

PermaSease™ 4-4

For use as a spray by air and ground application to control adult mosquitoes, biting and non-biting midges, gnats, and black flies.

For use by federal, state, tribal, or local governmental officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

A synergized permethrin formulation that provides quick knockdown and effective control of mosquitoes, black flies, gnats, biting and non-biting midges, as well as other biting flies in residential, recreational, urban, rural, and agricultural areas where mosquitoes and flies are found.

- ULV application provides excellent control at rates from 0.001 up to 0.007 pounds permethrin per acre.
- May be applied undiluted or diluted.

ACTIVE INGREDIENTS:

Permethrin: (3-phenoxyphenyl) methyl (+/-) Cis/trans 3-(2,2-dichloroethenyl)	
2,2-Dimethyl-cyclopropanecarboxylate:	4.6%
Piperonyl Butoxide*:	4.6%
OTHER INGREDIENTS**:	90.8%
TOTAL:	100.0%

*(butylcarbityl)(6-propylpiperonyl) ether and related compounds

**Contains a Petroleum Distillate Solvent

Contains 0.3344 lb. A.I. Permethrin and 0.3344 lb. A.I. Piperonyl Butoxide per gallon

KEEP OUT OF REACH OF CHILDREN CAUTION

See Inside Attached Booklet for Additional Precautionary Statements.

PRECAUCION AL USUARIO: Si usted no lee inglés, no use este producto hasta que la etiqueta haya sido explicado ampliamente.

(To the User: If you cannot read English, do not use this product until the label has been fully explained to you.)

FIRST AID

IF SWALLOWED:	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. 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 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 ON SKIN OR CLOTHING:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
IF INHALED:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact SafetyCall® International (866) 897-8050 for emergency medical treatment information.

Note to Physician: Contains petroleum distillate-vomiting may cause aspiration hazard.



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ADAPCO
Preserving Public Health

Distributed by:
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Sanford, FL 32771

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION: Harmful if swallowed, inhaled, or absorbed through the skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Remove contaminated clothing and wash clothing before reuse.

Environmental Hazards

This pesticide is extremely toxic to aquatic organisms, including fish and aquatic invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates.

Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist.

Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes, or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

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 actively visiting the area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

Physical and Chemical Hazards

Do not use, pour, spill, or store near heat or open flame.

DIRECTIONS FOR USE

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

While using or handling this product wear long sleeved shirt and long pants, socks, and shoes.

Conditions and Rates to Use for Mosquito Control

PermaSease™ 4-4 is recommended for application as an Ultra-Low Volume (ULV) Thermal or Non-thermal aerosol (cold fog) to control adult mosquitoes, and other insects as listed on this label, in residential and recreational areas where these insect pests become a problem; such as urban areas, commercial areas, woodlands, roadsides, parks, campsites, animal quarters, barns, athletic fields, golf courses, residential areas, municipalities, gardens, playgrounds, recreational areas, non-crop waste areas, and over listed crops, range land, and pastures where mosquitoes and flies may be found. **PermaSease™ 4-4** may also be applied to treat outdoor aggregation and harborage sites including storm drains, underground drainage pipes and pipe chases. For best results, treat when insects are most active and conditions are conducive to keeping the fog in the air column close to the ground, (e.g. cool temperatures of the evening, night or early morning and wind).

Do not apply more than 0.007 lb. ai/A per day. Do not apply more than 0.18 lb. ai/A per year. More frequent treatments may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne diseases in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort. Apply when wind speed is greater than or equal to 1 mph.

Spray Drift Management for Wide Area Mosquito Abatement

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Both ground and aerial applications should be made when meteorological conditions are conducive to keeping the spray cloud close to the ground, such as when an air temperature inversion is present. Applications during the cool hours of early morning or evening are preferable. Air temperatures should be greater than 50° F when conducting all types of applications. Application in calm air conditions is to be avoided. Apply when wind speed is greater than 1 mph.

PermaSease™ 4-4 can be applied over specific growing crops and range grasses prior to harvest for the control of adult mosquitoes and biting flies within or adjacent to these areas. Application can be made where the following crops are present:

Alfalfa	Filbert
Almonds	Garlic
Apples	Horseradish
Artichoke, globe	Leafy vegetables (except Brassica)
Asparagus	Lettuce, head
Avocado	Mushrooms
Broccoli	Onion, dry bulb
Brussels sprouts	Peaches
Cabbage	Pears
Cauliflower	Pepper, bell
Celery	Pistachio
Cherries	Potato
Corn, sweet, kernel plus cob with husks removed	Range grasses
Corn, fodder	Soybeans
Corn, forage	Spinach
Corn, grain (field and pop)	Tomatoes
Corn, stover	Vegetable, cucurbits
Eggplant	Walnuts

Do not spray this product on or allow it to drift onto cropland (other than crops listed), or potable water supplies. In the treatment of corrals, feedlots, animal confinements/houses, swine lots, poultry ranges and zoos, cover any exposed drinking water, drinking fountains, and animal feed before application.

