

73049-193

04/18/2012

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 18 2012

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Mr. Nasser Assaf, Ph.D.
Valent BioSciences
870 Technology Way, Suite 100
Libertyville, IL 60048

**Subject: Amended Reregistration Label Permanone® 10 Insect Control
D413062
EPA Registration No. 73049-193**

Dear Dr. Assaf:

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 referenced product in connection with the **Permethrin RED**, and has concluded that your submission is acceptable.

PLEASE NOTE: This product is not being reregistered under sections 3(c)5 and 4(g) of FIFRA at this time.

PLEASE NOTE: That the record for this product currently contains the Confidential Statements of Formulation (CSFs) listed below. Any previously dated CSF's are superseded.

- Basic CSF, dated: March 5, 2010
- Alt #1CSF dated: March 5, 2010
- Alt #2CSF dated: March 5, 2010
- Alt #3CSF dated: March 5, 2010
- Alt #4CSF dated: March 5, 2010
- Alt #5CSF dated: March 5, 2010
- Alt #6CSF dated: March 5, 2010
- Alt #7CSF dated: March 5, 2010
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A copy of your label stamped Acceptable is enclosed along with copies of the acute toxicity and product chemistry reviews completed for the subject product. Products shipped after 12 months from the date of this amendment or the next printing of the label whichever occurs first, must bear the 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 sec. 6(e).

If you have any questions about this letter, please contact Linda A. DeLuise at (703) 305-5428 or via e-mail at deluise.linda@epa.gov or Mr. Richard J. Gebken at (703) 305-6701 or via e-mail at Gebken.Richard@epa.gov.

Sincerely yours,

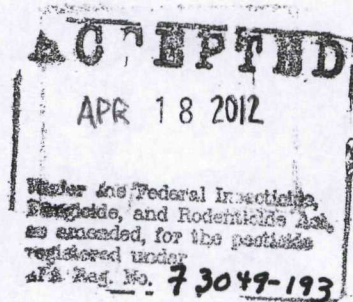
A handwritten signature in black ink, appearing to read "Richard Gebken".

Richard Gebken
Product Manager 10
Insecticide Branch
Registration Division (7505P)

Enclosure: Label stamped Accepted dated: April 18, 2012

Permanone® 10 Insect Control

- For Commercial/Industrial Use
- 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 Climate Modification And Being Grown In Interior Plantscapes, Ornamental Gardens Or Parks Or On Golf Courses Or Lawns And Grounds.
- [For Use Outdoors, In Residences And Non-Food Areas Of Commercial Buildings, Institutions, Warehouses, Theaters, Office Buildings, Schools, Motels, Hotels, Restaurants, Kennels And Food/Feed Processing Establishments.
- Kills Cockroaches [(Including American cockroach, Oriental cockroach, German cockroach and smokybrown cockroaches)] (Waterbugs), Crickets, Silverfish (Firebrats), Centipedes, Millipedes, Earwigs, fleas, scorpions, termites, ticks, bedbugs, Sowbugs (Pillbugs), Spiders (Including black widow , brown (recluse or violin), hobo and funnel web), Ants (Including Pharaoh, carpenter, fire ant), Flies , Mosquitoes), Gnats, Small Flying Moths, Wasps Hornets, Yellow Jackets, And Bees.
- Kills Mosquitoes that may carry West Nile virus
- Broad Spectrum Multi-Use Insecticide
- Use On Lawns, Ornamental Gardens & Trees
- Controls/Kills Lawn Pests
- Controls/Kills Ornamental Plant Pests
- Controls Hard-To-Kill Insects For Up To 4 Weeks
- Effective Control Of Hard To Kill Insect Pests
- Multi-Purpose Insect Killer
- Works Fast - Residual Action - Long-Lasting - Quick-Acting
- Kills Fast - Proven To Last
- For Use On Livestock
- Livestock & Animal Premise Spray]



ACTIVE INGREDIENT:

Permethrin*.....10.0%

OTHER INGREDIENTS**:..... 90.0%
00.0%

*Cis/trans ratio: Max. 65% (+/-) trans and min. 35% (+/-) cis.

**Contains petroleum distillate.

EPA REG. NO. 73049-193

EPA EST. NO.

