



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

August 17, 2017

Jennifer Herzog  
Whitmire Micro-Gen Research Laboratories, Inc.  
3568 Tree CT. Industrial Blvd.  
St. Louis, MO 63122

Subject: Amended Reregistration Label  
Product Name: TC 245  
EPA Registration Number: 499-506  
Decision Number: 411639, 411010

Dear Ms. Herzog:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all of the information submitted with your application to support the reregistration of the above referenced product in connection with the Pyrethrin and Piperonyl Butoxide REDs, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

NOTE: This product is **not** yet being reregistered under section 4(g) of FIFRA.

Please note that the record for this product currently contains the Confidential Statements of Formulation (CSFs) listed below. Any previously dated CSFs are superseded.

- Basic CSF, dated 9/26/2011
- Alternate CSF 1, dated 9/26/2011
- Alternate CSF 2, dated 9/26/2011

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment or the next printing of the label, whichever occurs first, must bear the

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new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions about this letter, please contact Autumn Metzger at 703-305-5314, or via email at Metzger.autumn@epa.gov.

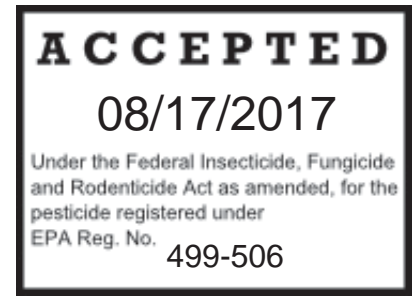
Sincerely



Michael Wagman, Acting Product Manager 4  
Invertebrate and Vertebrate Branch 1  
Registration Division (7505P)  
Office of Pesticide Programs

Enclosure

**TC 245**  
[Dilutable Concentrate Insecticide]



- [Contains Pyrethrins]
- [May be used on stored products and livestock.]
- [May be used alone as a clean-up spray.]
- [May be combined with other insecticides.]
- [Provides flushing of hiding insects.]
- [Provides flushing of insects from hiding.]

**KILLS:** Ants, Bed Bugs, Cockroaches, Fleas, Flies, Mosquitoes, Scorpions, Spiders, and Stored Product Pests (Beetles, Mites, Moths)

**FOR USE IN AND AROUND:** Apartments, Animal Areas and Quarters, Cafeterias, Commercial (including Food Handling Establishments, Food Service, Storage, Preparation Processing Areas and USDA Inspected Facilities), Drains and Sewers, Dumpsters, Factories, Grain Mills, Homes, Hospitals and Nursing Homes, Milk Rooms, Restaurants, Schools and Universities, Stables and Warehouses

[See inside booklet for complete insect listing.]

**ACTIVE INGREDIENTS:**

Pyrethrins* .....	6.0%
Piperonyl butoxide** .....	60.0%

<b>OTHER INGREDIENTS:</b> .....	<u>34.0%</u>
<b>TOTAL:</b>	100.0%

\*1 gal contains 0.52 lb pyrethrins and 5.2 lb piperonyl butoxide  
\*\* (butylcarbityl)(6-propylpiperonyl) ether and related compounds

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

**FIRST AID**

**IF SWALLOWED:** Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by poison control center or doctor. Have person sip a glass of water if able to swallow. Do not give anything by mouth to an unconscious person.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15 – 20 min. Remove contact lenses, if present, after the first 5 min, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-832-HELP for emergency medical treatment information.

[See inside booklet for First Aid, Precautionary Statements, Directions for Use and Storage and Disposal]

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NET WEIGHT: [Range: 1 pt (min) - 55 gal (max)]

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION:** Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing.

**Personal Protective Equipment (PPE):** Mixers, loaders, applicators and other handlers must wear the following: Long-sleeved shirt, long pants, shoes and socks.

- In addition to the above PPE, applicators using a high-pressure hand wand in an enclosed area must wear at least a NIOSH-approved respirator with: a dust/mist filter with MSHA/NIOSH approval number prefix TC-21C or any R, P, or HE filter.
- In addition to the above PPE, applicators using hand-held foggers (applying as a space spray) in an enclosed area must wear a half-face, full-face, or hood-style NIOSH-approved respirator with: a dust/mist filtering cartridge (MSHA/NIOSH approval number prefix TC-21C, or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a cartridge or canister with an R, P or HE filter.

