

Ocean County Mosquito Extermination Commission
Fact Sheet

“Fyfanon” Adulticide

This sheet answers some basic questions about mosquito control products that may be used in your county. The Ocean County Mosquito Commission, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What are these insecticides and how are they used?

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

Malathion is used for the control of adult mosquitoes. While habitat management and measures to control immature mosquitoes in water are the preferred routine approaches, 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.

How can I avoid exposure to these products?

Risk to the general public from the use of **Malathion** 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:

- 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 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.
- 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.

Ocean County Mosquito Extermination Commission Fact Sheet

“Zenivex™” Adulticide

This sheet answers some basic questions about mosquito control products that may be used in your county. The Ocean County Mosquito Commission, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is Zenivex™ adulticide and how is it used?

Zenivex™ contains a pesticide called *Etofenprox*, a member of the category of pesticides called *non-ester pyrethroids*, which are synthetic versions of pesticides produced by plants called pyrethrins. Traditional pyrethroid/piperonyl butoxide mixtures are recommended for Ultra-Low-Volume (ULV) mosquito control in New Jersey by Rutgers, The State University of New Jersey. *Zenivex™* is a non-ester pyrethroid, and therefore does not require a synergist such as piperonyl butoxide. The U.S. Environmental Protection Agency (EPA) has classified Etofenprox as a reduced risk molecule. It poses a low risk to human health and the environment when used properly as a part of an integrated mosquito control program. As formulated in *Zenivex™* adulticide, Etofenprox is considered a non-carcinogen, non-teratogen and non-mutagen.

This non-ester 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.

How can I reduce my exposure to Zenivex™?

Because of the very small amounts of active ingredients released per acre, the risk to the general public from the use of non-ester pyrethroid-containing products is minimal. Avoiding exposure is always the safest course of action. Any possible exposure risk can be reduced by the following 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 Zenivex™?

Symptoms of over-exposure can include irritation to skin and eyes. 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 (NJPIES) at 1-800-222-1222 if you experience these symptoms following a pesticide spraying.

How long will Zenivex™ last in the environment?

The non-ester pyrethroid in *Zenivex™* has a half-life of 1.7 days in water and 4.4 days in soil. The *Zenivex™* molecule rapidly degrades in sunlight at the soil and water surface into its constituent elements Carbon, Hydrogen and Oxygen.

Where can I get more information on *Zenivex™*?

The following are resources for more information regarding *Zenivex™* 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 and possible exposures – 24 hours:
New Jersey Poison Information & Education System **800-222-1222**

For New Jersey pesticide regulation & misuse complaints:
NJDEP Bureau of Pesticide Compliance and Enforcement **609-984-6568**

For Federal pesticide regulation:
USEPA Region 2 Office of Pesticide Programs **877-251-4575**

For state-wide mosquito control information:
NJDEP Office of Mosquito Control Coordination **609-292-3649**

For local mosquito control information:
The Ocean County Mosquito Commission **609-698-8271**

For mosquito control recommendations:
Rutgers University, Department of Entomology **848-932-9774**

Ocean County Mosquito Extermination Commission
Fact Sheet

“Duet Dual-Action[®] Adulticide”[®]

What is *Duet Dual-Action[®]* adulticide and how is it used?

Duet Dual-Action[®] contains two pesticides called *Prallethrin* and *Sumithrin*, and a synergistic compound called *piperonyl butoxide* which increases the effectiveness of the pesticides. 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 Dual-Action[®]*?

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 commonsense 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 Dual-Action[®]*?

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 (NJPIES) at **1-800-222-1222** if you experience these symptoms following a pesticide spraying.

How long will *Duet Dual-Action*[®] 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 Dual-Action*[®] 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 Bureau of Pesticide Compliance and Enforcement **609-984-6568**

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **877-251-4575**

For state-wide mosquito control information:
NJDEP Office of Mosquito Control Coordination **609-292-3649**

For local mosquito control information:
The Ocean County Mosquito Extermination Commission **609-698-8271**

For mosquito control recommendations:
Rutgers University, Department of Entomology **848-932-9774**

Ocean County Mosquito Extermination Commission

Fact Sheet

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

"Merus 3.0"

This Fact Sheet answers some basic questions about mosquito control products that may be used in your county. The Ocean County Mosquito Extermination Commission, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is Merus 3.0™ and how is it used?

Merus 3.0™ contains botanical insecticides called **pyrethrins**, a class of organic compounds extracted from Chrysanthemum flowers. Unlike most pyrethroids (the synthetic equivalent of pyrethrins that are more commercially available), **Merus 3.0™** does not contain additional chemical synergists such as piperonyl butoxide. **Merus 3.0™** is Organic Materials Review Institute (OMRI) listed and meets National Organic Program (NOP) standards for adult mosquito control in and around organic gardens, farms and crops. It poses a low risk to human health and the environment when used properly as part of an integrated mosquito control program. Pyrethrins are considered non-carcinogenic at exposure relevant to human use, and no data is available to indicate the product or any components present at greater than 0.1% are mutagenic or teratogenic.

Merus 3.0™ 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 necessary 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.

How can I reduce my exposure to Merus 3.0™?

Because of the very small amounts of active ingredients released per acre, the risk to the general public from the use of pyrethrin-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 Merus 3.0™?

Symptoms of over-exposure to pyrethrins can include irritation to skin and eyes, asthma-like symptoms, nausea, and vomiting. 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 (NJPIES) at **1-800-222-1222** if you experience these symptoms following a pesticide spraying.

How long will Merus 3.0™ last in the environment?

In the presence of sunlight, pyrethrin 1 (a component of pyrethrins) has a half-life of 11.8 hours in water and 12.9 hours on soil surfaces. In the absence of light, pyrethrin 1 breaks down more slowly in water. Half-lives of 14 to 17 days have been reported. When water was more acidic, pyrethrin 1 did not readily break down. Pyrethrins that enter the water do not dissolve well but tend to bind to sediment. Half-lives of pyrethrin 1 in sediment are 10.5 to 86 days.

Where can I get more information on this adulticide?

The following are resources for more information regarding **Merus 3.0™** 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 Bureau of Pesticide Compliance and Enforcement	609-984-6568
For Federal pesticide regulations: USEPA Region 2 Office of Pesticide Programs	877-251-4575
For state-wide mosquito control information: NJDEP Office of Mosquito Control Coordination	609-292-3649
For local mosquito control information: The Ocean County Mosquito Extermination Commission	609-698-8271
For mosquito control recommendations: Rutgers University, Department of Entomology	848-932-9774