KEEP OUT OF REACH OF CHILDREN

WARNING

See Side Panel For Additional Precautionary Statements

FIRST AID	
If on Skin or Clothing:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in Eyes:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If Inhaled:	<ul style="list-style-type: none"> • 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.
If Swallowed:	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For additional information on this product (including health concerns, medical emergencies or pesticide incidents), you may call 1-877-315-9819.	
Note to Physician	
Contains petroleum distillate. Vomiting may cause aspiration pneumonia.	

Net Contents:

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**READ ENTIRE LABEL BEFORE EACH USE
PET USE APPLIES TO USE ONLY ON DOGS**

**PRECAUTIONARY STATEMENTS
Hazards To Humans & Domestic Animals**

WARNING

Causes skin irritation. Do not get on skin or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Causes moderate eye irritation. Avoid contact with eyes or clothing. Harmful if inhaled. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling and before eating, chewing gum, using tobacco or using the toilet.

Personal Protective Equipment (PPE):

- Coveralls worn over short-sleeved shirt and short pants,
- Chemical-resistant footwear and socks,
- Chemical-resistant gloves made of barrier laminate, nitrile rubber, neoprene rubber or viton and
- Chemical-resistant apron for mixers/loaders, persons cleaning equipment, and persons exposed to the concentrate and for handlers performing animal dip applications.

In addition to the above PPE, mixers and loaders and/or applicators using high-pressure handwand in an enclosed area must wear at least a NIOSH-approved respirator with a dust/mist filter with MSHA/NIOSH approval prefix TC-21C or any N, R, P, or HE filter.

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

Follow manufacturer's instructions for cleaning/maintaining PPE. If there are no such instructions exist for washables, 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 this 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.
- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should 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

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

This pesticide 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 actively visiting the treatment area.

[Containers equal or greater than 5 gallons or 50 pounds:]

[Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant 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.]

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Physical or Chemical Hazards

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

DIRECTIONS FOR USE

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

USE RESTRICTIONS & PRECAUTIONS

- Apply this product only as specified on this label.
- Do not use spoons or measuring cups for food purposes after use with pesticides.
- Not for use in outdoor or indoor residential misting systems.
- Do not contaminate food or feedstuffs.
- Do not apply when food is present.
- Do not use in food areas of food handling establishments, restaurants, or other areas where food is commercially prepared or processed. Do not use in serving areas while food is exposed or facility is in operations. Serving areas are areas where prepared foods are served such as dining rooms, but exclude 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.
- Non-Food/Feed areas include garbage rooms, lavatories, entries and vestibules, offices, locker rooms, machine rooms, boiler rooms, garages; mop closets and storage (after canning or bottling).
- Do not apply as a broadcast or spot treatment to indoor surfaces at residential sites, including nurseries, day care centers, schools, hospitals and nursing homes.
- Except when applying to pets (or livestock), after surface application, do not enter or allow others to enter until sprays have dried.
- Except when applying to pets (or livestock), after space spray application, do not enter or allow others to enter until vapors, mists and aerosols have dispersed and the area has been thoroughly ventilated.
- Except when applying to pets (or livestock), do not apply this product in a way that will contact adults, children or pets, either directly or through drift.
- Except when applying to pets (or livestock), only protected handlers may be in the area during application.
- Do not remain in treated area. Exit area immediately and remain outside the treated area until vapors, mists and aerosols have dispersed.
- Do not use in aircraft cabins.
- Application is prohibited directly into sewers or drains or to any area like a gutter where drainage to sewers, storm drains, water bodies or aquatic habitat can occur. Do not allow the product to enter any drain during or after application.
- Do not make applications during rain.
- Do not water the treated area to the point of run-off or drip.
- For direct application to non-domestic animals/livestock: Do not apply more than 1 time per day.
- Remove pets, birds and cover any water inhabited by fish (such as aquariums and ornamental fish ponds) before application. Turn off aquarium filtering systems before spraying and wait approximately 15 minutes after application before turning the filter back on.
- Not for 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 climate modification and being grown in interior plantscapes, ornamental gardens or parks or on golf courses or lawns and grounds.
- [Alternate text - For pet care: Do not apply to pets less than 12 weeks old. Consult a veterinarian before apply this product on medicated, debilitated, aged, pregnant or nursing animals. Sensitivities may occur after using ANY pesticide product for pets. If signs of sensitivity occur, bathe your pet with mild soap and rinse with large amounts of water. If signs continue, consult a veterinarian immediately.
- [Alternate text - When used in dairy barns or facilities: Close milk bulk tank lids to prevent contamination from dead or falling insects. Remove or cover milking utensils before application. Wash teats of animals before milking.]