See Engineering Controls for additional requirements.

**Engineering Controls:** Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides 40 CFR 170.240(d)(6).

Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

**User Safety Requirements:** Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

#### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### ENVIRONMENTAL HAZARDS

**Terrestrial Applications:** This product is toxic to aquatic organisms including fish and aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. This product may contaminate water through runoff. This product has a potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hr will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging the treatment area.

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash-waters or rinsate.

**For Containers  $\geq$  5 Gallons:** Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of the National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

#### PHYSICAL OR CHEMICAL HAZARDS

**Combustible:** 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.**

**INSECTS:** Almond Moths, Angoumois Grain Moths, Ants, Bed Bugs, Blow Flies, Biting Flies, Boll Weevils, Cadelle Beetles, Caterpillars, Cheese Skippers, Cigarette Beetles, Clover Mites, Clover Weevils, Cockroaches, Confused Flour Beetles, Crickets, Crane Flies, Crickets, Dark Mealworms, Deer Flies, Dried Fruit Beetles, Drugstore Beetles, Earwigs, Elm Leaf Beetles, Face Flies, Firebrats, Fleas, Flies, Flat Grain Beetles, Fruit Flies, Fungus Gnats, Gnats, Grain Mites, Granary Weevils, Grasshoppers, Hornets, Horn Flies, Horse Flies, House Flies, Indianmeal Moths, Lesser Grain Borers, Lice, Maize Weevils, Mediterranean Flour Moths, Merchant Grain Beetles, Midges, Millipedes, Mites, Mosquitoes, Red Flour Beetles, Rice Weevils, Rusty Grain Beetles, Sawtoothed Grain Beetles, Silverfish, Skipper Flies, Small Flying Moths, Sowbugs, Spider Beetles, Spiders, Square Necked Grain Beetles, Stable Flies, Tobacco Moths, Vinegar Flies, Yellow Mealworms, Wasps and Yellowjackets

#### ENTRY RESTRICTIONS

- **For use as a surface spray:** Except when applying to livestock, do not enter or allow others to enter treated area until sprays have dried.
- **For use as a space spray:**
  - Except when applying to livestock, do not enter or allow others to enter until vapors, mists and aerosols have dispersed and the treated area has been thoroughly ventilated.
  - Do not remain in treated area. Exit area immediately and remain outside the treated area until aerosol, vapors and/or mists and aerosols have dispersed.

#### USE RESTRICTIONS

- Apply this product only as specified on this label.
- Do not apply more than 1 time/day.
- Except when applying to livestock, do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.
- **For indoor uses:**
  - Remove or cover exposed food and drinking water, in the treatment area, before application.
  - Remove or cover dishes, utensils, food processing equipment and food preparation surfaces, in the treatment area, before application, or wash them before use.
  - Do not use in aircraft cabins.

