



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

April 9, 2015

Jonathan D. Ostrowski  
Clarke Mosquito Control Products, Inc.  
675 Sidwell Ct.  
St. Charles, IL 60174

Subject: Notification per PRN 98-10 – Revise Florida Aerial Restriction  
Product Name: BIOMIST 4+4 ULV  
EPA Registration Number: 8329-35  
Application Date: March 19, 2015  
Decision Number: 502593

Dear Mr. Ostrowski:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped “Notification” and will be placed in our records.

If you have any questions, you may contact Maggie Rudick at (703) 347-0257 or via email at [rudick.maggie@epa.gov](mailto:rudick.maggie@epa.gov).

Sincerely,

A handwritten signature in blue ink that reads "Maggie Rudick for".

Kable Bo Davis, Product Manager 3  
Invertebrate & Vertebrate Branch 1  
Registration Division (7505P)  
Office of Pesticide Programs

**BIOMIST® 4+4 ULV**

{Alternate Brand Name: CLARKE BIOMIST 4+4 ULV”

For Use Outdoors as an Ultra-Low Volume (ULV) Application to Control Adult Mosquitoes in Residential and Recreational Areas. Also For Use Against Biting and Non-Biting Midges and Blackflies.

[For Aerial or Ground Application]

[For the control of adult mosquitoes within or adjacent to listed growing crops and range grasses]

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.

Active Ingredients	
Permethrin (3-Phenoxyphenyl) methyl (+/-) cis, trans-3-(2,2-dichlorethenyl)-2,2-dimethyl cyclopropanecarboxylate .....	4.0%
Piperonyl Butoxide * .....	4.0%
Other Ingredients ** .....	92.0%
	100.0%
Contains 0.29 pounds of Permethrin and 0.29 pounds of Piperonyl Butoxide [PBO] per gallon	
* PBO, (butyl carbityl) (6-propylpiperonyl) ether and related compounds.	
** Contains petroleum distillate	

**NOTIFICATION**

8329-35

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

04/09/2015

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

Manufactured For  
**CLARKE MOSQUITO CONTROL PRODUCTS, INC.**  
159 N. GARDEN AVENUE  
ROSELLE, ILLINOIS 60172

EPA Reg. No.: 8329-35  
EPA Est. No.: 8329-IL-01

NET CONTENTS: \_\_\_\_\_  
LOT NO.: \_\_\_\_\_

<b>FIRST AID</b>	
<b>Have product container or label with you when calling a poison control center or doctor, or going for treatment. For Medical Emergencies, call the International Poison Control Center at 1-800-214-7753.</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 the eye. 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 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 INHALED:</b>	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth. Call a poison control center or doctor for further treatment advice.
<b>NOTE TO PHYSICIAN: Product contains a petroleum distillate. Vomiting may cause aspiration pneumonia.</b>	

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

**CAUTION.** Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE): Some materials that are chemical-resistant to this product are: barrier laminate, nitrile rubber, neoprene rubber, or Viton. Mixers, loaders, applicators, and other handlers must wear long-sleeve shirt and long pants, shoes plus socks. In addition, all handlers except for applicators using motorized ground equipment, pilots and flaggers, must wear chemical-resistant gloves. In addition, mixers/loaders, persons cleaning equipment, and other persons exposed to the concentrate must wear a chemical-resistant apron. See engineering controls for additional requirements.

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 material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

Engineering Controls: Pilots must use an enclosed cockpit that meet 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 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 wash waters.

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 treatment 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 OR CHEMICAL HAZARDS**

Do not use or store near heat or open flame. Flashpoint minimum of 199 °F.

**DIRECTIONS FOR USE**

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

Not for use in metered release systems.

Not for use in outdoor residential misting systems.

Do not contaminate cropland (other than crops listed) or potable water supplies with spray drift.

Do not make applications during rain.

### USE INFORMATION

BIOMIST® 4+4 ULV is approved for applications as an ultra low volume (ULV) nonthermal aerosol (cold fog) to control adult mosquitoes in residential and recreational areas and other areas these insects occur, such as but not limited to parks, campsites, woodlands, athletic fields, golf courses, residential areas and municipalities, gardens, playgrounds, and overgrown waste areas.

BIOMIST® 4+4 ULV can be applied over specific growing crops and range grasses prior to harvest for the control of adult mosquitoes within or adjacent to these areas. Application can be made where the following crops are present:

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

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

In the treatment of corrals, feedlots, swine lots, poultry ranges and zoos cover any exposed drinking water, drinking fountains and animal feed before application.

