

73049-334

2/8/2012

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

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

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

FEB 8 2012

**Subject: Amended Reregistration Label Permanone® Insect Killer R4  
D413903  
EPA Registration No. 73049-334**

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 Any previously dated CSF's are superseded.

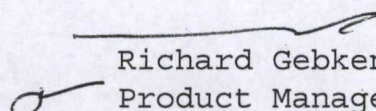
- Basic CSF, dated: March 16, 2010

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).

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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,

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

Enclosures: Label stamped Accepted dated: February 8, 2012

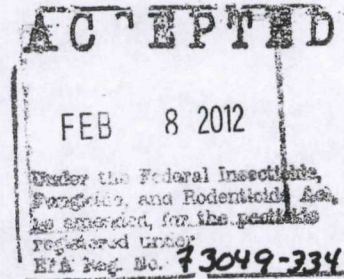
# PERMANONE®

## INSECT KILLER R4

- *[Intended for Commercial/Industrial Use*
- **FOR DOMESTIC USE BOTH INDOORS AND OUTDOORS**
- **FOR LIVESTOCK AND PREMISE USE**
- **READY-TO-USE FOR CONTROL OF HOUSEHOLD PESTS**
- **DILUTE FOR USE ON VEGETABLES AND FRUIT AND NUT TREES**
- **FOR CONTROL OF FLEAS, BROWN DOG TICKS AND LICE ON PREMISES AND ON DOGS**
- **CONTROLS FLEAS AND TICKS ON DOGS FOR 14 DAYS**
- **FOR CONTROL OF PESTS ON LIVESTOCK**
- **WITH COUNTRY FRESH FRAGRANCE**
- **PROVIDES 60-DAY (TWO MONTHS) CONTROL OF COCKROACHES**
- **PROVIDES 60-DAY (TWO MONTHS) CONTROL OF FLEAS**
- **PROVIDES 60-DAY (TWO MONTHS) CONTROL OF STORED PRODUCT PESTS**
- **FOR HOUSEHOLD AND DOMESTIC USE ONLY**
- **READY TO USE**
- **WATER-BASED**
- **ORNAMENTAL AND HEDGE TREATMENT**
- **OUTDOOR PEST CONTROL PRODUCT**
- **CONTROLS NUMEROUS PESTS OF ORNAMENTAL PLANTS**
- **CONTROL OF TICKS**
- **CONTAINS PERMANONE**
- **KILLS ON CONTACT**
- **FOR CONTROL OF ANTS**
- **FOR CONTROL OF GYPSY MOTHS**
- **KILLS FLEAS AND TICKS]**

**ACTIVE INGREDIENT:**

Permethrin .....	0.25%
<b>OTHER INGREDIENTS:</b> .....	99.75%
	100.00%



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

**PRECAUCION AL CONSUMIDOR:** Si usted no lee Ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

**(TO THE USER:** If you cannot read English, do not use this product until the label has been fully explained to you.)

EPA REG. NO. 73049-334

EPA EST. NO.

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**  
**See Side Panel For Additional Precautions.**

NET CONTENTS:

For additional information on this product (including health concerns, medical emergencies or pesticide incidents), you may call 1-877-315-9819. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

**READ ENTIRE LABEL BEFORE EACH USE**

**PET USE APPLIES TO USE ONLY ON DOGS**

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

**CAUTION**

Remove and wash contaminated clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

All mixers, loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves made of any waterproof material

**User Safety Requirements:**

- Follow manufacturer's instructions for cleaning/maintaining PPE. If there are no such instructions 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 the product's concentrate. Do not reuse them.

**User Safety Recommendations:**

- User should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- User 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.

*[Products used exclusively indoors may omit the Environmental Hazards Statement.]*

**[Environmental Hazards**

This product is extremely toxic to aquatic organisms, 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.]