[ ] = alternate text

- Do not exceed tolerance levels for particular grain with repeated applications.
- Do not apply this product in hospital rooms while occupied or in any rooms occupied by the elderly or infirm. Remove patients from room prior to treatment and thoroughly ventilate (2 hr) after application. Do not return patients to room until after ventilation.
- Do not use in patient rooms in hospitals and nursing homes for treatment of bed bugs.
- Do not use in nurseries or rooms where infants, ill, or aged persons are confined.
- Do not apply to classrooms when in use.
- **For residential uses:** Do not apply this product that will contact adults, children, or pets either directly or through drift. Remove pets, birds, and cover fish aquariums before use.
- **When used in dairy barns or facilities:** Close milk bulk lids to prevent contamination from spray and from dead or falling insects. Remove or cover milking utensils before application. Wash teats of animals before milking.
- **For use in food handling or food processing facilities:**
  - Do not make space spray applications when facility is in operation.
  - Prior to space spray applications, cover or remove food in the treatment area.
  - Prior to space spray applications, cover food processing surfaces, in the treatment area, or clean after treatment and before use.
- Except when applying to sewers or drains as instructed on this label, do not apply directly to sewers or drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies or aquatic habitat can occur.
- **For use with indoor commercial misting systems (Livestock):**
  - Do not apply this product in barns or stables where animals intended for slaughter or human consumption will be maintained.
  - Commercial misting systems are only allowed to be used in livestock areas.
  - Do not apply when food, feed and/or water is present.
  - When using this product, installers and service technicians must comply with the license, certification or registration requirements of the state(s), tribe(s) or local authority(ies) where they are installed.
  - When applying via a remote activation device, do not apply when people and pets are present. If possible, when applying via automatic timer, set the timing for application when people and pets are unlikely to be present.
  - Direct nozzles to spray towards the target area and away from areas where people are typically present.
  - Do not use in an evaporative cooling system.
  - Do not use in misters located within 3 ft of air vents, air conditioner units or windows.
  - If used in a system with a reservoir tank for the end use dilution, the system reservoir tank must be locked. Securely attach the end use pesticide label and a dilution statement to the system reservoir tank in a weather protected area or plastic sleeve. The dilution statement must be phrased as follows: This container holds \_\_\_ parts [product name] to \_\_\_ parts water.
  - If used in a direct injection system, the pesticide container must be locked. Securely attach the end use label to the pesticide container in a weather protected area or plastic sleeve.
  - This product must only be used in systems that have been calibrated to apply no more than the maximum application rate of 0.125%. For Mosquitoes, use up to 20 fl oz of finished spray/day at 0.125%/1,000 ft<sup>3</sup>/day. For other flying insects, use 25 fl oz of finished spray at 0.125%/1,000 ft<sup>3</sup>/day.
- **For outdoor uses:**
  - All outdoor applications must be limited to spot or Crack & Crevice® treatments only, except for the following permitted uses:
    1. Treatment to soil or vegetation around structures;
    2. Applications to lawns, turf and other vegetation;
    3. Applications to building foundations, up to a maximum height of 3 ft.

Other than applications to building foundations, all outdoor applications to impervious surfaces such as sidewalks, driveways, patios, porches and structural surfaces (such as windows, doors and eaves) are limited to spot and Crack & Crevice applications only.

- Do not make outdoor applications during rain.
- Do not wet plants to point of runoff or drip.
- Do not water the treated area to the point of runoff.
- **For use in outdoor residential misting systems:**
  - When using this product, installers and service technicians must comply with the license, certification or registration requirements of the state(s), tribe(s) or local authority(ies) where they are installed.
  - If the system works on an automatic timer, set the timing for application when people, pets and food are unlikely to be present.
  - If the system works when a person operates a remote activation device, then application of this pesticide when people, pets and food are present is prohibited.
  - Do not use in an evaporative cooling system.
  - Direct nozzles to spray towards the target area and away from swimming pools, water bodies or eating and cooking areas.
  - Do not set nozzles to direct mist near outside air condition systems or other home air intakes.

[ ] = alternate text

- If use in a system with a reservoir tank for the end use dilution, the system reservoir tank must be locked. Securely attach the end use pesticide label and a dilution statement to the system reservoir tank in a weather protected area or plastic sleeve. The dilution statement must be phrased as follows: This container holds \_\_\_ parts [*product name*] to \_\_\_ parts water.
- If used in a direct injection system, the pesticide container must be locked. Securely attach the end use label to the pesticide container in a weather protected area or plastic sleeve.
- Contact the system manufacture for guidance or assistance to ensure compliance with the following requirement:
  - ~ This product must only be used in systems that have been calibrated to apply no more than the maximum application rate of 0.108%/1,000 ft<sup>3</sup>. Using 0.92 oz. of 0.108% pyrethrins dilution delivers 0.00058 lbs of piperonyl butoxide per 1,000 ft<sup>3</sup> per day.

### APPLICATION INSTRUCTIONS

**USED ALONE:** This product may be used alone as a clean-up spray where other products cannot due to residue restrictions.

DILUTION CHART	
Pyrethrin % Desired	Fluid Ounces of Concentrate/Gallon of Water
1.00	21
0.50	11
0.25	5
0.10	2

**USED IN COMBINATION WITH OTHER INSECTICIDES:** This product may be combined with other insecticides and acaricides where resistance may be a problem, and to flush insects from hiding and into contact with other spray residues. The application must conform to the accepted use precautions and directions for both products.

