

# MasterLine®

By Univar

## KONTROL 4 - 4 For Mosquitoes, Flies and Gnats

A Quick Knockdown, Low Odor, Non-Corrosive Synergized Synthetic Pyrethroid  
for the Control of Adult Mosquitoes in Residential, Recreational, and Other Areas.  
Also for Use Against Biting and Non-Biting Midge and Black Flies

For use only 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.

### ACTIVE INGREDIENTS:

\*Permethrin .....4.6%  
\*\*Piperonyl Butoxide .....4.6%

OTHER INGREDIENTS: .....90.8%

Contains Petroleum Distillate

**TOTAL** .....100.0%

\*(3-phenoxyphenyl)methyl(+/-)Cis/trans 3-(2,2-dichloroethenyl)2,2-Dimethyl cyclopropanecarboxylate

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

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

Contains 0.3344 pounds of Permethrin and 0.3344 pounds of 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 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).

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EPA Registration No. 73748-4

<b>First Aid</b>	
<b>If in Eyes:</b>	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.
<b>If on Skin or Clothing:</b>	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.
<b>If Swallowed:</b>	Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.
<b>If Inhaled:</b>	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 advice.
<b>HOTLINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information on this product, contact the National Pesticide Information Center at 1-800-858-7378. You may also contact the National Poison Control Center, 1-800-222-1222 for emergency medical treatment information.	
Note to Physician: Contains petroleum distillate – vomiting may cause aspiration pneumonia.	

**PRECAUTIONARY STATEMENTS  
HAZARDS TO DOMESTIC ANIMALS AND HUMANS**

CAUTION. Contains petroleum distillate. Causes moderate eye irritation. Harmful if swallowed. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash before reuse.

**Personal Protective Equipment (PPE)**

Some materials that are chemical-resistant to this product are barrier laminate, nitrile rubber greater or equal to 14 mils or neoprene rubber greater or equal to 14 mils. If you want more options, follow the instructions for category E on an EPA chemical-resistance category selection chart.

**Mixers, loaders, applicators, and other handlers must wear:**

Long-sleeve shirt; Long pants; Shoes and socks; Chemical-resistant gloves for all handlers except for applicators using motorized ground equipment, pilots and flaggers; and Chemical-resistant apron for mixers/loaders, persons cleaning equipment, and persons exposed to the concentrate.

See engineering controls for additional information.

**User Safety Requirements:**

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

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

<p><b>User Safety Recommendations:</b></p> <ul style="list-style-type: none"> <li>· Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.</li> <li>· Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</li> <li>· 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.</li> </ul>
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**Engineering Controls**

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticide [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.

## ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to aquatic organisms, including fish and aquatic invertebrates. Run-off 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.

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 on blooming crops or weeds while bees are actively visiting the treatment areas, 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 of Federal law to use this product in a manner inconsistent with its labeling.

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.

For use only 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.

- Not for use in outdoor residential misting systems
- Not for use in metered release misting devices.
- Do not contaminate cropland (other than crops listed) or potable water supplies with spray drift.
- Do not make applications during rain.

## CONDITIONS AND RATES TO USE FOR MOSQUITO CONTROL

**KONTROL 4-4** is for use as an ultra low volume (ULV) thermal or non-thermal aerosol (cold fog) to control adult mosquitoes, flies, midges and gnats in residential and recreational areas where these insect pests become a problem, such as, but not limited to parks, campsites, woodlands, athletic fields, golf courses, residential areas, municipalities, gardens, playgrounds, and non-crop waste areas. For best results, 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. Applications during the cool hours of night and early morning are usually preferable.

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 only when ground wind speed is greater than 1 mph. Do not apply when wind speeds exceed 10 mph. Applications cannot exceed the labeled rates.

Do not treat a site with more than 0.007 lbs of each active ingredient, permethrin and piperonyl butoxide per acre in a 3-day period. Retreatments within a 3-day period must not exceed 0.007 total lbs of permethrin in any site. Do not exceed 25 applications of 0.007 lbs permethrin or piperonyl butoxide per acre at any site in one calendar year, or exceed 0.18 lbs of permethrin or piperonyl butoxide per acre per site per year. When rotating this product with other insecticides containing piperonyl butoxide, do not exceed 2 lbs piperonyl butoxide per acre per site 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.