**DIRECTIONS FOR USE**

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

**Use Restrictions**

- [Except when applying to [livestock,] [pets,] [or clothing] Do not remain in treated area. Exit area immediately and do not re-enter or allow adults, children, or pets to enter until vapors and/or mist have dispersed, and the treated area has been thoroughly ventilated and sprays have dried.
- [Except when applying [livestock,] [pets,] [or clothing] do not apply this product in a way that will contact [workers or] other persons, either directly or through drift.
- [Except when applying to [livestock,] [pets,] [or clothing] only protected handlers may be in the area during applications.
- Do not breathe vapors or spray mist.
- Not for broadcast use.
- Do not apply as a broadcast or spot-treatment of indoor surfaces at residential sites, including nurseries, daycare centers, schools, hospitals, and nursing homes.
- Not for use in outdoor residential misting systems.
- Do not wet plants to point of runoff or drip.
- In the home, all food processing surfaces and utensils should be covered during treatment or thoroughly washed before use.
- Remove or cover exposed food and drinking water before application.
- [Except when applying directly to pets,] 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.
- Do not contaminate animal feed or water during application.
- Do not use on electrical equipment or on surfaces that can be harmed or stained by water.
- 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.
- [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.]
- [Alternate text – outdoor application:
  - 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
    - 3) Application to building foundations, up to a maximum height of 3 feet
  - Other than application 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.
  - Do not water the treated area to the point of run-off.
  - Do not make applications during rain.]

SHAKE WELL BEFORE USING

**INDOOR APPLICATION**

HOUSEHOLD PESTS: For spot application only. Do not use as a space spray indoors.

Ready to use. Affix trigger, pump or other type sprayer to container for application. Do not transfer to another container.

SURFACE SPRAYING: FOR UP TO 60-DAY (TWO MONTHS) CONTROL OF: *Cockroaches, Waterbugs, Palmetto Bugs, Scorpions, Millipedes, Centipedes, Sowbugs, Pillbugs, Ants, Silverfish, Firebrats, Spiders, Crickets, Clover Mites, Cheese Mites, Granary Weevils, Rice Weevils, Confused Flour Beetles, Rust Red Flour Beetles, Drugstore Beetles, Meal Worms, Grain Mites and Cadelles*: Direct the spray into hiding places, cracks and crevices, and behind shelves and drawers. For *Silverfish*, spray bookcases. For *Ants*, spray trails, nests and points of entry.

TO CONTROL *Carpet Beetles*: Spray edges of carpeting and under carpeting and rugs. Make localized application to floor and baseboards. Spray directly into cracks, crevices and infested areas of shelving.

TO CONTROL **Bedbugs**: Spray mattresses lightly, particularly around tufts and seams. Take beds apart and spray in all joints. Treat baseboards, moldings and floors.

TO CONTROL **Fleas (Adults and Larvae) and Ticks (Adults and Larvae)**: Thoroughly spray infested areas, pet beds, resting quarters, nearby cracks and crevices, along and behind baseboards, moldings, window and door frames, and entire areas of floor and floor covering. Place fresh bedding in animal quarters following treatment. Allow to dry thoroughly before allowing pets to contact treated areas.

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.

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 particles to dry thoroughly before use.

#### LIVESTOCK PESTS

Ready to use. Affix trigger, pump or other type sprayer to container for application. Do not transfer to another container.

#### FOR DIRECT APPLICATION TO LIVESTOCK:

To protect cattle (beef and dairy), goats, sheep, hogs and horses from **Horn Flies, Face Flies, Houseflies, Mosquitoes** and **Gnats**: Apply a light mist sufficient to wet the surface of the hair. For **face flies**, spray face and head, but do not spray into eyes.

TO CONTROL **Stable Flies, Horse Flies and Deer Flies**: Apply at a rate of 2 ounces per adult animal, sufficient to wet the hair thoroughly. Repeat treatment daily or at intervals necessary to give continued protection.

TO CONTROL **Blood-sucking Lice**: Apply to the infested areas of the animal, using a stiff brush to get the spray to the base of the hair. Repeat every 3 weeks if required.

TO CONTROL POULTRY LICE: Spray roosts, walls and nests or cages thoroughly. This should be followed by spraying over the birds with a fine mist.

