

# Perm-X™ UL 4-4

For use only by federal, state, tribal or local government 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.

**CONTROLS:** Adult Mosquitoes, Biting and Non-biting Midges, Black Flies and other outdoor flying insects as listed on this label

**FOR USE AS A:** ULV thermal or non-thermal aerosol using ground or aerial equipment in areas including: residential, recreational areas, parks, campsites, woodlands, athletic fields, golf courses, municipalities, playgrounds, and non-crop waste areas and over listed growing crops and range grasses prior to harvest for the control of adult mosquitoes and biting flies within or adjacent to these areas. Refer to label for additional use sites.

## SPECIMEN LABEL

**ACTIVE INGREDIENTS:**

Permethrin .....	4%
Piperonyl Butoxide .....	4%
<b>OTHER INGREDIENTS*</b> .....	92%
<b>TOTAL:</b> .....	100%

\*Contains Petroleum Distillates  
 Contains 0.2783 lb ai permethrin and 0.2783 lb ai piperonyl butoxide per gallon.

### KEEP OUT OF REACH OF CHILDREN CAUTION

**PRECAUCION AL USUARIO:** Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicado ampliamente. (If you do not understand the label, find someone to explain it to you in detail).  
 See additional Precautionary Statements.

EPA Reg.No. 89459-47  
 EPA Est. No. 2724-TX-1

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

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

FIRST AID	
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Immediately call a Poison Control Center or physician for treatment advice.</li> <li>• Do not induce vomiting unless told to do so by the Poison Control Center or physician.</li> <li>• Do not give any liquid to the person.</li> <li>• Do not give anything by mouth to an unconscious or convulsing person.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a Poison Control Center or physician for treatment advice.</li> </ul>
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a Poison Control Center or physician for treatment advice.</li> </ul>

<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>• Call a Poison Control Center or physician for treatment advice.</li> </ul>
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**HOT LINE NUMBER:** Have the product container or label with you when calling a Poison Control Center or doctor, or going for treatment.  
 You may contact 1-800-248-7763 for emergency medical treatment information. You may also contact 1-800-248-7763 for information including health concerns, medical emergencies or pesticide incidents

**NOTE TO PHYSICIAN:** Contains Petroleum Distillates - vomiting may cause aspiration pneumonia.

For Chemical Spill, Leak, Fire or Exposure, Call: CHEMTREC 1-800-424-9300  
 For Medical Emergencies Only, Call: 1-800-248-7763

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders, applicators and other handlers (including during mixing/loading, repair and cleaning of equipment and disposal of pesticide) must wear the following:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves such as barrier laminate, viton ≥14 mils, neoprene rubber ≥14 mils, or nitrile rubber ≥14 mils except for applicators using motorized ground equipment, pilots, and flaggers

- Chemical-resistant apron for mixers/loaders, persons cleaning equipment and persons exposed to the concentrate

In addition to the above PPE, mixers and loaders supporting aerial applications to forests must wear a minimum of a NIOSH-approved elastomeric half mask respirator with organic vapor (OV) cartridges and combination R or P filters, OR a NIOSH-approved gas mask with OV canisters; OR a NIOSH-approved powered air purifying respirator with OV cartridges and combination HE filters.

See Engineering Controls for additional requirements.

## 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 this product's concentrate. Do not reuse them.

## ENGINEERING CONTROLS

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

### USER SAFETY 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 pesticide is extremely toxic to aquatic organisms, including fish and 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 permits or 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 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.

## PHYSICAL OR CHEMICAL HAZARDS

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

## DIRECTIONS FOR USE

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

## RESISTANCE-MANAGEMENT

For resistance-management, Perm-X™ UL 4-4 contains a Group 3A insecticide. Any insect population may contain individuals naturally resistant to Perm-X™ UL 4-4 and other Group 3A insecticides. The resistant individuals may dominate the insect population if this group of insecticides is used repeatedly. Appropriate resistance-management strategies should be followed. To delay insecticide resistance, take the following steps:

- Rotate the use of Perm-X™ UL 4-4 or other Group 3A insecticides with different groups that control the same pests.

- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, record keeping and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance, contact Central Garden & Pet Company at 1-800-248-7763.

For use only by federal, state, tribal or local government 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.

### Precautions and Use Restrictions

- Apply this product only as specified on this label.
- Apply this product at temperatures greater than 50°F and when wind speed equals or exceeds 1 mph.
- Not for use in metered release systems or animal premise automatic misting systems.
- Not for use in outdoor residential misting systems.
- Do not spray this product on or allow it to drift onto cropland (other than those 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.
- For hand carried and/or lawn mower foggers: Do not fog wet foliage. Do not fog when wind conditions exceed 10 miles per hour. Only use a clean, well maintained and properly calibrated fogger, known to give excellent performance. Fog downwind.
- Do not apply by fixed wing aircraft at a height less than 100 feet, or by helicopter at a height less than 75 feet unless specifically approved by the state or tribe based on public health needs.
- Apply when wind speed is greater than 1 mph.
- Do not make applications during rain.
- Except when applying to storm drains, drainage pipes and pipe chases as instructed on this label, do not apply directly to sewers and drains or to any area like a gutter where drainage to sewers, storm drains, water bodies or aquatic habitat can occur.
- Do not use in dairy barns or facilities.

For outdoor use only. Do not re-treat site more than once in 3 days. Do not exceed 25 applications at 0.007 lb permethrin per acre per application or 0.007 lb piperonyl butoxide per acre per application, or 0.18 lb of permethrin per acre per season or 0.18 lb piperonyl butoxide per acre 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 disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

Perm-X™ UL 4-4 is recommended for application as an Ultra Low Volume (ULV) thermal or non-thermal aerosol (cold fog) for control of adult mosquitoes and flies in residential, recreational, industrial, urban and other areas where these insect pests are found. Perm-X™ UL 4-4 provides effective control of mosquitoes and flies in areas such as parks, campsites, woodlands, athletic fields, golf courses, residential areas, municipalities, roadsides, animal quarters, barns, playgrounds, and non-crop waste areas. Treat when mosquitoes or insects are most active and weather conditions are conducive to keeping the fog close to the ground, e.g., cool temperatures and ground wind speeds are not greater than 10 mph. Applications during the cool hours of night or early morning are usually preferable. Repeat treatment when recommended by Public Health officials or Mosquito Abatement Districts.

Perm-X™ UL 4-4 may be applied over specific growing crops and range grasses prior to harvest for the control of adult mosquitoes and biting flies with or adjacent to those areas. Application can only be made where the following crops are present:

Alfalfa	Celery	Horseradish	Soybean, seed
Almond	Cherry	Leaf petioles, subgroup 4B	Spinach
Apple	Corn, forage	Leafy greens, subgroup 4A	Tomato
Artichokes	Corn, grain	Lettuce, head	Vegetable, cucurbit, group 9*
Asparagus	Corn, stover	Mushroom	Watercress
Avocado	Corn, sweet, kernel + cob with husks removed	Onion, bulb	Walnut
Broccoli	Eggplant	Peach	
Brussels sprouts	Fruit, pome, group 11	Pepper, bell	
Cabbage	Garlic	Pistachio	
Cauliflower	Range grasses	Potato	

\*40 CFR 180.41 Crop Group 9: Cucurbit Vegetables, includes Crop Subgroup 9A (melon) and Crop Subgroup 9B (squash/cucumber).

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

## MANDATORY SPRAY DRIFT MANAGEMENT

### Ultra Low Volume Applications

Apply when ground wind speeds are equal to or greater than 1 mph.

All types of applications should be conducted when temperatures at ground level are at or above 50° F.