**KONTROL 4-4** can be applied to the air column over specific growing crops prior to harvest and range grasses 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	Garlic
Almonds	Horseradish
Apples	Lettuce
Artichoke	Onion, dry bulb
Asparagus	Papayas (FL only)
Avocados	Peaches/Nectarines
Broccoli	Pears
Brussels Sprouts	Pepper, bell
Cabbage	Pistachios
Cantaloupe	Potatoes
Cauliflower	Range Grasses
Celery	Soybeans
Cherries	Spinach
Corn (field and pop)	Tomatoes
Corn, sweet	Walnuts
Eggplant	
Filberts (Hazelnuts)	

**Cucurbit vegetables**, including Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cuban pumpkin, Cucumber, Gherkin, Gourd (edible, includes hyotan, cucuzza, hechima, Chinese okra), Momordica spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (hybrids and/or cultivars of Cucumis melo including true cantaloupe, cantaloupe, casaba, Crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon and Winter melon), Pumpkin, Squash (includes summer squash types such as: butternut squash, calabaza, crookneck squash, Hubbard squash, scallop squash, straightneck squash, vegetable marrow and zucchini, and winter squash types such as acorn squash and spaghetti squash), Watermelon (includes hybrids and/or varieties if Citrullus lanatus).

**Leafy Vegetables**, including Leafy vegetables (except brassica), Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (Roquette), Chervil, Chrysanthemum (edible leaved and garland), Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Spinach (including New Zealand and vine – Malabar spinach, Indian spinach).

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.

## SPRAY DROPLET SIZE DETERMINATION

**Ground Application:** Spray equipment must be adjusted so that the volume median diameter is less than 30 microns ( $D_v 0.5 < 30 \mu\text{m}$ ) and that 90% of the spray is contained in droplets smaller than 48 microns ( $D_v 0.9 < 48 \mu\text{m}$ ). Directions from the equipment manufacturer or vendor, 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.

**Aerial Application made at  $\leq 200$  feet above ground elevation:** Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ( $D_v 0.5 < 60 \mu\text{m}$ ) and that 90% of the spray is contained in droplets smaller than 100 microns ( $D_v 0.9 < 100 \mu\text{m}$ ). 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 ( $D_v 0.5 < 70 \mu\text{m}$ ) and that 90% of the spray is contained in droplets smaller than 145 microns ( $D_v 0.9 < 145 \mu\text{m}$ ). 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 INSTRUCTIONS

### ULV NON-THERMAL AEROSOL (COLD FOG) APPLICATIONS

To control mosquitoes, midges and blackflies, apply **KONTROL 4 – 4** using any standard ULV ground applicator capable of producing a non-thermal aerosol spray. Apply the product at a flow rate of 4.1 to 16.2 ounces per minute at an average vehicle speed of 10 mph. If different vehicle speed is used, adjust the rate accordingly. These rates are equivalent to 0.00175 to 0.007 pounds of permethrin and the same amount of 0.00175 to 0.007 pounds of synergist piperonyl butoxide per acre. Vary flow rates accordingly to vegetation density and mosquito population. Use higher flow rates in heavy vegetation or when populations are high. An accurate flow control system must be used to ensure proper flow rate. **KONTROL 4 – 4** may also be applied by diluting with a suitable solvent such as mineral oil and applying so as not to exceed the maximum pounds of active ingredient per acre as shown in the first column of the ULV table shown below. That table represents some suggested application rates for ground ULV applications. If an alternative dilution rate is used, adjust the flow rate accordingly.

### 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. **KONTROL 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 lbs. a.i. 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 lbs. a.i. 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.