TO CONTROL **Bedbugs and Mites** IN POULTRY HOUSES: Spray crevices of roost poles, cracks in walls, and cracks in nests where the bedbugs and mites hide.

#### FOR DIRECT APPLICATION TO DOGS (OVER 12 WEEKS OF AGE):

##### TO CONTROL **Fleas, Ticks, and Lice**:

Ready to use. Affix trigger, pump or other type sprayer to container for application. Do not transfer to another container. Spray at a distance of 8-12 inches. Starting at the tail, spray over entire hair coat while moving the dispenser rapidly; making sure the coat is thoroughly wetted to the skin. While spraying, fluff the hair so the spray will penetrate to the skin. Make sure spray wets ticks thoroughly. Spray against the lay of the hair, roughing the hair on long-haired dogs. Do not spray into the eyes, face or genitalia. For best results in killing ticks, spray directly on the tick. Allow dog to air dry or blow dry. Do not towel dry. Do not reapply more than once every 14 days.

Use protective gloves or mitts when applying product.

DO NOT USE ON CATS OR KITTENS. Do not apply to dogs 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.

**OUTDOOR APPLICATION**

TO HELP CONTROL *Ticks* IN OUTDOOR ACTIVITY AREAS: Ready to use. Affix trigger, pump or other type sprayer to container for application. Do not transfer to another container. Treat a band of vegetation and leaf litter 6-10 feet wide and adjacent to activity areas, especially where dense vegetation occurs.

PESTS ON THE OUTDOOR SURFACE OF BUILDINGS: To temporarily control *Houseflies, Mosquitoes, Cluster Flies, Gnats* and *Flying Moths*. For outdoor use only as an aid in reducing annoyance from these insects.

Dilute before using. Use clean sprayer. Carefully measure and mix 1 fluid ounce of PERMANONE and 12 fluid ounces of water. Using dilute mixture, spray pests on 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 these insects alight or congregate. Flush sprayer with clean water after each use.

**ORNAMENTAL FLOWER GARDENS**

Ready to use. Affix trigger, pump or other type of sprayer to container for application. Do not transfer to another container.

For use on roses, dahlias, asters and other ornamentals to kill *Japanese Beetles* hit by spray as well as *Whiteflies, Aphids, Exposed Thrips, Spiders, Red Mites* and *Leafminers*. May be used on plants as a multipurpose spray in small gardens and for spot treatments of incipient insect infestations to prevent spreading in large garden areas.

May also be used on other plants such as African violets, asters, azaleas, begonias, camellias, carnations, chrysanthemums, dahlias, delphiniums, dogwoods, English ivy, eunonymus, fuschia, geraniums, crassula, grape vines, Kentia palms, laurels, marigolds, rhododendrons, roses, rubber plants, snapdragons, stocks, wandering Jews and zinnias.

Effective when used as directed against *Whiteflies, Aphids, Spider and Red Mites, exposed Thrips, Lace Bugs, Japanese Beetles, Pavement Ants, Clover Mites* and *Armyworms*.

When spraying plants, do not operate closer than 18 inches. Use sweeping motion. Be cautious about wetting tender foliage, young plants and new growth. Do not spray plants when temperatures exceed 90°F. Contact insects directly whenever possible. Repeat treatment as infestations occur.

ORNAMENTAL TREES AROUND THE HOME: Dilute before using. Use clean sprayer. Carefully measure and mix 1 fluid ounce of PERMANONE and 12 fluid ounces of water. Using dilute mixture, use sufficient spray to obtain full coverage of all foliage. Avoid heavy wetting. Use to control: *Pine Moths, Pine Needle Miners, Pine Beetles* and *Needle Scales* on pine; *Budworms* on conifers; *Oakworms* on oak; *Fall Webworms* on cherry, elm and honeysuckle; *Aphids* on tulip poplar; *Citrus black flies* on non-bearing citrus; *Tussock Moths* on Douglas and grand firs; *Leafminers* on birch; *Elm Leaf Beetles* and *Elm Spanworms* on elms. Flush sprayer with clean water after each use.