SHAKE WELL BEFORE USE

Do not allow spray treatment to drift onto pastureland, cropland, poultry ranges, or water supplies. Do not use on crops used for food, forage or pasture.

All outdoor applications must be limited to spot or crack-and-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

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3. Applications to building foundations, up to a maximum height of 3 feet

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-and-crevice applications, only.

GENERAL USE DIRECTIONS:

Mixing Instructions: This is an easy-to-apply product that can be used to control nuisance insects. Apply with hand pressurized or power operated sprayers. Carefully measure and mix the amount of product and water as directed. Where appropriate, measure the area to be treated by measuring the length and the width then multiply to determine the square footage of the area. When mixing, fill the application equipment with half of the water first and then measure and add the appropriate amount of Permanone 10 followed by the remaining water. Shake or stir thoroughly to mix the product and water. Thorough spray coverage is necessary but do not allow run-off.

For maximum effectiveness, a combination of localized application and space treatment is recommended.

Dilution rates on this label will yield the following ready-to-use product:

Rate	Ounces of Concentrate	
	Per Gallon	% Permethrin
1:19	6.4	0.50%
1:39	3.2	0.25%
1:100	1.28	0.10%
1:200	0.64	0.05%
1:400	0.32	0.025%

The number following the dilution directions on this label refers to the ready-to-use Permethrin level.

INDOOR USE

SURFACE SPRAY: For initial cleanup of severe insect infestation, dilute at a rate of 1 part concentrate in 19 parts water (6.4 ounces per gallon) (0.5%).

For normal infestations and maintenance, dilute 1 part concentrate in 39 parts water (3.2 ounces per gallon) (0.25%).

TO CONTROL *Cockroaches, Waterbugs, Palmetto Bugs, Ants, Silverfish, Firebrats, Spiders, Crickets, Millipedes, Clover Mites, Cheese Mites, Granary Weevils, Rice Weevils, Confused Flour Beetles, Rust Red Flour Beetles, Saw-Toothed Grain Beetles, Spider Beetles, Cigarette Beetles, Drugstore Beetles, Mealworms, Grain Mites* and *Cadellles*, use a good sprayer adjusted to deliver a coarse wet spray. Direct the spray into hiding places, cracks and crevices, under pallets, around containers of stored foods, around the base of machinery, and behind shelves and drawers. Spray bookcases for silverfish. Spray ant trails, nests and points of entry. If surface application only is to be used, spray floors, walls and other surfaces applying at a rate of 1 gallon to 750 square feet.

Wasps, Hornets, Yellow Jackets, Bees: 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.

TO CONTROL *Centipedes, Ground Beetles, Pillbugs, Sowbugs, Scorpions* and *Ticks* - Apply around doors and windows and other places where these pests may enter premises. Treat baseboards, storage areas and other locations where these pests are found.

TO CONTROL *Fleas* and *Ticks* - Remove pet bedding and destroy or clean thoroughly. Spray pet resting quarters. Adult fleas and larvae contacted by spray will be killed. Put fresh bedding down once spray has dried. Spray rugs and carpets where infestations are bad. Test delicate fabrics in an inconspicuous area prior to use.

TO KILL *Fleas* and *Ticks* ON DOGS (over 12 weeks of age) - Dilute 1 part concentrate to 100 parts water (1.28 ounces per gallon). Using protective gloves (mitts), wet the animal by dipping or spraying. Make sure coat is thoroughly wetted to the skin. Fluff the hair to penetrate to the skin. Do not apply to eyes, face or genitalia. For best results in killing ticks, apply directly to tick. Allow dog to air dry or blow dry. Do not towel dry. Reapply every 30 days, if necessary.