### For Ground Applications:

- Create an optimum swath when possible. An optimum swath width can be achieved when Perm-X™ UL 4-4 is applied from a truck that is being driven perpendicular to the wind directions. Direct the spray head of equipment to ensure even distribution of the spray cloud throughout the area.
- FOR BEST RESULTS, treat when mosquitoes or insects are most active and weather conditions are conducive to keeping the spray cloud in the air column close to the ground.
- An inversion of air temperatures and a light breeze is preferable. Application during the cooler hours of the night or early morning is recommended.

### For Aerial Applications:

- Do not apply by fixed wing aircraft at a nozzle height less than 100 ft (30.5 m) above ground or canopy, or by helicopter at a height less than 75 ft (22.9 m) above the ground or canopy, or by UAS at a height less than 50 ft, unless specifically approved by the state or tribe based on public health needs.

Adult mosquito control applications should be limited to trained personnel.

For use only by federal, state, tribal or local government 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 application or by persons under their supervision, or as allowed by state regulations for persons treating private property.

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

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 beyond the body of water to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

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

Do not treat a site with more than 0.007 lb permethrin and 0.007 lb PBO per acre in a single application or in any 24-hour period. Do not exceed 0.18 lb permethrin or 0.18 lb PBO in any site in one year. More frequent applications 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 disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

## Spray Droplet Size Determination

**Ground-Based Application:** Spray equipment must be adjusted so that the volume median diameter is less than 30 microns ( $D_{v,0.5} < 30 \text{ m}$ ) and that 90% of the spray is contained in droplets smaller than 50 microns ( $D_{v,0.9} < 50 \text{ m}$ ). Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using laser based equipment 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.

**Aerial Application made at < 200 feet above ground elevation:** Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ( $D_{v,0.5} < 60 \text{ m}$ ) and that 90% of the spray is contained in droplets smaller than 100 microns ( $D_{v,0.9} < 100 \text{ m}$ ). 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, 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.

**Aerial Application made at > 200 feet above ground elevation:** Spray equipment must be adjusted so that the volume median diameter produced is less than 70 microns ( $D_{v,0.5} < 70 \text{ m}$ ) and that 90% of the spray is contained in droplets smaller than 145 microns ( $D_{v,0.9} < 145 \text{ m}$ ). 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, 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.

## GROUND APPLICATION

**ULV NON-THERMAL AEROSOL (COLD FOG):** To control adult mosquitoes, flies, and gnats (black flies), apply Perm-X™ UL 4-4 using truck-mounted ground ULV (cold fog) equipment with a swath width of 300 feet in areas such as residential, recreational, industrial areas. Apply when insects are most active and conditions are conducive to keeping the fog close to the ground. Apply the undiluted product at flow rates of 2.728 to 19.092 fluid ounces per minute at a truck speed of 10 mph. These rates are equivalent to 0.001 to 0.007 pound of permethrin ai and 0.001 to 0.007 pound of piperonyl butoxide ai per acre. If a different vehicle speed is used, adjust the flow rate accordingly. An accurate flow control system must be used to ensure proper flow rate. Use the maximum flow rates and application rates on this label to treat heavy vegetation or when target insect populations are high. Do not exceed the highest flow rates specified by the manufacturer. Perm-X™ UL 4-4 may also be applied by diluting with a light mineral oil or another suitable solvent, applied so as not to exceed 0.007 lb ai per acre using a swath width of 300 feet for calculation. Refer to Chart 2 for suggested rates for diluted use. Perm-X™ UL 4-4 may be used to treat outdoor aggregation and harborage sites including storm drains, underground drainage pipes, and pipe chases.

**THERMAL AEROSOL APPLICATIONS:** For use in thermal fogging equipment such as truck-mounted thermal fog generators or other equipment capable of making thermal fogging applications, Perm-X™ UL 4-4 may be applied either diluted or undiluted. If diluted, use a light mineral oil or another suitable non-

phytotoxic diluent. Do not exceed the maximum rate of 0.007 lb ai per acre. May be applied with truck-mounted equipment at speeds of 5 mph to 20 mph. Use a swath width of 300 feet for calculation. For use with handheld, backpack or lawn mower thermal fogging equipment, do not exceed the maximum rate of 0.007 lb ai per acre. Use a walking speed of 2 mph (3.2 kph) and a swath width of 300 feet for calculations. May be used to treat aggregation and harborage sites such as abandoned buildings, warehouses, storm drains, underground drainage pipes, pipe chases and other areas where adult mosquitoes find harborage. Do not apply when the wind speed is greater than 15 mph.