Prior to tank-mixing, conduct a compatibility test using the proper proportions of chemicals and water to ensure the physical compatibility of the mixture.

Tank mix applications must be made in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing. To provide flushing and quick knockdown, mix 0.25 – 4.0 fl oz/gal. It is recommended that the final spray mix be buffered to a pH of 5.5 – 7.0.

### INDOOR APPLICATION

**SPACE SPRAY - CRAWLING AND FLYING INSECTS:** For accessible, exposed stages of listed *CRAWLING INSECTS* (Ants, Bed Bugs, Cockroaches, Cadelles, Cigarette Beetles, Confused Flour Beetles, Dark Mealworms, Dried Fruit Beetles, Drugstore Beetles, Grain Mites, Red Flour Beetles, Rice Weevils, Sawtoothed Grain Beetles, Spider Beetles, Yellow Mealworms) and listed *FLYING INSECTS* (Angoumois Grain Moths, Cheese Skippers, Fruit Flies, Fungus Gnats, Gnats, House Flies, Hornets, Indianmeal Moths, Mosquitoes, Mediterranean Flour Moths, Small Flying Moths, Tobacco Moths, Wasps): Dilute 1 part concentrate with 11 parts water or oil (10.67 fl oz/gal) and apply at the rate of 1 fl oz/1,000 ft<sup>3</sup> of space. Direct the spray towards the ceiling and upper corners of the area, and behind obstructions. Vacate the treated area and keep the area closed for at least 30 min after treatment. Thoroughly ventilate the area before reoccupying.

**SPACE SPRAY - FLYING INSECTS:** For listed flying insects (Fruit Flies, Grain Moths, Gnats, Mosquitoes and Skipper Flies): Dilute 1 part concentrate with 29 parts water (1 qt/7.5 gal)(4.25 oz/gal) up to 1 part concentrate with 11 parts water (1 qt/3 gal)(10.267 fl oz/gal). Apply diluted spray at the rate of 0.5 – 1.0 fl oz/1,000 ft<sup>3</sup> of space. Direct the space treatment upward whenever practical, and keep doors and windows closed for at least 15 min after application. This product may be diluted using a food grade oil instead of water at the rate of 1 part concentrate with 29 parts oil up to 1 part concentrate with 11 parts oil, and applied as a space spray with an applicator, such as mechanical or ULV fogger, capable of producing particles of aerosol size.

**SURFACE SPRAY:** For accessible, exposed stages of listed crawling insects (Ants, Bed Bugs, Cockroaches, Cadelles, Cigarette Beetles, Confused Flour Beetles, Dark Mealworms, Dried Fruit Beetles, Drugstore Beetles, Grain Mites, Red Flour Beetles, Rice Weevils, Sawtoothed Grain Beetles, Spider Beetles and Yellow Mealworms): Dilute at 0.1 – 0.5% (2 – 11 fl oz/gal of water) and apply at the rate of 1 gal/750 ft<sup>2</sup>, forcing the spray into all cracks and crevices. **For Bed Bugs:** Direct application into areas where bed bugs harbor. Do not direct at mattresses.

**SPOT TREATMENT:** Use as a coarse, low-pressure spray. Limit individual spot treatments to an area no larger than 20% of the surface area. Any individual spot treatment shall not exceed 2 ft<sup>2</sup>. Contact as many insects as possible. Before making any application, ensure product will not stain surface or leave an unacceptable residue.

### OUTDOOR – AROUND RESIDENTIAL AREAS AND OTHER BUILDINGS

Use the following dilutions when using this product alone. When using this product in combination with other insecticides for the directions below, refer to the “Used in Combination with Other Insecticides” section.

**LISTED FLYING INSECTS:** Dilute with water at 0.25 – 1.0% and treat outside surfaces of screens, doors, window frames or wherever these insects may enter the room. Also treat surfaces around light fixtures on porches, in garages and other places where insects alight or congregate.

Treat normal fly resting areas such as ceilings, upper corners of the area, around windows and doors, light fixtures and other surfaces known to attract flies. Treat so as to lightly moisten the target surface. Initiate treatment at the beginning of the fly season and repeat weekly during periods of heavy fly activity.