TO KILL *Cockroaches* [(Including *American cockroach, Oriental cockroach, German cockroach and smokybrown cockroaches*)] (*Waterbugs*), *Cricketes, Silverfish (Firebrats), Centipedes, Millipedes, Earwigs, fleas, scorpions, termites, ticks, bedbugs, Sowbugs (Pillbugs), Spiders (Including black widow, brown (recluse*

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or violin), hobo and funnel web), Ants (Including Pharaoh, carpenter, fire ant), dilute 1 part concentrate in 39 parts water (3.2 ounces per gallon) (0.25%). Spray into hiding places, cracks and crevices, behind baseboards, shelves and drawers under sinks, refrigerators and similar areas contacting as many insects as possible.

TREATMENT OF FLYING INSECTS RESTING PLACES - To aid in control of *Mosquitoes, Gnats, Skippers*, treat walls, ceilings, moldings, screens, door frames, window frames, beams, light cords and similar resting places using a dilution of 1:19 (0.5%).

TO CONTROL Carpet Beetles - Spray edges of carpeting and under carpeting and rugs. Make localized application to floor and baseboards. Spray directly into cracks, closets and infested areas of shelving. Do not use at a higher dilution rate than 0.5% (1 part concentrate to 19 parts water; 6.4 fluid ounces per gallon).

TO CONTROL Bedbugs - Spray mattresses lightly, particularly around tufts and seams. Take bed apart and spray in all joints. Treat baseboards, moldings and floors. Allow all treated articles to thoroughly dry before use.

TO CONTROL Clothes Moths - Remove any infested articles from storage, brush thoroughly and air for several hours in sunlight, if possible. Apply spray liberally to empty chests, closets, bureaus and other storages directing the spray into cracks, joints and crevices. After airing, infested articles may be treated lightly, keeping nozzle at least three feet from fabric to avoid staining. Do not use at a higher dilution rate than 0.5% (1 part concentrate to 19 parts water; 6.4 fluid ounces per gallon).

TO KILL Lice and Louse Eggs - Spray in an inconspicuous area to test for possible staining or discoloration. Inspect again after drying, then proceed to spray entire area to be treated. Spray from a distance of 8 to 10 inches. Treat only those garments and parts of bedding, including mattresses and furniture that cannot be either laundered or dry cleaned. Allow all treated articles to dry thoroughly before use. Do not use at a higher dilution rate than 0.5% (1 part concentrate to 19 parts water; 6.4 fluid ounces per gallon).

SPACE SPRAY: For initial clean out of severe insect infestation, dilute at a rate of 1 part concentrate to 19 parts water (6.4 fluid ounces per gallon) (0.5%). For normal infestations and maintenance, dilute 1 part concentrate in 39 parts water (3.2 ounces per gallon) (0.25%). Apply with mechanical or compressed air equipment (non-thermal) adjusted to deliver a fine mist. Close doors and windows and shut off ventilating systems. For rapid control of *Houseflies, Fruit Flies, Gnats, Mosquitoes, Skipper Flies, Black Flies, Angoumois Grain Moths and Tobacco Moths*, direct spray at an upward angle distributing it uniformly through the entire area at a rate of 1 ounce per 1,000 cu. ft. of space. Keep area closed for at least 10 minutes. Vacate areas after treatment and ventilate and sweep up dead insects before reoccupying.

For rapid kill of exposed or accessible stages of other insects named on this label, apply using conventional, mechanical or compressed air equipment (non-thermal), following directions for space spraying. Apply the above dilutions at a rate of 1 ounce per 1,000 cu. ft. of space.

ORNAMENTAL PLANTS:

Mix 0.32 ounce in 1 gallon of water. Do not use more Permanone 10 than recommended, as this may cause some plant injury. Use this dilution unless other instructions are given.

To protect plants in indoor landscaping, spray directly on insects. In the home, remove infested plants from living areas prior to application. Spray plants in an area not likely to be occupied by children or pets (particularly fish). When leaves dry, plants can be returned to original location. Use with care on ferns, palms and fuchsia. As with all plants, especially carnations, chrysanthemums and roses, there exist a wide variety of species and cultivars and therefore, a wide variety of susceptibility to injury. To ascertain possible phytotoxicity, spray a few plants as described above, wait 24 hours, and check for possible injury. Repeat applications may be necessary to control *citrus black flies* on non-bearing citrus and adult *Japanese beetles* on roses.

