

Municipalities are encouraged to share this information with all residents in their community.

Duet/AquaDuet/Duet HD

This Fact Sheet answers some basic questions about mosquito control products in use in your county. The Bergen County Mosquito Control Division, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is Duet adulticide and how is it used?

Duet contains two pesticides called prallethrin and sumithrin, and a synergistic compound called piperonyl butoxide which increases the effectiveness of the pesticides. AquaDuet is a water-based formulation of Duet. Duet HD is a heavier formulation developed for aerial applications. Prallethrin and sumithrin are members of a category of pesticides called pyrethroids, which in turn are synthetic versions of pesticides produced by plants called pyrethrins. Pyrethroid/piperonyl butoxide mixtures have been recommended for Ultra-Low-Volume (ULV) mosquito control in New Jersey by Rutgers, The State University of New Jersey. The U.S. Environmental Protection Agency's (EPA) current evaluation considers pyrethroid-containing products to be slightly toxic with minimal potential risk to people when used properly as part of an integrated mosquito control program.

This pyrethroid-containing product is used for the control of adult mosquitoes. While habitat management and measures to control immature mosquitoes in water are preferred and most used, the spraying of adult mosquitoes is called for when biting populations reach critical levels or when a disease organism is present in adult mosquitoes. A very fine mist is sprayed into the air since flying mosquitoes must directly contact the pesticide in order for it to be effective. The combination of the two pesticides has been shown to produce what the manufacturer calls 'benign agitation'. In other words, mosquitoes are agitated from a resting state to a non-biting flying state where they are more vulnerable to pesticide exposure. This makes Duet Dual-Action[®] adulticide more effective against hard-to-control species like *Aedes albopictus* which typically rest during the evening hours when adulticiding usually takes place.

How can I reduce my exposure to Duet?

Because of the very small amounts of active ingredients released per acre, the risk to the general public from the use of pyrethroid-containing products is minimal. Avoiding exposure is always the safest course of action. Any possible exposure risk can be reduced by following some common-sense actions:

- Pay attention to notices about spraying found through newspapers, websites, automated telephone messages or distributed by municipal, county or state agencies.
- Plan your activities to limit time spent outside during times of possible pesticide treatments.
- Move your pets, their food, and water dishes inside during ULV application. Also bring clothing and children's toys inside.
- Stay away from application equipment, whether in use or not.
- Whenever possible, remain indoors with windows closed and with window air conditioners on non-vent (closed to the outside air) and window fans turned off during spraying.
- Avoid direct contact with surfaces that are still wet from pesticide spraying. Do not allow children to play in areas that have been sprayed until they have completely dried (approximately one hour).

- If you must remain outdoors, avoid eye and skin contact with the spray. If you get spray in your eyes or on your skin, immediately flush and rinse with water.

What are the symptoms of exposure to Duet?

Symptoms of over-exposure can include irritation to skin and eyes, respiratory and nasal irritation, irritability to sound or touch, abnormal facial sensation, sensation of prickling, tingling or creeping of skin, numbness, headache, dizziness, nausea, vomiting, diarrhea, excessive salivation, and fatigue. The chance of experiencing these symptoms of over-exposure with proper use is low. You should contact your physician, other medical providers, or the New Jersey Poison Information and Education System at 1-800-222-1222 if you experience these symptoms following a pesticide spraying.

How long will Duet last in the environment?

Pyrethroids have a soil half-life of 12 days. They have an extremely low pesticide movement rating because they bind tightly to the soil. Pyrethroids are unstable in light and air. They rapidly degrade in sunlight at the soil surface and in water. Piperonyl butoxide has a soil half-life of approximately 4 days.

Where can I get more information on this adulticide?

The following are resources for more information regarding Duet and mosquito control in your area (unless otherwise noted, available during normal business hours):

For overall pesticide-specific information – 9:30am to 7:30pm:

National Pesticide Information Center **800-858-7378**

For pesticide health information & possible exposures – 24 hours:

NJ Poison Information & Education System **800-222-1222**

For pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program **609-984-6568**

For pesticide regulation:

USEPA Region 2 Office of Pesticide Programs **732-906-6803**

For pesticide health information:

Bergen County Department of Health Services **201-634-2600**

For mosquito control insecticide recommendations:

Rutgers University, Department of Entomology **732-932-9774**

Where can I get more information about local mosquito control?

Bergen County Mosquito Control **201-634-2880**

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination **609-292-3649**

Spraying for adult mosquitoes is a last resort. Most mosquito control work goes on behind the scenes, using water management, fish, and products to control immature mosquitoes in the water where they begin their life cycle. Controlling adult mosquitoes is more difficult because they are spread out and moving.

If you have questions about Duet or any other mosquito control related products or practices, please feel free to call the Bergen County Mosquito Control Division at (201) 634-2880 (Mon-Fri 7:00 AM – 3:30 PM) or visit our web site at <https://www.co.bergen.nj.us/mosquito-control>.