[ ] = alternate text

**PERIMETER TREATMENT:** For crawling insects and resting sites of flying insects, dilute with water at 0.50 – 1.0% or tank mix at 0.1 – 0.25% and apply to cracks and crevices where insects may enter premises. Areas to be treated include weep holes, under siding, wall voids, soffits, around attic vents, cracks and crevices, openings around windows, doors and pipes. Treatment of infested fences and tree holes is permitted.

To help prevent infestations of buildings, treat a band of soil 6 – 10 ft wide around and adjacent to the building. Also treat the building foundation to a height of 2 – 3 ft where pests are active and may find entrance.

**LISTED CRAWLING INSECTS:** For treatment of localized infestations of insects in outdoor areas which are landscaped, planted, mulched or unmaintained, dilute with water at 0.25 – 1.0% or tank mix at 0.1 – 0.25% and treat infested areas. For ants, wet hills and runways. Treatment of infested fences and tree holes is permitted.

**SPIDERS:** Dilute with water at 0.25 – 1.0%. Treat areas where spiders and other insects harbor such as around windows, lights, eaves, soffit area, corners, etc.

### FOOD HANDLING ESTABLISHMENTS

Applications are permitted in food/feed areas of food/feed handling establishments as a contact spray, space spray or Crack & Crevice® treatment, including those operating under the Federal meat, poultry, shell egg grading and egg products inspection programs.

Food handling establishments are places other than private residences in which food is held, processed, prepared or served.

**FOOD AREAS:** Include areas for receiving, serving, storing (dry, cold, frozen, raw), packing (canning, bottling, wrapping, boxing), preparing (cleaning, slicing, cooking, grinding), edible waste storage and enclosed processing systems (mills, dairies, edible oils, syrups).

**NON-FOOD AREAS:** Include areas such as garbage rooms, lavatories, floor drains (to sewers), entries and vestibules, offices, locker rooms, machine rooms, boiler rooms, garages, mop closets and storage areas (after canning or bottling).

Apply according to specific directions for pest(s) to be treated under the Indoor Use section. Do not make space spray applications to food areas when the facility is in operation. Prior to space spray applications, remove or cover exposed food and drinking water in the treatment area. Remove or cover dishes, utensils, food processing equipment, and food preparation surfaces in the treatment area, or wash them before use.

For accessible, exposed stages of listed crawling insects (Ants, Cockroaches, Cadelles, Cigarette Beetles, Confused Flour Beetles, Dark Mealworms, Dried Fruit Beetles, Drugstore Beetles, Grain Mites, Red Flour Beetles, Rice Weevils, Sawtoothed Grain Beetles, Spider Beetles and Yellow Mealworms): Dilute 1 part concentrate with 19 parts water and apply at the rate of 1 gal/750 ft<sup>2</sup>, forcing the spray into all cracks and crevices.

### STORED PRODUCT PESTS

Dilute using either water or food grade oil at 1 part concentrate to 29 parts diluent up to 1 part concentrate to 11 parts diluent. Finished spray may be used on rice, barley, beans, birdseed, buckwheat, cocoa beans, corn, cottonseed, flax, oats, grain nuts, dried fruit, almond nutmeat and shells, walnut nutmeat and shells, pistachios, dried prunes, dried apricots, raisins, figs, wheat, oats, corn, barley, rye, sorghum, wheat, tobacco and peanuts held in storage for control of the accessible stages of Almond Moths, Angoumois Grain Moths, Cadelle Beetles, Cigarette Beetles, Confused Flour Beetles, Flat Grain Beetles, Granary Weevils, Indianmeal Moths, Red Flour Beetles, Rice Weevils, Rusty Grain Beetles, Sawtoothed Grain Beetles, Square Necked Grain Beetles, and Tobacco Moths. Apply at rate of 1 gal/750 ft<sup>2</sup>.