FOR HOME VEGETABLE GARDENS: Dilute before using. Use clean sprayer. Carefully measure and mix 1 fluid ounce of PERMANONE and 12 fluid ounces of water. Spray upper and lower leaf surface as directed. Use sufficient spray to obtain full coverage of all foliage, but do not spray to the point of runoff. Apply no more than 13 ounces of dilute mixture over 100 linear feet of row (13 ounces of diluted mixture per 100 square feet) Flush sprayer with clean water after each use.

VEGETABLE	TARGET PESTS	REMARKS
Asparagus (pre-harvest)	Cutworms, asparagus beetle	Apply to plants as needed to ensure uniform coverage. Do not make more than 4 applications per season. Can be applied up to 3 days prior to harvest.
Asparagus (post-harvest)	larval stages of asparagus beetle, tarnished plant bug, lygus bugs and adult Japanese beetles	Treat fern or bush growth after spear harvest when insects are present.
Celery - see leafy vegetables		

Cole Crops: Broccoli, Brussels Sprouts, Cabbage, Cauliflower	beet armyworm, diamond back moth, imported cabbageworm, cabbage aphid, cabbage looper	Apply every 5 days or as needed. Can be applied up to one day prior to harvest. Do not make more than 10 applications on cabbage and 8 applications on the other cole crops per season.
Corn – see sweet corn		
Cucurbits: Balsam pear (bitter melon), Chinese Waxgourd (Chinese preserving melon), Citrus melon, cucumber, Gherkin, Edible gourds, Melons including hybrids such as cantaloupe, casaba, crenshaw, honeydew, honey balls, mango melon, muskmelon, and Persian melon, pumpkin, summer & winter squash, watermelon	aphids, cabbage looper, cucumber beetle (adults), cutworms, leafhoppers, leafminers, melonworm, pickleworm, plant bugs, squash bugs	Apply to plants as needed to ensure uniform coverage. Do not make more than 8 applications per crop per season. Can be applied up to the day of harvest.
Eggplant	Colorado potato beetle, vegetable leaf miner	Apply to plants as needed to ensure uniform coverage. Do not make more than 16 applications per season. Can be applied up to 3 days prior to harvest.
Horseradish	imported crucifer weevil	Apply as needed. Do not make more than 3 foliar applications per season. Can be applied up to 22 days prior to harvest.
Leafy Vegetables: amaranth, arrugula, celery, celtuce, chervil, corn salad, Chrysanthemum (edible-leaved and garland), cress (garden and upland), dandelion, dick, endive, fennel, lettuce (head and leaf), orach, parsley, purslane (garden and winter), rhubarb, spinach, Swiss chard	alfalfa looper, aphids, beet armyworm, cabbage looper, corn earworm, cutworms, European corn borer, fall army worm, green cloverworm, southern armyworm, tobacco budworm, vegetable leaf miner	Apply every 5 to 10 days as needed. Do not make more than 7 applications per crop per season. Can be applied up to 1 day prior to harvest.
Melons - see Cucurbits		
Potatoes	beet armyworm, Colorado potato beetle, potato leafhopper, potato aphid, potato tuberworm, cabbage looper, cutworms, European corn borer, potato psyllid, tarnished plant bug	Apply to plants as needed. Do not make more than 12 applications per season. Can be applied up to 7 days prior to harvest.
Peppers	vegetable leafminer, cabbage looper, flea beetle, corn earworm, pepper weevil, European corn borer	Apply to plants as needed. Do not make more than 8 applications per season. Can be applied up to 3 days prior to harvest.
Sweet Corn	corn earworms, European corn borers, fall armyworms, southern armyworms	Apply to plants every 5 days or as needed. Do not make more than 6 applications per season. Can be applied up to 1 day prior to harvest.
Tomatoes (Do not apply on cherry tomatoes and varieties yielding tomatoes less than one	beet and southern armyworms, tomato pinworms, tomato fruitworms, horn worms, granulate	Apply to plants when needed for uniform coverage. Do not make more than 6 applications per season.



inch in diameter)	cutworms, Colorado potato beetles, cabbage loopers	Can be applied up to day of harvest.
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HOME OWNER GROWN FRUIT AND NUT TREES: Dilute before using. Use clean sprayer. Carefully measure and mix 1 fluid ounce of PERMANONE and 12 fluid ounces of water. Apply dilute mixture to trees until foliage is dripping wet. Make sure to spray the undersides of leaves and into dense foliage. Flush sprayer with clean water after each use.

