.
- 6. Repair all cracks or other points of entry for Termites in foundation walls or concrete floors (e.g. expansion jackets, crevices, weeping tiles, utility holes, etc.) with a commercial sealant, preferably concrete.
- 7. Provide adequate ventilation for soil-surfaced crawlspaces under porches or living areas.

Mixing Instructions: Prior to mixing, inspect mixing tank, pumps, hoses and all fittings to ensure that all equipment is in good working order and that there are no leaks. See **General Information** section for volume details to make a 0.5% and 1.0% emulsion.

Mix by agitation and maintain gentle continuous agitation during application period. All Dragnet FT EC Insecticide applications are to be made through a vertical rod or sub-slab injector with a pressure from 200 to 350 kilopascals. **Do not** leave the mixing tank unattended during mixing or application periods.

Dragnet FT Application: Pre-treatment of New Construction: A 0.5% to 1.0% Dragnet FT EC Insecticide emulsion should be applied to the soil underneath and around concrete slabs,

foundations, crawlspaces, piers, etc., so as to provide a continuous chemical barrier against Termite invasion. Up to 1.0% emulsion may be used in critical areas and areas which will be difficult to re-treat. All product is to be applied by rodding. Flooding or percolating hose application is not permissible. Soil crawl spaces must be covered with a plastic vapour barrier after treatment and provided with adequate ventilation.

Slab on ground: Apply 5 litres emulsion/ m^2 under the slab, attached porches and platforms before the concrete is poured, but after any forms are erected. The emulsion should be applied by rodding at 1.0 m intervals.

- 1. Apply 6 litres emulsion/linear metre to the following critical areas under the slab before the concrete is poured: outside of foundation walls, under interior partition walls, under any footing and around utility services or other features that will penetrate the slab.
- 2. If necessary to complete a chemical barrier, inject 1.3 litres emulsion into voids of all unit masonry foundation walls or piers at 0.5 m intervals. Wherever possible, drill injection holes on the outside of the foundation walls. Cap voids with vapour barrier in order to seal in chemical. Seal drill holes with good quality plugs and mortar.

Basement and Crawlspace Construction: Apply 5 litres emulsion/m² under basement or crawlspace slab and attached porches and platforms prior to pouring concrete, but after forms are erected. The emulsion should be applied by rodding at 1.0 m intervals.

- 1. Apply 6 litres emulsion/linear metre to the following critical areas under the basement slab or under a crawlspace prior to construction: along outside edges of foundation walls, under interior partition walls, under or around piers, under footings under stairway stringers, around utility services or other features that will penetrate the slab.
- 2. Inject 1.5 litres emulsion into voids of all unit masonry foundation walls or piers at 0.5 m intervals. Wherever possible, drill injection holes on the outside of the foundation walls. Cap walls or piers with vapour barriers in order to seal in chemical. Seal drill holes with plugs and mortar.
- 3. During backfilling, apply 12 litres/linear metre to soil at a distance of approximately 30 cm from the outside of the foundation wall from top of footing to grade. Treat by rodding at 20-30 cm intervals.
- 4. Apply 5 litres emulsion/m² to soil under crawlspace by rodding at 1.0 m intervals. Cover treated soil with vapour barrier, provide adequate ventilation and a minimum clearance of 50 cm.

Existing Structures: Dragnet FT EC Insecticide applications can be made to existing structures to discourage further or future Termite damage in areas designated as being termite infested. Follow instructions for site preparation above. Dragnet FT EC Insecticide should be applied to soil along the exterior perimeter and along the interior perimeter of the foundation, along partition walls, around support piers and stairway stringers. Dragnet FT EC Insecticide should be applied using a 0.5% to 1.0% emulsion to the interior of foundation wall voids and support pier voids. Treat wall voids from outside wherever possible using a 0.5% to 1.0% emulsion. Up to 1.0% emulsion may be used in critical areas and areas which will be difficult to treat. Apply

chemical emulsion at a pressure of 200-300 kilopascals through rods or sub-slab injector. Reduce pressure in hard soils.