**FOR USE ON SWEET POTATOES IN STORAGE:** To combat Fruit Flies and Vinegar Flies, dilute at 1 part concentrate to 19 parts water (6.4 fl oz/gal). Apply at the rate of 1 gal diluted spray per 100,000 ft<sup>3</sup> of space using a mechanical fogger capable of producing particles of aerosol size. Apply only when flying insects are present. Several applications may be necessary during periods of heavy infestation, but do not make more than 10 applications throughout storage duration.

**SURFACE TREATMENT OF STORED GRAIN AND SEED:** For Indianmeal Moths, Angoumois Grain Moths and Mediterranean Flour Moths, make monthly inspections after the grain is placed in storage. If the top 2 or 3" are infested, dilute 1 part concentrate with 19 parts water and apply at the rate of 1 – 2 gal/1,000 ft<sup>2</sup> of grain. Rake the mixture into the grain to a depth of 4".

**FOR USE AS A GRAIN PROTECTANT:** This product, when diluted with water and sprayed directly on grain, will effectively protect the grain against grain storage insects for a full season (approx. 8 mo). Dilute at the rate of 1 part concentrate to 29 parts water (1 qt/7.5 gal). Thoroughly mix the emulsion and apply at the rate of 4 – 5 gal/1,000 bushels of grain as it is carried along a belt or as it enters the auger or elevator.

**ON ALMONDS, PEANUTS, AND WALNUTS IN BULK:** For accessible stages of stored product insects such as Almond Moths, Angoumois Grain Moths, Ants, Cadelles, Cigarette Beetles, Confused Flour Beetles, Drugstore Beetles, Flat Grain Beetles, Granary Weevils, Indianmeal Moths, Lesser Grain Borers, Maize Weevils, Mediterranean Flour Moths, Merchant Grain Beetles, Red Flour Beetles, Rice Weevils, Rusty Grain Beetles, Sawtoothed Grain Beetles and Square Necked Grain Beetles: Dilute 1.5 fl oz concentrate/gal of water and apply as a coarse, wet spray over the top of stored nuts at the rate of 2 gal/1,000 ft<sup>2</sup>. Apply at weekly intervals for about 6 weeks and then at 15 day intervals thereafter.

**FOR USE IN STORAGE SITES:** Use to treat storage areas of grain and seed in warehouse bins and trucks, cargo ships, mills, bin hoppers, elevators and conveying equipment as a clean up prior to storage. In mills and elevators, remove all grain infested accumulations from the bin hoppers. Thoroughly clean all storage areas and conveying equipment by sweeping out the waste grain, cobwebs and other debris from the walls and rafters, as well as on the floor and door frames, with special attention to material lodged in cracks and crevices. Remove and burn all debris to kill eggs and insects that might be present.

For farms, clean up around the used feed and grain bags, grain residues from wagons, harvesting equipment and feed troughs. Do not place newly harvested grain in the same bin with carry-over grain. Fumigate all carry-over grain stocks that are not treated with grain protectant with a product approved for such use. These cleaning procedures should be done 2 – 3 weeks before harvest.

[ ] = alternate text

After the above sanitation measures have been taken, spray all areas, prior to storing grain, with 1 part concentrate to 29 parts water (1 qt/7.5 gal) up to 1 part concentrate to 11 parts water (1 qt/3 gal). Apply at the rate of 1 gal/750 ft<sup>2</sup> on walls, floors, ceilings and partition boards of bins, forcing the spray into all cracks and crevices.

Inspect monthly. If the top 2 or 3" of grain are found to be infested, reapply at the rate of 1 – 2 gal of diluted material/1,000 bushels of stored product.

### LIVESTOCK

- 1) To kill and repel flies, house flies, mosquitoes and gnats, dilute with water at the rate of 1 – 2 fl oz/gal, and thoroughly wet the hair, paying particular attention to topline, underline, flanks, withers and other infested areas. Repeat treatment at intervals of 5 – 12 days for small insect populations or as needed when flies are emerging in large numbers.
- 2) To kill and repel horse flies and stable flies, dilute with water at the rate of 2 – 3 fl oz/gal, and apply using 1 qt/adult animal to thoroughly wet the hair, paying particular attention to the legs, flanks, barrel, topline and other body areas commonly attacked by these flies. Repeat treatment weekly as needed.
- 3) To kill and repel face flies, dilute with water at the rate of 2 fl oz/gal, and apply using a sprayer which produces large, wetting droplets. Apply to the face of the animal in the morning before releasing to pasture. Apply enough to wet the face, but not more than 1.5 fl oz/animal. Repeat daily if needed.
- 4) For biting and sucking lice on cattle, horses, sheep, goats and hogs, dilute with water at the rate of 1 qt/75 gal (1 fl oz/2 gal) and thoroughly wet the hair of the animal, including the head and brush of the tail. Reapply in 10 days to kill newly hatched lice.
- 5) To kill fleas on livestock, and to protect against reinfestation, dilute with water at the rate of 2 fl oz/gal, and wet the animal by dipping or spraying.