Plants	Insects
Ageratum, Arizona cypress, aster, azalea, begonia, coleus, common ninebark, connon snowberry, elm, exacum euonymous, English ivy, gladiolus, gold bells, hypoestes, ivy, lilac, marigold, mock orange, nannyberry, orchid, palm pansy, pea shrub, petunia, philodendron, poinsettia, rhododendron, rose, snapdragon, taxus, wax plants, weeping fig, zinnia	Aphids, bagworms, cicadas, corn earworms, fall cankerworms, inchworms, leafminers, leafrollers, mealybugs, spider mites, exposed thrips, whiteflies
Chrysanthemums	Armyworms, cabbageworms, cutworms, leafrollers
Velvet plants	Fungus gnats

OUTDOOR USE:**HOSE-END SPRAYER USE DIRECTIONS:**

Mixing Instructions: Fill sprayer bottle halfway with water, then add 4 ounces of Permanone 10 to spray bottle. Add water to fill bottle. Shake well. Attach to hose and follow these simple instructions.

1. Make sure the hose-end sprayer is firmly connected to the hose.
2. Make sure the sprayer is in the OFF position. Turn water supply on at the faucet. For best results, turn hose faucet to maximum. Water pressure will build in the hose.
3. To apply product, turn the control valve to the ON position. Water and product are now being mixed at the proper rate.

LAWNS: TO CONTROL *Ants, Armyworms, Chiggers, Chinch Bugs, Crickets, Cutworms, Fleas, Grasshoppers, Mosquitoes, Sod Webworms, Sowbugs and Ticks*, spray when pests first appear. For *Sod Webworms*, delay watering or mowing the treated area for 12 to 24 hours after treatment.

Spray grass starting at the edge of the lawn furthest from the faucet. Walk backwards away from spray mist toward faucet. This avoids contact of shoes and hose with treated grass. Always point sprayer away from body. Use when wind is calm to avoid splash back. Do not spray on a windy day. Sweep sprayer left and right to ensure an even coverage. Apply entire contents evenly over 1000 square feet of lawn.

To stop spraying, turn the control valve to the OFF position. Turn off water at the faucet. To relieve water pressure in hose, turn control valve to the ON position before removing from the garden hose.

ALLOW SPRAY TO THOROUGHLY DRY ON LAWN BEFORE PERMITTING ANIMALS OR CHILDREN TO ENTER TREATED AREA.

WHEN/WHERE TO SPRAY: To avoid drift, spray on calm days. DO NOT spray near fish ponds, streams or rivers as this product is toxic to aquatic life. DO NOT spray plants in the middle of the day in hot summer weather (i.e. above 85°F) as spray may burn the plants. For best results, spray when insects or damage are first observed.

Ornamentals and Hedges: To Control *Aphids, Bagworms, Eastern Tent Caterpillar, Fall Webworms, Grasshoppers, Mites, Mosquitoes, Orange Striped Oakworm, Spittle Bugs, Whiteflies, Yellownecked Caterpillar, Cutworms, Leafhoppers, Mealybugs, Mimosa Webworms, Redhumped Caterpillar and Thrips (Exposed)*: Apply spray thoroughly to all parts of hedges and bushes. Be sure to cover trunks, branches, inside and outside leaves. When spraying leaves, be sure to spray both upper and lower surfaces. Spray to penetrate dense foliage but avoid over spraying to the point of excessive runoff. To prevent being hit by spray, do not apply to overhead areas. Treat when pests appear and repeat at 7 to 10 day intervals, if needed.

PERIMETER: Spray surfaces of barns, dairies, poultry houses, swine and livestock housing and feedlots to control *Houseflies, Stable Flies* and other manure breeding flies. Also aids in control of *Cockroaches, Ants, Spiders, Mosquitoes, Crickets* and *Face Flies*. Walk and spray at a steady pace. Spray walls and surfaces thoroughly but do not allow runoff to occur. Do not contaminate animal feed or water by spray.