Treatment of Exterior Foundation Perimeter: Apply 5 litres emulsion/linear metre/25 cm of penetration depth from grade to top of footing by rodding or injecting at 25-30 cm intervals. Dragnet FT EC Insecticide must be applied so as to create an even barrier from grade down to the top of footing.

Concrete, asphalt or block sidewalks, driveways, patios, etc. adjacent to foundation must be drilled prior to rodding in chemical.

If the post contains a void, inject emulsion into the void via a sub-slab injector at a rate of 7.5 litres emulsion/linear metre.

Treatment of Interior Walls of Foundation:

Concrete floor: Drill holes at 30 to 40 cm intervals, 15-30 cm from the foundation and apply 5 litres of the Dragnet FT EC Insecticide /water mixture per hole (7.5 litres/linear metre) with a sub-slab injector. Plug and seal drill holes with good quality mortar.

Soil Floor: Excavate and level soil in order to provide sufficient clearance to allow rodding of chemical. Apply 5 litres of the Dragnet FT EC Insecticide/water mixture per hole by rodding at 30 to 40 cm intervals from the foundation (7.5 litres/linear metre). Vents must be installed to provide sufficient ventilation for crawl spaces. Treated soil must be covered by a vapour barrier (concrete or polyethylene) under living space areas.

Treatment of Wall Voids of Foundation: Drill holes at 25 to 50 cm intervals just above grade level on the exterior surface of hollow foundation walls if possible (block construction, rubble walls, etc.). Inject 5 litres of the Dragnet FT EC Insecticide/water mixture per 0.5 linear metre via a sub-slab injector.

Treatment Along Interior Partition Walls: A basement partition wall extending into or through a concrete floor should be treated through a series of holes at 30-40 cm intervals on both sides of the wall. Apply 7.5 litres of the Dragnet FT EC Insecticide/water mixture per linear metre with a sub-slab injector. A basement partition wall set out on a slab floor should be treated as above but only on one side of the wall.

Support Posts and Piers: Apply 6 litres of the Dragnet FT EC Insecticide/water mixture per m^2 to the base of support posts via a sub-slab injector for a concrete floor and via rodding for soil floors. If the post contains a void, inject emulsion into the void via a sub-slab injector at a rate of 7.5 litres of the Dragnet FT/water mixture/linear metre.

E. Ornamentals, Fruit Trees and Vegetables in Residential Areas.

DIRECTIONS FOR USE: 5 mL = 1.0 teaspoon, 15 mL = 1 tablespoon. Mix with water as directed below and apply with a sprayer to give a thorough coverage of plants. Apply when insects or damage are first noticed and repeat as necessary. Not for use in Commercial Crop Production. Ground application only.

Ornamentals: For insect control on trees and shrubs of ornamental value only.

Coniferous Trees and Shrubs: Douglas Fir Tussock Moth, White-Marked Tussock Moth, Spruce Budworm, and Yellow-Headed Spruce Sawfly, Coneworm and Open Feeding Sawflies – Mix 1.6 mL with 10 L of water and thoroughly apply when first signs of feeding occur. Repeat once if infestation occurs.

Deciduous Trees and Shrubs: Gypsy Moth, Eastern Tent Caterpillar, Forest Tent Caterpillar, Fall Webworm, Euonymus Webworm and Open Feeding Aphids – Mix 2.3 mL with 10 L of water and thoroughly apply when insects appear. Repeat once if reinfestation occurs.

To test for phytotoxic effects, spray a small, inconspicuous portion of the tree or shrub under test and wait for 24 hours to see if any adverse effects appear.

FRUIT TREES:

APPLES: Winter Moth, Eastern Tent Caterpillar, Eye-spotted Bud Moth, Plum Curculio, White Apple Leafhopper: Apply 3.25 mL in 10 L of water. Tentiform Leafminer, Green Fruitworm, Apple Maggot, Leafrollers, Tarnish Plantbug, Mullein Bug, Lesser Appleworm, Codling Moth: Apply 6.5 mL in 10 L of water. Do not apply within 7 days of harvest. **PEACHES AND NECTARINES:** Oriental Fruit Moth, Plum Curculio, Plant Bugs: Apply 6.5 mL in 10 L of water. Do not apply within 7 days of harvest.