**FOR USE IN BARNS, CORRALS, DAIRIES, LOAFING SHEDS, MILKING PARLORS, MILKING ROOMS AND POLE BARNS:** To kill listed flying insects (Flies, Fruit Flies, Mosquitoes, Gnats, Wasps, Hornets and Small Flying Moths), dilute with water at the rate of 2 – 11 fl oz/gal. Apply as a fog, fine mist or coarse, wet spray (at approx. 2 fl oz/1,000 ft<sup>3</sup> of space), directing the nozzle for maximum coverage, and above livestock, toward the ceiling and upper corners of the area being treated. Close doors and windows where possible before spraying, and keep them closed for 10 – 15 min. In corrals, loafing sheds and open areas, misting diluted product over the animals is permitted.

**AUTOMATED MISTING SYSTEMS FOR LIVESTOCK AREAS ONLY:** Dilute to 0.050% – 0.125%.

Do not apply this product in barns or stables where animals intended for slaughter or human consumption will be maintained.

### POULTRY SPRAY

- 1) To kill poultry lice, dilute with water at the rate of 2 – 3 fl oz/gal, and thoroughly spray roosts, walls, nests or cages. It is not necessary to remove poultry from the housing unit during treatment. Follow with spraying over the birds with a fine mist.
- 2) To kill bed bugs and mites on poultry and in poultry houses, dilute with water at the rate of 2 – 3 fl oz/gal, and spray crevices of roost poles and cracks in walls and nests where these pests hide. Follow with spraying over the birds with a fine mist.

**FOR USE IN POULTRY HOUSES:** To kill listed flying insects (Flies, Fruit Flies, Mosquitoes, Gnats, Wasps, Hornets and Small Flying Moths), dilute with water at the rate of 2 – 11 fl oz/gal. Apply as a fog, fine mist or coarse, wet spray (at approx. 2 fl oz/1,000 ft<sup>3</sup> of space), directing the nozzle for maximum coverage, and above poultry, toward the ceiling and upper corners of the area being treated. Close doors and windows where possible before spraying, and keep them closed for 10 – 15 min.

### OUTDOOR – MOSQUITO CONTROL

Also kills Gnats, Flies and Midges

**SURFACE SPRAY:** Use hand-held pressure or backpack sprayer. Dilute using 1 part concentrate to 23 parts water to 1 part concentrate to 59 parts water. Use up to 1 gal/300 ft<sup>2</sup>. Treat mosquito resting areas such as plant foliage.

**ULV APPLICATION - HANDHELD AND BACKPACK EQUIPMENT:** Use hand-held cold aerosol ULV sprayer or hand-held thermal fogging device. Dilute using 1 part concentrate to 23 parts oil to 1 part concentrate to 59 parts oil. For 1:23 dilution, apply at the rate of 15 oz/acre (0.33 oz/1,000 ft<sup>2</sup>). Allow spray drift to penetrate dense foliage. Apply at no more than 0.0025 lb pyrethrins/acre 5 times/week. When used in cold aerosol generators, mechanical or electronic foggers, or misting equipment that produce a fog with the majority of droplets in the 5 – 50 µm range, dilute this product with light mineral oil (specific gravity of approximately 0.8 at 60°F, boiling point: 500 – 840°F). An N.F. grade oil is preferred.

**URBAN MISTING SYSTEMS:** Use at 0.025% (1:108) – 0.108% (1:27).

\*In New York State [*Alternate Text: state name(s)*], this product may NOT be applied using residential automated misting systems (Urban Misting Systems).