Trees (Fruit or Nut)	Target Pest(s)	Remarks
Almonds	navel orange worms, peach twig borers	Apply when insects appear. Do not make more than 2 applications during the period when the outer hull of the almond has started to open. Do not make more than 5 applications per season. Can be applied up to 7 days prior to harvest.
Apples	plum curculio, red-banded leafrollers, rosyapple aphids, spotted tentiform leafminers, tarnished bugs, white apple leafhoppers, oblique-banded leafrollers, green fruitworms	Apply when insects appear. Repeat as required to maintain control. Do not make more than 3 applications per season. Do not apply after petal fall.
Peaches	lesser peachtree borers, peach twig borers, plum curculio, plant bugs, green fruit worms, Oriental fruit moths	Apply when insects appear. Do not apply within 7 days of harvest. Do not make more than 8 applications per season.
Pears	pear psylla, green fruitworms and codling moths	Apply when needed. Do not apply more than 3 applications per season. Can be applied up to 14 days prior to harvest.

#### STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store in original container in a cool, dry area away from children and pets.

**Container Disposal:** *If empty:* Non-refillable container. Do not reuse or refill this container. Place in trash or offer for recycling if available.

*If partly filled:* Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

#### 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.

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Valent BioSciences Corporation. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, VALENT BIOSCIENCES CORPORATION MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Valent BioSciences Corporation is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Valent BioSciences Corporation disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

**LIMITATIONS OF LIABILITY:** TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE

EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT VALENT BIOSCIENCES CORPORATION'S ELECTION, THE REPLACEMENT OF PRODUCT.

[Or alternate text

Note [Notice]: Seller warrants that this product complies with the specifications expressed in this label. To the extent consistent with applicable law, seller makes no other warranties, and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for the intended purpose. To the extent consistent with applicable law, seller's liability or default, breach or failure under this label shall be limited to the amount of the purchase price. To the extent consistent with applicable law, seller shall have no liability for consequential damages.]

[Or alternate text

Notice: To the extent consistent with applicable law, buyer assumes all responsibility for safety and use not in accordance with directions.]

© Valent BioSciences Corporation, 2012  
Permanone is a registered trademark of Bayer AG.

**Valent BioSciences Corporation**  
***Environmental Science Division***  
870 Technology Way  
Libertyville, IL 60048

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**Hazards To Humans & Domestic Animals**

**CAUTION**

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

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- Not for use in outdoor residential misting systems.
- Do not apply as a broadcast to indoor surfaces at residential sites including nurseries, daycare centers, schools, hospitals and nursing homes.
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- Do not use on electrical equipment or on surfaces that can be harmed or stained by water.
- 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.
- [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.]

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- [Alternate text – outdoor application:
  - All outdoor applications must be limited to spot or crack-and-crevice treatments only except for the following permitted uses:
    - 4) Treatment to soil or vegetation around structures
    - 5) Applications to lawns, turf, and other vegetation
    - 6) Application to building foundations, up to a maximum height of 3 feet
  - Other than application 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.
  - Do not water the treated area to the point of run-off.
  - Do not make applications during rain.]

SHAKE WELL BEFORE USING

#### INDOOR APPLICATION

HOUSEHOLD PESTS: For spot application only. Do not use as a space spray indoors.

Ready to use. Affix trigger, pump or other type sprayer to container for application. Do not transfer to another container.