FOR TEMPORARY REDUCTION OF ANNOYANCE FROM *Flies, Gnats* and *Mosquitoes*. In drive-in restaurants, drive-in theaters, golf courses, urban areas, parks, playgrounds and other recreational areas, dilute 1 part concentrate in 39 parts water (3.2 fluid ounces per gallon) (0.25%). Direct the spray into tall grass, shrubbery and around lawns, where these pests may hover or rest. Apply while the air is still and avoid wetting foliage. Application should be made prior to occupancy.

Termites and Carpenter Ants: Apply directly to insects and infested wood. THIS APPLICATION WILL NOT PROVIDE STRUCTURAL PROTECTION. The purpose of this application is to kill workers or winged forms present at the time of application. Not recommended as sole protection against termites. For active infestations, get a professional inspection. Such applications are not a substitute for mechanical alteration, soil treatment or foundation treatment but are merely a supplement. For an active termite infestation get a professional inspection.

IN THE TREATMENT OF CORRALS, FEEDLOTS, SWINE LOTS AND ZOOS: Cover any exposed water, drinking fountains and animal feed before applications. Fill the area with mist and direct the spray into tall grass, shrubbery and around lawns where the above pests may hover or rest. Apply while the air is still and avoid wetting foliage. In zoos, prevent exposure of reptiles to the product.

ORNAMENTAL PLANTS: To protect ornamental plants including trees, shrubs, flowers, evergreens, foliage plants and ground covers, use as a contact and residual spray. Spray at the first sign of insects. Apply in the late afternoon or evening when the temperature ranges from 50°F to 80°F and when there is little or no wind. Spray at 4 to 8 day intervals if insect activity continues. Wet the plants thoroughly, but avoid runoff or dripping. Try to hit underside of leaves. Do not use more product than recommended as this may cause some plant injury.

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Plants	Insects
Ageratum, Arizona cypress, aster, azalea, begonia, coleus, common ninebark, common snowberry, elm, exacum euonymous, English ivy, gladiolus, gold bells, hypoestes, ivy, lilac, marigold, mock orange, nannyberry, orchid, palm pansy, pea shrub, petunia, philodendron, poinsettia, rhododendron, rose, snapdragon, taxus, wax plants, weeping fig, zinnia	Aphids, bagworms, cicadas, corn earworms, fall cankerworms, inchworms, leafminers, leafrollers, mealybugs, spider mites, exposed thrips, whiteflies

ORNAMENTAL TREES - Use sufficient spray to obtain full coverage of all foliage. Avoid heavy wetting.

Plants	Insects
Birch	leafminers
Cherry & honeysuckle	fall webworms
Conifers	budworms
Douglas and Grand firs	tussock moths
Elm	elm leaf beetle, elm spanworms, fall webworms
Non-bearing citrus	citrus black flies
Oak	oakworms
Pine	pine moths, pine needle miners, pine beetles, needle scales
Tulip poplar	aphids

NUISANCE PESTS IN OUTDOOR AREAS:

For severe infestation, dilute 1 part concentrate in 19 parts water (6.4 oz per gallon of water) (0.5%) and treat 400 linear feet with a 6-inch spray band. For normal infestations, dilute 1 part concentrate in 39 parts water (3.2 oz per gallon) (0.25%).

Insects	Directions
Ants, crickets, earwigs, fleas, ticks	For localized infestations of these insects in areas where there are weeds or bushy non-crop areas, spray infested areas thoroughly. For ants, thoroughly wet hills and runways.
Tent Caterpillars	Apply when caterpillars are young and tents are first noticed. For best results, apply in the late afternoon or evening, when caterpillars have returned to their tents. Wet tents on all sides. A few caterpillars may be seen escaping from the tent, however, they should die within several hours.
Outside Surfaces of Buildings: Ants, clover mites, crickets, earwigs, millipedes, sowbugs (pillbugs)	To help prevent infestation of buildings, treat the building foundation to a height of 2 to 3 feet where pests are active and may find entrance. Also, apply as a residual spray to outside surfaces of buildings, patios, garages and other areas where these pests may be found.
Flies (cluster, house), gnats, flying moths, mosquitoes	As an aid in reducing annoyance from these insects, spray outside surfaces of screens, doors, window frames or wherever these insects may enter the home. Also treat surfaces around light fixtures on porches, in garages and other places where these insects alight.