AUTOMATIC SPRAYING SYSTEM DILUTION TABLE				
Rate, Dilution Ratio	Mixing Rate 1 Gallon Tank	Mixing Rate 55 Gallon Tank	Gallons/Day/ 1,000 ft <sup>3</sup>	Finish Spray/Day/ 1,000 ft <sup>3</sup>
0.025% (1:216)	0.5 fl oz	32 fl oz	0.014 gal	1.76 fl oz
0.050% (1:108)	1 fl oz	64 fl oz	0.007 gal	0.88 fl oz
0.108% (1:54)	2 fl oz	128 fl oz	0.0035 gal	0.44 fl oz

### HORTICULTURE USE

**FOR USE IN:** Hobby Greenhouses, Interiorscapes and Landscapes

**KILLS:** Aphids, Armyworms, Beetles, Bugs (Boxelder, Lace and Plant), Caterpillars (Cabbage Worms, Rose Slugs, Hornworms), Clover Mites, Crickets, Earwigs, Firebrats, Fruitworms, Fungus Gnats, Fungus Gnat Larvae, Grasshoppers, Leafhoppers, Leafminers, Leaf Rollers, Loopers, Mealybugs, Millipedes, Psylla, Rose Aphids, Scale Insects, Sowbugs, Spiders (excluding Black Widow and Brown Recluse), Spider Mites, Thrips and Whiteflies.

### APPLICATION INSTRUCTIONS

Use diluted (0.05% - 0.25%) in sprayers. Treat upper and lower foliage surfaces of plants uniformly.

SPRAY DILUTION CHART		
Pyrethrin % Desired	Amount of Concentrate per Gallon of Water*	Minimum Treatment Area
0.050%	1 fl oz	2,000 ft <sup>2</sup>
0.125%	2.5 fl oz	5,000 ft <sup>2</sup>
0.250%	5 fl oz	10,000 ft <sup>2</sup>

\* DO NOT DILUTE WITH OIL.

**PLANT SAFETY NOTICE:** This product has demonstrated excellent plant safety; however, all varieties of the plants listed have not been tested. When treating large numbers of plants of a single variety, treat a few plants and observe for phytotoxicity prior to full scale application. Direct treatment to some open blooms may cause petal drop.

### FOR USE INDOORS AND OUTDOORS ON:

**Bedding plants (such as):** Impatiens, Marigolds, Petunias, Geraniums and Garden Mums

**Cut Flowers (such as):** Roses, Chrysanthemums, Carnations, Snapdragons and Orchids

**Flowering hanging baskets (such as):** Fuchsia, Lantana, New Guinea Impatiens, Ivy and Geraniums

**Foliage (such as):** Boston Fern, Dracaena, Ficus, Schefflera and Philodendron

**Potted Flowering plants (such as):** Poinsettia, Chrysanthemums, Florist's Azaleas, Lilies, African Violets, Geraniums, Hibiscus, Kalanchoes and Begonias

**Ornamentals (such as):** Azalea, Barberry, Cotoneaster, Euonymus, Holly, Juniper, Oak, Pine, Rhododendron, Roses, Spiraea, Spruce, Virburnum and Yew

**DO NOT TREAT VEGETABLES.**

## STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Store in original container in secured, dry storage area. Do not store above 100°F for extended periods of time. Storage below 32°F may cause freezing. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site, in accordance with the label directions, or at an approved waste disposal facility.

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container! Empty container by using the product according to the label directions. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows:

[ ] = alternate text

[(<5 gal)] Empty the remaining contents into application equipment or a mix tank and drain for 10 sec after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 sec. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 sec after the flow begins to drip. Repeat this procedure 2 more times.]

[(>5 gal)] Empty remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 sec. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure 2 more times.]

Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned stay out of smoke.

#### CONDITIONS OF SALE AND WARRANTY

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as environmental conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer. BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW: (A) BASF MAKES NO OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY, (B) BUYER'S EXCLUSIVE REMEDY AND BASF'S AND SELLER'S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF THE PRODUCT, AND (C) BASF AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.** BASF and the Seller offer this product, and the Buyer and User accept it, subject to these **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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