SURFACE SPRAYING: FOR UP TO 60-DAY (TWO MONTHS) CONTROL OF: *Cockroaches, Waterbugs, Palmetto Bugs, Scorpions, Millipedes, Centipedes, Sowbugs, Pillbugs, Ants, Silverfish, Firebrats, Spiders, Crickets, Clover Mites, Cheese Mites, Granary Weevils, Rice Weevils, Confused Flour Beetles, Rust Red Flour Beetles, Drugstore Beetles, Meal Worms, Grain Mites and Cadelles*: Direct the spray into hiding places, cracks and crevices, and behind shelves and drawers. For *Silverfish*, spray bookcases. For *Ants*, spray trails, nests and points of entry.

TO CONTROL *Carpet Beetles*: Spray edges of carpeting and under carpeting and rugs. Make localized application to floor and baseboards. Spray directly into cracks, crevices and infested areas of shelving.

TO CONTROL *Bedbugs*: Spray mattresses lightly, particularly around tufts and seams. Take beds apart and spray in all joints. Treat baseboards, moldings and floors.

TO CONTROL *Fleas (Adults and Larvae) and Ticks (Adults and Larvae)*: Thoroughly spray infested areas, pet beds, resting quarters, nearby cracks and crevices, along and behind baseboards, moldings, window and door frames, and entire areas of floor and floor covering. Place fresh bedding in animal quarters following treatment. Allow to dry thoroughly before allowing pets to contact treated areas.

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.

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 particles to dry thoroughly before use.

#### LIVESTOCK PESTS

Ready to use. Affix trigger, pump or other type sprayer to container for application. Do not transfer to another container.

#### FOR DIRECT APPLICATION TO LIVESTOCK:

To protect cattle (beef and dairy), goats, sheep, hogs and horses from *Horn Flies, Face Flies, Houseflies, Mosquitoes* and *Gnats*: Apply a light mist sufficient to wet the surface of the hair. For *face flies*, spray face and head, but do not spray into eyes.

TO CONTROL *Stable Flies, Horse Flies and Deer Flies*: Apply at a rate of 2 ounces per adult animal, sufficient to wet the hair thoroughly. Repeat treatment daily or at intervals necessary to give continued protection.

TO CONTROL *Blood-sucking Lice*: Apply to the infested areas of the animal, using a stiff brush to get the spray to the base of the hair. Repeat every 3 weeks if required.

TO CONTROL POULTRY LICE: Spray roosts, walls and nests or cages thoroughly. This should be followed by spraying over the birds with a fine mist.

TO CONTROL *Bedbugs and Mites* IN POULTRY HOUSES: Spray crevices of roost poles, cracks in walls, and cracks in nests where the bedbugs and mites hide.

FOR DIRECT APPLICATION TO DOGS (OVER 12 WEEKS OF AGE):

TO CONTROL *Fleas, Ticks, and Lice*:

Ready to use. Affix trigger, pump or other type sprayer to container for application. Do not transfer to another container. Spray at a distance of 8-12 inches. Starting at the tail, spray over entire hair coat while moving the dispenser rapidly; making sure the coat is thoroughly wetted to the skin. While spraying, fluff the hair so the spray will penetrate to the skin. Make sure spray wets ticks thoroughly. Spray against the lay of the hair, roughing the hair on long-haired dogs. Do not spray into the eyes, face or genitalia. For best results in killing ticks, spray directly on the tick. Allow dog to air dry or blow dry. Do not towel dry. Do not reapply more than once every 14 days.

Use protective gloves or mitts when applying product.

DO NOT USE ON CATS OR KITTENS. 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.

#### OUTDOOR APPLICATION

TO HELP CONTROL *Ticks* IN OUTDOOR ACTIVITY AREAS: Ready to use. Affix trigger, pump or other type sprayer to container for application. Do not transfer to another container. Treat a band of vegetation and leaf litter 6-10 feet wide and adjacent to activity areas, especially where dense vegetation occurs.

PESTS ON THE OUTDOOR SURFACE OF BUILDINGS: To temporarily control *Houseflies, Mosquitoes, Cluster Flies, Gnats* and *Flying Moths*. For outdoor use only as an aid in reducing annoyance from these insects.