LAWNS:

Use on Bent, Bermuda, Bluegrass, Dichondra, Fescue, Irish Moss, Merion and St. Augustine lawns.

Insects	Directions
Armyworms, ticks, cutworms, chinch bugs, fleas, sod webworms	Thoroughly wet down grass a few hours before applying. Home lawns should be no taller than 3 inches at time of application. Mix 3.2 fl. oz. per gallon of water and treat 1,000 sq. ft. Slightly more water may be used as long as the amount of product per area is the same. Delay watering or mowing for 24 hours after treatment. For heavy infestations, repeat application after 2 weeks.
Japanese beetle grubs, mole crickets	Lawns should be no taller than 3 inches at the time of application. Mix 1.28 fl. oz. per gallon of water and treat 1,000 sq. ft. Slightly more water may be used as long as the amount of product per area is the same. Irrigate with ¼ inch of water immediately after application. For heavy infestations, repeat application after 2 weeks.
Ants, crickets, grasshoppers	Thoroughly wet down grass a few hours before applying. Home lawns should be no taller than 3 inches at time of application. Mix 1.28 fl. oz. per gallon of

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	water and treat 1,000 sq. ft. Slightly more water may be used as long as the amount of product per area is the same. For heavy infestations, repeat application after 2 weeks.
Fire Ants	Mix 6.4 fl. oz. in 1 gallon of water. Apply at the rate of one gallon per mound as a gentle rain from a typical garden sprinkling can. Thoroughly wet the mound and surrounding area to a diameter of 4 feet. For best results, apply in cool weather, 65° to 80° F, or in early morning or late evening hours. Treat new mounds as they appear. Do not disturb the mound prior to treatment. Treat all mounds in the vicinity and treat all colonies which have not yet constructed mounds. Do not use equipment that produces a pressurized spray since this will disturb fire ants and cause migration, reducing product effectiveness.

TREES & SHRUBS:

Mix 1 fl. oz. in 3 gallons of water. Spray at the first sign of insects. Wet leaves and branches to the point of dripping. Try to penetrate dense foliage. Treat in late afternoon or evening when temperatures range from 50° - 75°F and when there is little or no wind. Repeat every 4 to 8 days if needed. Application can be made up to the day of collection.

Plants	Insects
Arizona cypress, azalea, birch, ornamental cherry, non-bearing citrus, conifers, elm, English ivy, euonymus, weeping fig, fir, honeysuckle, lilac, mock-orange, oak, palm, philodendron, pine, poinsettia, tulip, poplar, rhododendron, taxus	Aphids, bagworms, cicadas, fall cankerworms, fall webworms, inchworms, leafminers, leafrollers, mealybugs, spider mites, thrips (exposed), whiteflies
Conifer	Budworms
Elm	Elm leaf beetles, elm spanworms, fall webworms
Douglas and grand fir	Tussock moths
Non-bearing citrus	Citrus black flies
Oak	Oakworms
Pine	Pine beetles, pine moths, pine needleminers, needle scales

ROSES & FLOWERS:

Mix 1 fl. oz. in 3 gallons of water. Spray at the first sign of insects. Wet the plants to the point of dripping. Try to hit underside of leaves and penetrate dense foliage. Treat in late afternoon or evening when the temperature ranges from 50° - 75° F and when there is little or no wind. Repeat every 4 to 8 days as needed. Application can be made up to the day of collection.

Plants	Insects
Ageratum, aster, azalea, begonia, coleus, common ninebark and snowberry, exacum, gladiolus, gold bells, hypoestes, ivy, lilac, marigold, mock-orange, nannyberry, orchid, pansy, pea shrub, petunia, poinsettia, rhododendron, rose, snapdragon, zinnia	Aphids, bagworms, cicadas, cankerworms (fall), inchworms, leafminers, leafrollers, mealybugs, spider mites, thrips (exposed), webworms (fall), whiteflies

TREATMENT OF ANIMALS AND ANIMAL QUARTERS:**PESTS ON LARGE ANIMALS (Dairy or Beef Cattle, Horses, Sheep and Goats)**