GROUND APPLICATION INSTRUCTIONS

Droplet Size Calibration for Ground Application Equipment

For ground-based application spray equipment must be adjusted so that the volume median diameter is less than 30 microns ($Dv\ 0.5 < 30\mu m$) and that 90% of the spray is contained in droplets smaller than 50 microns ($Dv\ 0.9 < 50\ \mu m$). Directions from the equipment manufacturer or vendor, or pesticide registrant, or a test facility using a laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

ULV Non-Thermal Aerosol (Cold Fog)

To control adult mosquitoes, midges, gnats, and black flies apply **PermaSease™ 4-4** diluted or undiluted using any standard ULV ground applicator capable of producing the required droplet spectrum. Apply the product to deliver 0.001 to 0.007 lb. permethrin per acre. Under normal conditions a 300ft swath width is recommended but in dense vegetation, high mosquito populations, or open areas the swath width can be adjusted accordingly to establish the proper flow rates. See Rate Charts below for some suggested application rates for ground ULV applications based on a 300 ft swath width.

When applying this product undiluted, apply at a flow rate of 2.7-18.7 ounces per minute at an average vehicle speed of 10 mph. These rates are equivalent to 0.001 to 0.007 pound of permethrin and 0.001 to 0.007 pounds of piperonyl butoxide per acre with an assumed 300ft swath width. If a different vehicle speed or swath width is used, adjust the rate accordingly to achieve a rate between 0.001 and 0.007 lbs. of permethrin per acre. Vary flow rates accordingly to vegetation density and mosquito population. Use of the maximum flow rates and application rates listed on this label is recommended to treat heavy vegetation or when target insect populations are high. An accurate flow rate control system must be used to ensure proper flow rate. For optimum ground application performance, apply at speeds of 5 to 20 mph.

Flow Rate Chart for Use of PermaSease™ 4-4 Diluted and Undiluted
PermaSease™ 4-4 may also be applied by diluting, 1 part to 1 part of a light mineral oil or suitable solvent, applied so as not to exceed 0.007 lbs. of permethrin per acre. If an alternate dilution rate is required, adjust the flow rate, accordingly, provided the droplet size and spectrum remain within label specifications.

Ground Application Rate Chart – For Use of PermaSease™ 4-4: Undiluted						
Conditions and Rates to PermaSease™ 4-4 Undiluted for Mosquito Control						
lbs. A.I. acre		Application Rates Fluid Ounces per Minute				Fluid Ounces and (milliliters) per acre
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.001	0.001	1.2	2.3	3.5	4.6	0.38 (11.32 mL)
0.00175	0.00175	2.0	4.1	6.1	8.1	0.67 (19.81 mL)
0.0025	0.0025	2.9	5.8	8.7	11.6	0.96 (28.39 mL)
0.0035	0.0035	4.1	8.1	12.2	16.2	1.34 (39.63 mL)
0.005	0.005	5.8	11.6	17.4	23.2	1.91 (56.60 mL)
0.007	0.007	8.1	16.2	24.4	32.5	2.68 (79.26 mL)

Ground Application Rate Chart – Dilute (1) Part PermaSease™ 4-4 in (1) Part Mineral Oil						
Amounts to Use After Diluting 1 PermaSease™ 4-4 With 1 Parts Mineral Oil						
lbs. A.I. acre		Application Rates Fluid Ounces per Minute				Fluid Ounces and (milliliters) per acre
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.001	0.001	2.3	4.6	7	9.3	0.77 (22.77 mL)
0.00175	0.00175	4.1	8.1	12.2	16.2	1.34 (39.63 mL)
0.0025	0.0025	5.8	11.6	17.4	23.2	1.91 (56.49 mL)
0.0035	0.0035	8.1	16.2	24.4	32.5	2.68 (79.26 mL)
0.005	0.005	11.6	23.2	34.8	46.4	3.83 (113.27 mL)
0.007	0.007	16.2	32.5	48.7	65.0	5.36 (158.52 mL)

Thermal Aerosol Fogging

Apply **PermaSease™ 4-4** diluted or undiluted with suitable thermal fogging equipment such as vehicle mounted or handheld thermal fog generators capable of making thermal fog applications. Use only well maintained and properly calibrated thermal fogging equipment to ensure optimum performance and effectiveness. If diluted, use a light mineral oil, or another suitable non-phytotoxic diluent, to reduce oil requirement and sludge buildup in equipment. Do not exceed the maximum rate of

0.007 lbs. of permethrin per acre. Apply **PermaSease™ 4-4** to deliver 0.001 to 0.007 lb. a.i. per acre. Droplet size of thermal fog will be very small usually in the 0.5 to 1.0 micron range. For best results, fog downwind by directing thermal fog into the air and allowing it to drift through areas with active mosquitoes or where mosquitoes find harborage. Do not thermal fog when winds exceed 10 mph. Do not fog wet foliage.