Mosquito Control Product

“Vectobac”

This sheet answers some basic questions about a mosquito control product in use in your county. Bergen County Mosquito Control, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is Vectobac and how is it used?

Vectobac is an insecticide product that is recommended for mosquito control in New Jersey by Rutgers, The State University of New Jersey. It contains the pesticide called “*Bacillus thuringiensis israelensis* (Bti).” The U.S. Environmental Protection Agency’s (EPA) current evaluation considers **Bti**-containing products to be very slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

Vectobac is used to prevent mosquitoes from hatching in lakes, ponds and other bodies of water. It acts on the larval or immature stage of the mosquito in water immediately before the flying mosquito emerges. **Vectobac** is part of a mosquito management approach using habitat management and other measures to control immature mosquitoes in order to lessen the need to spray for adult mosquitoes.

How can I avoid exposure to Vectobac?

Risk to the general public from the use of **Vectobac** is minimal. Avoiding exposure is always the safest course of action, particularly for populations that may be at higher risk such as pregnant women, children, the elderly and those with chronic illnesses. Any possible exposure risk can be reduced by following some common sense actions:

- Plan your activities to limit time spent outside during times of possible pesticide treatments.
- Avoid direct contact with water bodies that have been treated.
- Move children’s toys out of application areas.
- Move animals and their food and water dishes out of application areas.
- Stay away from application equipment, whether in use or not.

What are the symptoms of exposure to Vectobac?

Direct contact with eyes or skin may cause mild irritation or discomfort. The chance of experiencing these symptoms of exposure with proper use is low. You should contact your physician, other medical providers or the New Jersey Poison Information and Education System (**NJPIES**) at **1-800-222-1222** if you experience these symptoms following a pesticide spraying. Bring this sheet with you if you visit a physician or other medical provider.

How long will Vectobac last in the environment?

Because **Bti** is a biological agent, it tends to break down quickly in the environment. Its breakdown in water or soil usually occurs within hours of use.

Where can I get more information on Vectobac?

The following are resources for more information regarding **Vectobac** and mosquito control in your area (unless otherwise noted, available during normal business hours):

For overall pesticide-specific information – 9:30am to 7:30pm:

National Pesticide Information Center **800-858-7378**

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System
800-222-1222

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program **609-984-6568**

For Federal pesticide regulation:

USEPA Region 2 Office of Pesticide Programs **732-321-6759**

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination **609-292-3649**

For local mosquito control information:

Bergen County Mosquito Control **201-634-2881**

For mosquito control recommendations:

Rutgers University, Department of Entomology **732-932-9437**

For local health information:

Bergen County Health Department **201-634-2600**

VectoLex® WDG

BIOLOGICAL LARVICIDE

WATER DISPERSIBLE GRANULE

ACTIVE INGREDIENT:

Bacillus sphaericus 2362, Serotype H5a5b, Strain ABTS 1743 fermentation solids, spores and insecticidal toxins 51.2% w/w

OTHER INGREDIENTS 48.8% w/w

TOTAL 100.0% w/w

Potency: This product contains 650 BsITU/mg or 0.299 Billion BsITU/lb.

The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

EPA Reg. No. 73049-57

EPA Est. No. 33762-IA-001

List No. 60201

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KEEP OUT OF REACH OF CHILDREN CAUTION

1.0

FIRST AID	
If in eyes	<ul style="list-style-type: none">• 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 inhaled	<ul style="list-style-type: none">• 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 treatment advice.
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 also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.	

2.0 PRECAUTIONARY STATEMENTS

2.1 HAZARD TO HUMANS AND DOMESTIC ANIMALS CAUTION

Causes moderate eye irritation. Harmful if inhaled. Avoid contact with eyes or clothing and breathing dust or spray mist. 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.

Mixer/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.2 ENVIRONMENTAL HAZARDS

Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

3.0 DIRECTIONS FOR USE

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

3.1 Chemigation

Do not apply this product through any type of irrigation system.

4.0 STORAGE AND DISPOSAL

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

Pesticide Storage: Store in cool [59-86°F (15-30°C)], dry place.

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 container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank. 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 flow begins to drip. Repeat this procedure two more times. Then, offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

5.0 APPLICATION DIRECTIONS

VectoLex® WDG Biological Larvicide Water Dispersible Granule (hereafter referred to as VectoLex WDG) is a selective microbial insecticide for use against mosquito larvae in a variety of habitats. VectoLex WDG can be applied to areas that contain fish, other aquatic life and plants. VectoLex WDG can be applied to areas used by or in contact with humans, pets, horses, livestock, birds, or wildlife.

Do not apply when wind speed favors drift beyond the area of treatment.