For best results apply when mosquitoes are most active and weather conditions are conducive to keeping the spray cloud close to the ground. An inversion of air temperatures and a light breeze is preferable. Application in calm air conditions is to be avoided. Apply only when wind speed is greater than 1 mph. Air temperatures should be greater than 50 °F when conducting all types of applications.

Do not treat a site with more than 0.007 lbs of each active ingredient, permethrin and [piperonyl butoxide] [PBO], per acre in a 3-day period. Retreatments within a 3-day period shall not exceed 0.007 total lbs permethrin in any site. Do not exceed 25 applications at 0.007 lbs permethrin/0.007 lbs [piperonyl butoxide] [PBO] per acre at any site in one year, or exceed 0.18 lbs of permethrin or [piperonyl butoxide] [PBO] per acre per site per year. When rotating this product with other insecticides containing [piperonyl butoxide][PBO], do not exceed 2 lbs [piperonyl butoxide][PBO] per acre per site per 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 (VMD) 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 50 microns ( $D_v 0.9 < 50 \mu\text{m}$ ). 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 or below 200 feet above ground elevation:** Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ( $D_v 0.5 < 60 \text{ um}$ ) and that 90% of the spray is contained in droplets smaller than 100 microns ( $D_v 0.9 < 100 \text{ um}$ ). 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 greater than 200 feet above ground elevation:** Spray equipment must be adjusted so that the volume median diameter produced is less than 70 microns ( $D_v 0.5 < 70 \text{ um}$ ) and that 90% of the spray is contained in droplets smaller than 145 microns ( $D_v 0.9 < 145 \text{ um}$ ). 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

Apply BIOMIST® 4+4 ULV through standard ULV cold aerosol or non-thermal aerosol (Cold Fog) generators undiluted at a flow rate of 4.7 to 18.6 fluid ounces per minute, and an average vehicle speed of 10 MPH. If a different vehicle speed is used, adjust rate accordingly. These rates are equivalent to 0.00175 to 0.007 pounds of Permethrin and Piperonyl Butoxide [PBO] per acre. An accurate flow meter must be used to ensure the proper flow rates.

Vary flow rate according to vegetation density and mosquito population. Use higher flow rate in heavy vegetation or when populations are high.

Permethrin Pounds per Acre	Application Rates (Fl. oz./Minute)				Fl.oz. Biomist 4+4 ULV per Acre
	5MPH	10MPH	15MPH	20 MPH	
0.007	9.3	18.6	28.0	37.3	3.1
0.0035	4.7	9.3	14.0	18.6	1.5
0.00175	2.3	4.7	7.0	9.3	0.77

Failure to follow the above directions may result in reduced effectiveness.

#### AERIAL APPLICATION

BIOMIST® 4+4 ULV may be applied undiluted at rates of 0.0035 to 0.007 pounds Permethrin (1.5 to 3.1 fl.oz. BIOMIST® 4+4 ULV) per acre by fixed wing or rotary aircraft equipped with suitable ULV application equipment. 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. Aerial applications shall only be made when recommended by public health officials and trained personnel of mosquito abatement districts and other mosquito control programs.

**IN FLORIDA:** Do not apply by aircraft unless approved by the Florida Department of Agriculture & Consumer Services.

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

[Storage and Disposal for non-refillable containers]

#### STORAGE & DISPOSAL

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

**PESTICIDE STORAGE AND SPILL PROCEDURES:** Store upright at room temperature. Avoid exposure to extreme temperatures. In case of spill or leakage, soak up with an absorbent material such as sand, sawdust, earth, fuller's earth, etc. Dispose of with chemical waste.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent), 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.

[Storage and Disposal for refillable containers]

**STORAGE & DISPOSAL**

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

**PESTICIDE STORAGE AND SPILL PROCEDURES:** Store upright at room temperature. Avoid exposure to extreme temperatures. In case of spill or leakage, soak up with an absorbent material such as sand, sawdust, earth, fuller's earth, etc. Dispose of with chemical waste.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING:** 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 this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into rinsate collection system. Repeat this rinsing 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.

IN CASE OF MEDICAL EMERGENCY,  
CALL THE INTERNATIONAL POISON CONTROL CENTER  
1-800-214-7753  
IN CASE OF TRANSPORTATION EMERGENCY,  
CALL INFO-TRAC 1-800-553-5053

**FOR MORE INFORMATION CALL: 1-800-323-5727**

NOTICE: To the extent provided by law, seller makes no warranty, expressed or implied, concerning the use of this product other than as indicated on the label. Buyer assumes all risk of use/handling of this material when use and/or handling is contrary to label instructions.

BIOMIST® is a Registered Trademark of Clarke Mosquito Control Products, Inc.