PESTS	DILUTIONS (mix well)	HOW TO APPLY
Horn Flies, Face Flies, Stable Flies, Mosquitoes, Lice, Mites, Ticks (including Deer Tick which may carry Lyme disease)	For severe infestations, dilute 1.28 oz per gallon of water (1 part concentrate to 100 parts water). For normal infestations, dilute 0.64 oz per gallon of water (1 part concentrate to 200 parts water).	Spray thoroughly to cover the entire animal. For Lice or Mites, a second treatment is recommended in 14-21 days. Spray lactating dairy cows only after milking is completed.
Horn Flies, Face Flies, Stable Flies, Ear Ticks	Dilute 2 oz per gallon of water.	Spot Treatment - Low Pressure Spray - Apply 1/2 oz per ear or 1-4 oz on face or 12-16 oz along the backline.
Horn Flies, Face Flies, Horseflies, Ear Ticks	Dilute 8 oz in 5 gal oil.	Backrubber - Keep backrubber charged. Results can be improved

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		by forced use.
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PESTS ON FARM PREMISES

(Barns, Dairies, Loafing Sheds, Milking Parlors, Feedlots, Stables, Paddocks, Poultry & Livestock Housing)

PESTS	DILUTIONS (mix well)	HOW TO APPLY
Horseflies, Stable Flies, Lesser Houseflies and other manure breeding flies, Fleas, Lice, Mites, Ticks (including Deer Tick which may carry Lyme disease). Aids in control of Cockroaches, Mosquitoes and Spiders	Dilute 3.2 oz per gallon of water.	Spray walls and surfaces to the point of runoff, about 1 gallon per 750-1000 sq. ft. Treat no more often than once every 2 weeks. Do not contaminate animal's feed or water by spray. Do not use in milk rooms.

PESTS IN CATTLE BARN, HORSE BARN, SWINE HOUSES, KENNELS, MILKING PARLORS, MILK ROOMS, DAIRIES, POULTRY HOUSES, FEEDLOTS, STABLES AND PADDOCKS

PESTS	DILUTIONS (mix well)	HOW TO APPLY
Flies, Mosquitoes and Gnats	For initial clean out of severe insect infestation, dilute at a rate of 6.4 oz per gallon of water (1 part concentrate to 19 parts water) (0.50%). For normal infestations, dilute at a rate of 3.2 oz per gallon of water (1 part concentrate to 39 parts water) (0.25%).	FINE MIST - Apply directing the spray toward the ceiling and upper corners until the area is filled with mist. Use about 1 ounce per 1,000 cubic feet of space. For best results, close doors and windows before spraying and keep closed for ten to fifteen minutes. Vacate the treated area and ventilate before reoccupying.

PESTS ON SWINE AND POULTRY (Do not ship swine for slaughter within 5 days of last treatment)

PESTS	DILUTIONS (mix well)	HOW TO APPLY
Mange Mites	Dilute 1.28 oz per gallon of water (1 part concentrate to 100 parts water) (0.10%)	Spray, dip or sponge animals. Retreat after 14 days, spraying walls and floor space and bedding to kill late hatching, developing stages.
Blowflies, Flies, Mosquitoes, Hog Lice, Fleas, Ticks (including Deer Tick which may carry Lyme disease)	Dilute 1.28 oz per gallon of water (1 part concentrate to 100 parts water) (0.10%)	Spray, dip or sponge to apply 1 pint per pig, especially around ears.
Poultry Mites, Northern Fowl Mites and Lice	Dilute 1.28 oz per gallon of water (1 part concentrate to 100 parts water) (0.10%)	Spray at the rate of 1 gal per 100 birds, with a fine mist. Spray roosts, walls and nests or cages.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a cool, dry place away from heat or open flame. Avoid extremes in temperature.

Pesticide Disposal: Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.

[Household products]

Container Disposal: Non-refillable container. Do not reuse or refill this container.

[Professional Products]

Container Disposal: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

[containers 5 gallons or under]

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with solvent used to dilute the product for use and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

[containers over 5 gallons or 50 lbs]

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with solvent used to dilute the product for use. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn 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 for later use or disposal. Repeat this procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following conditions, disclaimer of warranties and limitations of liability.

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02-0451/R2

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