Vehicle Mounted: May be applied with vehicle mounted sprayers at speeds of 5 to 20 mph using a treatment swath width of 300 ft.

Portable or Hand Carried: For use with hand carried and/or portable thermal foggers, use a walking speed of 2 mph and a 50-foot swath.

Use as An Insect Barrier Treatment

For use in Non-Thermal ULV, motorized, portable, backpack, handheld, or vehicle mounted fogging equipment or fog type mist blower equipment, apply **PermaSease™ 4-4** with equipment adjusted to deliver ULV particles of 50 to 120 microns volume median diameter. **PermaSease™ 4-4** may be applied undiluted or diluted. If diluted, use a light mineral oil, or another suitable non-phytotoxic diluent. Do not apply more than 0.007 lbs. of permethrin per acre using an appropriate swath width based on the capabilities of your equipment, typically a 50ft swath width is used. Direct spray onto foliage at the perimeter of areas from which mosquitoes or flies are to be excluded or direct spray into harborage areas where adult mosquitoes or flies may be found. May be used to treat aggregation and harborage sites such as abandoned buildings, residential buildings, warehouses, storm drains, and underground drainage pipes where adult mosquitoes find harborage. When this product is applied as a barrier treatment, do not apply within 100 feet (30 meters) of lakes and streams.

AERIAL APPLICATION INSTRUCTIONS

PermaSease™ 4-4 may be applied diluted or undiluted at rates of 0.001 to 0.007 pounds of permethrin per acre by fixed wing or rotary aircraft that are capable of making an ULTRA LOW VOLUME (ULV) application. For fixed wing and rotary aircraft with flat fan or rotary nozzles, apply at a sufficient airspeed to deliver the appropriate amount of a.i./acre and to achieve the appropriate droplet range as prescribed by this label. Apply when wind speed is equal to or greater than 1 mph. In order to compensate for windy and meteorological conditions and ensure drift into the target area, aerial applications with aircraft equipped with Global Positioning Systems (GPS) and/or spray cloud drift optimization software is recommended.

Do not apply by fixed wing aircraft at a height less than 100 ft, or by helicopter at a height less than 75 feet unless specifically approved by the state or tribe based on public health needs.

Spray Droplet Size Calibration

For aerial applications made ≤ 200 ft above ground elevation: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns (Dv 0.5 < 60µm) and that 90% of the spray is contained in droplets smaller than 100 microns (Dv 0.9 < 100µm).

For aerial applications made > 200 ft above ground elevation: Spray equipment must be adjusted so that the volume median diameter produced is less than 70 microns (Dv 0.5 < 70µm) and that 90% of the spray is contained in droplets smaller than 145 microns (Dv 0.9 < 145µm).

The effects of flight speed and, for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, or pesticide registrant or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

Prohibition on Aerial Use in Florida: Not for aerial application in the State of Florida unless specifically authorized by the Florida Bureau of Entomology and Pest Control and the Florida Department of Agriculture and Consumer Services.

STORAGE AND DISPOSAL

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

Storage: Store product in its original labeled container in a cool, dry, locked place designated for such insecticides and out of reach of children. In case of spillage, soak up with absorbent material such as sawdust, or fullers earth; sweep up and place in a labeled container and dispose of as follows.

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

Container Disposal: Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows:

For Containers equal to or less than 5 Gallons: 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 mineral oil 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. If recycling is not available then dispose of container in a sanitary landfill or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

For Containers greater than 5 Gallons: 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 mineral oil. 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 back and forth several times. Turn the container over on its other end and tip 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 two more times. Offer for recycling, if available. If recycling is not available then dispose of container in a sanitary landfill or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

For Bulk Containers (Refillable Container): Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

To clean the container before final disposal, empty the remaining contents from the container into application equipment or mix tank. Fill the container about 10 percent full with mineral oil. Agitate vigorously or recirculate mineral oil with pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing process two more times.

WARRANTY NOTICE

Read the entire Directions for Use and Warranty before using this product. By using this product, User or Buyer accepts the following warranty.

The Directions for Use of this product are believed to be adequate and must be followed carefully. It is impossible to eliminate all risks associated with the use of this product. Unintended consequences may result because of unknown factors. All such risks shall be assumed by the User or Buyer.

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