PLUMS: Plum Curculio. Apply 6.5 mL in 10 L of water. Do not apply within 7 days of harvest.

GRAPES: Grape Berry Moth: Apply 5.0 mL in 10 L of water. Grape Leafhopper: Apply 2.5 mL in 10 L of water. Do not apply less than 21 days before harvest.

PEARS (EASTERN CANADA): Pear Psylla (nymphs and adults) Codling Moth, Green Fruit Worm: Apply 6.5 mL in 10 L of water. Do not apply within 7 days of harvest.
PEARS (BRITISH COLUMBIA): Pre bloom Pear Psylla (over wintering adults) - Apply 6.5 mL in 10 L of water. Apply up to 1.0 cm green stage of pear foliage growth. DO NOT USE in British Columbia for control of nymphal stages of Pear Psylla.

VEGETABLES: CABBAGE, CAULIFLOWER, BROCCOLI, BRUSSELS SPROUTS: Imported Cabbageworm, Cabbage Looper, Diamondback Moth Larvae and Crucifer Flea Beetle – Mix 1.6 mL with 10 L of water. Do not spray cabbage, cauliflower and Brussels sprouts within 3 days of harvest. Do not spray Broccoli within 7 days of harvest. **SWEET CORN:** European Corn Borer, Corn Earworm and Sap Beetle – Mix 3.25 mL with 10 L of water. European Corn Borer – In early plantings, apply when first feeding is seen on the leaves. In later plantings, apply before tassels show and repeat at 5 day intervals until early silk stage. Corn Earworm – When 25% of ears show silk, start spraying and fully cover ears and silk. Apply 4 sprays allowing 4 days between sprays (3 day intervals in hot weather). Sap Beetles – Apply when pink spotted beetles appear. Do not treat within 1 day of harvest.

PEPPERS: European Corn Borer – Mix 3.25 mL with 10 L of water and apply if corn borer is noticed on plants (usually end of July to early September). Do not apply within 1 day of harvest.

POTATOES AND TOMATOES: Colorado Potato Beetle, Potato Flea Beetle, Potato Leafhopper, Tarnished Plant Bug and Whiteflies – Mix 2.5 mL with 10 L of water. Do not apply to tomatoes within 1 day of harvest.

Cutworms – These insects attack and cut off seedlings, transplants and low-lying plants like petunias and pansies. To confirm the cause, finger soil around damaged plant looking for a soft, dark-coloured worm in a curled position. Mix 2.5 mL with 10 L of water and apply to cover ground area of 100 m^2 . If soil is organic (muck soil) or very dry, apply 5 mL in 10 L of water per 100 m^2 . For Variegated Cutworms (climbing cutworms) on Potatoes, Tomatoes and Ornamental Plants – mix 2.5 mL with 10 L of water. Thoroughly spray the plant and underlying ground at the first sign of damage. Do not apply within 1 day of harvest.

NOTE: Only cutworms feeding on the soil surface and above will be controlled. Subterranean cutworms will not be controlled unless they come up and move on the treated surface.

Location	Pest	Rate	Special Instructions
Beef Barns, Dairy	House Fly,	25 mL per 5 L	Residual Surface Spray: Apply at a
Barns, Poultry Houses,	Stable Fly	_	rate of 5.0 L per 100 square metres of
Stables, Food	-		surface. Do not apply as a space spray.
Processing Plants (non-			Do not apply directly to animals or
food areas, Dairies),			poultry. In dairies, apply only when
Feedlots			not in operation. Thoroughly clean all
			milk utensils before resuming
			operations.