### BARRIER APPLICATIONS

For use in non-thermal ULV, motorized, portable, backpack, handheld or truck-mounted fogging equipment or mist blower equipment, apply **KONTROL 4-4** with equipment adjusted to deliver ULV particles of 50 to 100 volume median diameter. **KONTROL 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 lbs. permethrin per acre. Use a 300 ft. (15.2 m) swath width (see application rate charts on this label) for calculations. For backpack or handheld applications, use not more than 0.007 lbs. a.i. 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.

### Conditions and Rates to use KONTROL 4 – 4 Undiluted for Mosquito Control

PERMETHRIN/PBO LBS. A.I./ACRE	KONTROL 4-4 FL. OZ./A	APPLICATION RATES/FLUID OUNCES TO USE PER MINUTE			
		5 mph	10 mph	15 mph	20 mph
0.007/0.007	2.68	8.1	16.2	24.4	32.5
0.0035/0.0035	1.34	4.0	8.1	12.2	16.2
0.00175/0.00175	0.67	2.0	4.1	6.1	8.2

### Suggested Dilution Rates to Achieve 0.00175# a.i. per Acre

			HAND HELD THERMAL FOGGERS 50 FT SWATH AT 2 MPH 0.00318# A.I. PER ACRE	
MACHINE OUTPUT GAL/HOUR	DILUTION RATIO WITH FOG OIL 5MPH	DILUTION RATIO WITH FOG OIL 10 MPH	MACHINE OUTPUT	DILUTION RATE
10 gal/hr	1 : 9.5	1 : 4.25	0.25 gal/hr	1 : 1.2
20 gal/hr	1 : 20	1 : 9.5	2.0 gal/hr	1 : 16.4
30 gal/hr	1 : 30	1 : 14.75	5.0 gal/hr	1 : 42.4
			8.0 gal/hr	1 : 68.4

## AERIAL APPLICATION INSTRUCTIONS

Apply with aircraft specially equipped and capable of applying Ultra-Low Volumes of **KONTROL 4-4**. Applications can be made diluted or undiluted but cannot exceed the specified rates of 0.007 lbs. permethrin per acre and 0.007 lbs. piperonyl butoxide 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. 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. Treat when insects are most active and meteorological conditions are conducive to keeping the spray cloud close to the ground. To compensate for windy conditions and ensure drift onto the target area, use aircraft equipped with Global Positioning Systems (GPS).

**PROHIBITION FOR AERIAL USE IN FLORIDA:** Aerial application of this product is prohibited in the State of Florida unless specifically authorized by the Bureau of Entomology and Pest Control, Florida Department of Agriculture and Consumer Services.

## STORAGE AND DISPOSAL

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

**Pesticide Storage and Spill Procedures:** Keep this product in its tightly closed original container when not in use. Store in a cool, dry (preferably locked) area that is designated for such insecticides and also inaccessible to children and animals. Avoid exposure to extreme temperatures. 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 Handling: Nonrefillable Container:** Metal or Plastic Container. Do not reuse or refill container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Offer for recycling, if available, reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Triple rinse as follows:

**Containers 5 gallons or less:** Empty the remaining contents into application equipment and drain for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  full with water and recap. Shake for 10 seconds. Pour rinsate into 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. Once cleaned, 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. Do not cut or weld metal containers.

**Containers larger than 5 gallons:** Empty the remaining contents into application equipment. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll 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. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Once cleaned, 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.

**Pressure rinse as follows (all sizes):** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**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.

Return container to point of purchase for reuse with seal intact and in salable condition. Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices. After filling and before transporting, check for leaks. Do not refill or transport damaged or leaking container.

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 water. Agitate vigorously or recirculate water with pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing process two more times.

## BULK STORAGE AND DISPOSAL

### AGITATE BEFORE USE

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

**Storage:** Ground water contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

**Pesticide Disposal:** Pesticide spray mixture or rinsate that cannot be used according to label instructions must be disposed of according to Federal and local procedures under Subtitle C or the Resource Conservation and Recovery Act.

**NOTICE:** Buyer and user assume all risks and liability of use, storage and/or handling of this product not in accordance with the terms of this label.

### BUYER GUARANTEE LIMITED TO LABEL CLAIMS

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SPECIMEN