Dilute before using. Use clean sprayer. Carefully measure and mix 1 fluid ounce of PERMANONE and 12 fluid ounces of water. Using dilute mixture, spray pests on 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 these insects alight or congregate. Flush sprayer with clean water after each use.

#### ORNAMENTAL FLOWER GARDENS

Ready to use. Affix trigger, pump or other type of sprayer to container for application. Do not transfer to another container.

For use on roses, dahlias, asters and other ornamentals to kill *Japanese Beetles* hit by spray as well as *Whiteflies, Aphids, Exposed Thrips, Spiders, Red Mites* and *Leafminers*. May be used on plants as a multipurpose spray in small gardens and for spot treatments of incipient insect infestations to prevent spreading in large garden areas.

May also be used on other plants such as African violets, asters, azaleas, begonias, camellias, carnations, chrysanthemums, dahlias, delphiniums, dogwoods, English ivy, eunonymus, fuschia, geraniums, crassula, grape vines, Kentia palms, laurels, marigolds, rhododendrons, roses, rubber plants, snapdragons, stocks, wandering Jews and zinnias.

Effective when used as directed against *Whiteflies, Aphids, Spider and Red Mites, exposed Thrips, Lace Bugs, Japanese Beetles, Pavement Ants, Clover Mites* and *Armyworms*.

When spraying plants, do not operate closer than 18 inches. Use sweeping motion. Be cautious about wetting tender foliage, young plants and new growth. Do not spray plants when temperatures exceed 90°F. Contact insects directly whenever possible. Repeat treatment as infestations occur.

ORNAMENTAL TREES AROUND THE HOME: Dilute before using. Use clean sprayer. Carefully measure and mix 1 fluid ounce of PERMANONE and 12 fluid ounces of water. Using dilute mixture, use sufficient spray to obtain full coverage of all foliage. Avoid heavy wetting. Use to control: *Pine Moths*, *Pine Needle Miners*, *Pine Beetles* and *Needle Scales* on pine; *Budworms* on conifers; *Oakworms* on oak; *Fall Webworms* on cherry, elm and honeysuckle; *Aphids* on tulip poplar; *Citrus black flies* on non-bearing citrus; *Tussock Moths* on Douglas and grand firs; *Leafminers* on birch; *Elm Leaf Beetles* and *Elm Spanworms* on elms. Flush sprayer with clean water after each use.

FOR HOME VEGETABLE GARDENS: Dilute before using. Use clean sprayer. Carefully measure and mix 1 fluid ounce of PERMANONE and 12 fluid ounces of water. Spray upper and lower leaf surface as directed. Use sufficient spray to obtain full coverage of all foliage, but do not spray to the point of runoff. Apply no more than 13 ounces of dilute mixture over 100 linear feet of row (13 ounces of diluted mixture per 100 square feet) Flush sprayer with clean water after each use.

VEGETABLE	TARGET PESTS	REMARKS
Asparagus (pre-harvest)	Cutworms, asparagus beetle	Apply to plants as needed to ensure uniform coverage. Do not make more than 4 applications per season. Can be applied up to 3 days prior to harvest.
Asparagus (post-harvest)	larval stages of asparagus beetle, tarnished plant bug, lygus bugs and adult Japanese beetles	Treat fern or bush growth after spear harvest when insects are present.
Celery - see leafy vegetables		
Cole Crops: Broccoli, Brussels Sprouts, Cabbage, Cauliflower	beet armyworm, diamond back moth, imported cabbageworm, cabbage aphid, cabbage looper	Apply every 5 days or as needed. Can be applied up to one day prior to harvest. Do not make more than 10 applications on cabbage and 8 applications on the other cole crops per season.
Corn - see sweet corn		
Cucurbits: Balsam pear (bitter melon), Chinese Waxgourd (Chinese preserving melon), Citrus melon, cucumber, Gherkin, Edible gourds, Melons including hybrids such as cantaloupe, casaba, crenshaw, honeydew, honey balls, mango melon, muskmelon, and Persian melon, pumpkin, summer & winter squash, watermelon	aphids, cabbage looper, cucumber beetle (adults), cutworms, leafhoppers, leafminers, melonworm, pickleworm, plant bugs, squash bugs	Apply to plants as needed to ensure uniform coverage. Do not make more than 8 applications per crop per season. Can be applied up to the day of harvest.
Eggplant	Colorado potato beetle, vegetable leaf miner	Apply to plants as needed to ensure uniform coverage. Do not make more than 16 applications per season. Can be applied up to 3 days prior to harvest.
Horseradish	imported crucifer weevil	Apply as needed. Do not make more than 3 foliar applications per season. Can be applied up to 22 days prior to harvest.
Leafy Vegetables:	alfalfa looper, aphids, beet	Apply every 5 to 10 days as needed.