F. FARM BUILDINGS:

Resistance-Management Recommendations

For resistance management, please note that Dragnet FT EC Insecticide contains a Group 3 insecticide. Any insect population may contain individuals naturally resistant to Dragnet FT EC Insecticide and other Group 3 insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but are specific for individual chemicals, such as

enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance:

- Where possible, rotate the use of Dragnet FT EC Insecticide or other Group 3 insecticides with different groups that control the same pests in a field.
- Avoid application of consecutive sprays of Dragnet FT EC Insecticide or other insecticides in the same group in a session.
- Insecticide use should be based on an IPM program that includes scouting, record keeping, and considers cultural, biological and other chemical control practices.
- Monitor treated pest populations for resistance development.
- Contact your local extension specialist for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance, contact company representatives at 1-800-461-6471 or at <u>www.nu-gro.com</u>.

PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. Do not leave mixing tank or hoses containing Dragnet FT EC Insecticide unattended during mixing or treatment. Harmful if swallowed, inhaled or absorbed through skin. Causes skin irritation. Avoid skin contact. Avoid breathing vapours or spray mist. Applicators must wear protective clothing inclusive of hand, foot and eye covering. A CSA-approved respirator must be used when applying Dragnet FT EC Insecticide. In an enclosed space, provide adequate ventilation during treatment and until spray has dried completely.

- Do <u>not</u> store near feed or foodstuffs. Do not plant food crops in soil adjacent to building where there has been a Dragnet FT EC Insecticide application.
- Do not use, pour, spill, or store near heat or open flame.
- Do not formulate with any diluent other than clean water.
- Do not apply to pets, or sources of electricity.
- Do not allow people or pets to contact treated surfaces until the spray has dried completely.
- Do not use concentrate or emulsion in fogging equipment.
- Firewood is not to be treated.
- During indoor surface applications do not allow dripping or run-off to occur.
- Do not apply this product in nurseries, patient rooms or any rooms occupied by elderly or infirm.
- Do not apply to classrooms when in use.
- Do not touch treated surface until dry.

• If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., refer to <u>www.cropro.org/</u>.

DO NOT APPLY BY AIR.

ENVIRONMENTAL HAZARDS: This product is highly toxic to bees and predatory mites. Do not apply this product or allow it to drift to crops or weeds where bees are actively foraging or to areas where integrated pest management is practiced. This product is toxic to fish, aquatic invertebrates, birds and other wildlife. Keep out of lakes, streams and ponds. Do not apply within 15 metres of any body of water. Do not apply when weather conditions favour drift from target area. Do not contaminate water through spray or drift, cleaning of equipment or disposal of waste.

FIRST AID: If swallowed, call a physician or poison control centre immediately. <u>Contains petroleum distillate.</u> DO NOT induce vomiting. Rush patient to nearest hospital or doctor and take the product label with you. **If on skin**, wash with soap and water and remove contaminated clothing. **If in eyes,** flush with plenty of water for 15 minutes and contact a physician immediately. **If inhaled**, remove victim to fresh air, apply respiration if indicated and seek medical attention immediately. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

FOR EMERGENCY ASSISTANCE CALL: 1-800-331-3148.

TOXICOLOGICAL INFORMATION: This product contains petroleum distillate. Treat symptomatically for ingestion, skin and eye contact. DO NOT induce vomiting.

STORAGE AND DISPOSAL: PESTICIDE STORAGE: Store at temperatures above $5^{\circ}C$ ($40^{\circ}F$). If separation occurs, and less than entire contents of container are to be used, allow to warm to $13^{\circ}C$ ($55^{\circ}F$) by room heating only and shake well to make uniform. If crystals form, warm to room temperature [$21^{\circ}C$ ($70^{\circ}F$)] by room heating only for 24-48 hours and shake occasionally until crystals dissolve and product appears uniform. Do not use external source of heat for warming container. Do not use or store near heat, open flame or hot surfaces.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. 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. Confine spills. Call FMC 1-800-331-3148 and the Provincial Regulatory Agency.

To confine spill: If liquid, dike surrounding area and absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

DISPOSAL: Triple or pressure rinse empty container and add the rinsings to the spray tank. Follow Provincial instructions for any required additional cleaning of the container prior to its disposal. Make the container unsuitable for further use and dispose of in accordance with Provincial requirements.

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

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