**BARRIER APPLICATIONS:** For use in non-thermal ULV, motorized, portable, backpack, handheld or truck-mounted fogging equipment or mist blower equipment, apply Perm-X™ UL 4-4 with equipment adjusted to deliver ULV particles of 50 to 100 volume median diameter. Perm-X™ UL 4-4 may be applied undiluted or diluted (see Application Rates Charts on this label). If diluted, use a light mineral oil or another suitable, non-phytotoxic diluent. For truck-mounted applications, use not more than 0.007 lb permethrin per acre. Use a 300 ft (15.2 m) swath width (see Application Rates Charts on this label) for calculations. For backpack or handheld applications, use not more than 0.007 lb ai per acre. Use a 300 ft swath width and a walking speed of 2 mph (3.2 kph) for calculations. 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, underground drainage pipes and other areas where adult mosquitoes find harborage.

## AERIAL APPLICATION

Use aircraft specially equipped and capable of applying Ultra-Low Volumes of Perm-X™ UL 4-4. Applications can be made diluted or undiluted but cannot exceed the specified rates of 0.007 lb permethrin per acre and 0.007 lb piperonyl butoxide per acre, equivalent to 3.1819 fl oz of undiluted Perm-X™ UL 4-4 per acre. Applications should be made at an altitude of 100 to 300 feet. Apply at airspeed sufficient to deliver the appropriate amount of active ingredient per acre. The minimum height (from the ground) for aerial application of this product is 100 feet (50 feet for UAS). Treat when insects are most active and meteorological conditions are conducive to keeping the spray cloud close to the ground. In order to compensate for windy conditions and ensure drift onto the target area, aerial application with aircraft equipped with Global Positioning Systems (GPS) is recommended.

**IN FLORIDA:** Aerial applications of this product require trained personnel to perform industry accepted assays to monitor resistance formation in targeted mosquitoes.

## CHART NO. 1 - FOR USE UNDILUTED

Conditions and Rates To Use Perm-X™ UL 4-4 Undiluted for Mosquito Control						
Pounds Per Acre		Application Rates				Fluid Ounces and Milliliters Per Acre
		Fluid Ounces per Minute				
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.0070	0.0070	9.546	19.092	28.637	38.183	3.1819 (94.10 ml)
0.0035	0.0035	4.773	9.545	14.318	19.091	1.5909 (47.05 ml)
0.001	0.001	1.363	2.728	4.092	5.455	0.4546 (13.44 ml)

## CHART NO. 2 - DILUTE 1 PART WITH 2 PARTS MINERAL OIL

Amounts to Use After Diluting 1 Part Perm-X™ UL 4-4 with 2 Parts Mineral Oil						
Pounds of A. I. Per Acre		Application Rates for Fluid Ounces of Diluted Product Per Minute Per MPH				Diluted Fl Oz (mL) to Apply per Acre
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.0070	0.0070	26.250	52.50	78.75	105.00	8.75 (258.76 ml)
0.0035	0.0035	13.125	26.25	39.38	52.50	4.38 (129.53 ml)
0.0010	0.0010	3.750	7.50	11.25	15.00	1.25 (36.96 ml)

## STORAGE & DISPOSAL

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

**PESTICIDE 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 fuller's 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 refill or reuse this container. Clean container promptly after emptying. **For Containers 5 gallons or less** – 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 water 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. Then 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.

**For Containers greater than 5 gallons** – Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, 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.

Central Garden & Pet Company, 1501 East Woodfield Road, 200W, Schaumburg, Illinois 60173

**NOTE:** This specimen label is for informational purposes only. All uses may not be approved in all states. See product labeling for use directions.

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