amaranth, arrugula, celery, celtuce, chervil, corn salad, Chrysanthemum (edible-leaved and garland), cress (garden and upland), dandelion, dick, endive, fennel, lettuce (head and leaf), orach, parsley, purslane (garden and winter), rhubarb, spinach, Swiss chard	armyworm, cabbage looper, corn earworm, cutworms, European corn borer, fall army worm, green cloverworm, southern armyworm, tobacco budworm, vegetable leaf miner	Do not make more than 7 applications per crop per season. Can be applied up to 1 day prior to harvest.
Melons - see Cucurbits		
Potatoes	beet armyworm, Colorado potato beetle, potato leafhopper, potato aphid, potato tuberworm, cabbage looper, cutworms, European corn borer, potato psyllid, tarnished plant bug	Apply to plants as needed. Do not make more than 12 applications per season. Can be applied up to 7 days prior to harvest.
Peppers	vegetable leafminer, cabbage looper, flea beetle, corn earworm, pepper weevil, European corn borer	Apply to plants as needed. Do not make more than 8 applications per season. Can be applied up to 3 days prior to harvest.
Sweet Corn	corn earworms, European corn borers, fall armyworms, southern armyworms	Apply to plants every 5 days or as needed. Do not make more than 6 applications per season. Can be applied up to 1 day prior to harvest.
Tomatoes (Do not apply on cherry tomatoes and varieties yielding tomatoes less than one inch in diameter)	beet and southern armyworms, tomato pinworms, tomato fruitworms, horn worms, granulate cutworms, Colorado potato beetles, cabbage loopers	Apply to plants when needed for uniform coverage. Do not make more than 6 applications per season. Can be applied up to day of harvest.

HOME OWNER GROWN FRUIT AND NUT TREES: Dilute before using. Use clean sprayer. Carefully measure and mix 1 fluid ounce of PERMANONE and 12 fluid ounces of water. Apply dilute mixture to trees until foliage is dripping wet. Make sure to spray the undersides of leaves and into dense foliage. Flush sprayer with clean water after each use.

Trees (Fruit or Nut)	Target Pest(s)	Remarks
Almonds	navel orange worms, peach twig borers	Apply when insects appear. Do not make more than 2 applications during the period when the outer hull of the almond has started to open. Do not make more than 5 applications per season. Can be applied up to 7 days prior to harvest.
Apples	plum curculio, red-banded leafrollers, rosyapple aphids, spotted tentiform leafminers, tarnished bugs, white apple leafhoppers, oblique-banded leafrollers, green fruitworms	Apply when insects appear. Repeat as required to maintain control. Do not make more than 3 applications per season. Do not apply after petal fall.
Peaches	lesser peachtree borers, peach twig borers, plum curculio, plant bugs, green fruit worms, Oriental fruit moths	Apply when insects appear. Do not apply within 7 days of harvest. Do not make more than 8 applications per season.
Pears	pear psylla, green fruitworms and codling moths	Apply when needed. Do not apply more than 3 applications per season. Can be applied up to 14 days prior to harvest.



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**STORAGE AND DISPOSAL**

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

**Pesticide Storage:** Store in original container in a cool, dry area away from children and pets.

**Container Disposal:** *If empty:* Non-refillable container. Do not reuse or refill this container. Place in trash or offer for recycling if available.

*If partly filled:* Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

**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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