5.0 APPLICATION DIRECTIONS (Cont'd)

I. For control of mosquito larvae species* in the following non-crop sites.

Habitats	Application Rate Range
Wastewater: Sewage effluent, sewage lagoons, oxidation ponds, septic ditches, animal waste lagoons, and impounded wastewater associated with fruit and vegetable processing	0.5-1.5 lbs/acre (8-24 oz/acre)
Stormwater/Drainage Systems: Storm sewers, catch basins, drainage ditches, retention ponds, detention ponds and seepage ponds	0.5-1.5 lbs/acre (8-24 oz/acre)
Marine/Coastal Areas: Salt marshes, mangroves, and estuaries	0.5-1.5 lbs/acre (8-24 oz/acre)
Water Bodies: Natural and manmade aquatic sites such as lakes, ponds, rivers, canals and streams	0.5-1.5 lbs/acre (8-24 oz/acre)
Dormant Rice Fields: Impounded water in dormant rice fields (For application only during the interval between harvest and preparation of the field for the next cropping cycle)	0.5-1.5 lbs/acre (8-24 oz/acre)

II. For control of mosquito larvae species* in the following agricultural/crop sites where mosquito breeding occurs.

Habitats	Rate Range
Rice, pastures/hay fields, orchards, citrus groves and irrigated crops	0.5-1.5 lbs/acre (8-24 oz/acre)

Use higher rates (1-1.5 lbs/acre or 16-24 oz/acre) in areas where extended residual control is necessary, or in habitats having deep water or dense surface cover.

Apply uniformly by aerial or conventional ground equipment. Reapply as needed after 1-4 weeks.

*Mosquito species effectively controlled by VectoLex WDG:

<i>Culex spp.</i>	
<i>Aedes vexans</i>	
<i>Ochlerotatus melanimon</i>	(<i>Aedes melanimon</i>)
<i>Ochlerotatus stimulans</i>	(<i>Aedes stimulans</i>)
<i>Ochlerotatus nigromaculis</i>	(<i>Aedes nigromaculis</i>)
<i>Psorophora columbiae</i>	
<i>Psorophora ferox</i>	
<i>Ochlerotatus triseriatus</i>	(<i>Aedes triseriatus</i>)
<i>Ochlerotatus sollicitans</i>	(<i>Aedes sollicitans</i>)
<i>Anopheles quadrimaculatus</i>	
<i>Coquillettidia perturbans</i>	

6.0 GROUND AND AERIAL APPLICATION

VectoLex WDG may be applied using conventional ground or aerial application equipment with quantities of water sufficient to provide uniform coverage of the target area. For application, first add the VectoLex WDG to water to produce a final spray mixture. The amount of water will depend on weather, spray equipment, and mosquito habitat characteristics. For application, fill the mix tank or plane hopper with the desired quantity of water. **Start the mechanical or manual agitation to provide moderate circulation of water before adding the VectoLex WDG.** Backpack and compressed air sprayers may be agitated by shaking after adding VectoLex WDG to the water in the sprayer. VectoLex WDG suspends readily in water and will stay suspended over normal application periods. Brief recirculation may be necessary if the spray mixture has sat for several hours or longer. Do not mix more VectoLex WDG than can be used in a 48 hour period. **AVOID CONTINUOUS AGITATION OF THE SPRAY MIXTURE DURING SPRAYING.**

For ground application, apply 0.5-1.5 lbs or 8-24 oz (227-680 g) of VectoLex WDG in 5-100 gallons of water per acre using hand-pump, airblast, mist blower, or other spray equipment. For aerial application, apply 0.5-1.5 lbs or 8-24 oz (227-680 g) of VectoLex WDG per acre through fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or rotary atomizers at a convenient dilution rate. For aerial application, apply 0.5-10 gal of the final spray mixture per acre to provide uniform coverage of the target area.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential spray drift. The applicator and treatment coordinator are responsible for considering all these factors.

Rinse and flush spray equipment thoroughly following each use.

Amount of VectoLex WDG needed to treat small areas:

Area To Treat	Application Rate of VectoLex WDG/Acre		
	0.5 lb (8 oz)	1 lb (16 oz)	1.5 lb (24 oz)
1/4 Acre	0.125 lb (2 oz)	0.25 lb (4 oz)	0.375 lb (6 oz)
1/2 Acre	0.25 lb (4 oz)	0.5 lb (8 oz)	0.75 lb (12 oz)
10 Acres	5 lb (80 oz)	10 lb (160 oz)	15 lb (240 oz)
20 Acres	10 lb (160 oz)	20 lb (320 oz)	30 lb (480 oz)

7.0 NOTICE TO USER

To the extent consistent with applicable law, Seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning use of this product other than as indicated on this label. To the extent consistent with applicable law, User assumes all risks of use, storage or handling not in accordance with accompanying directions.

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