MONMOUTH COUNTY MOSQUITO CONTROL DIVISION

QUESTIONS & ANSWERS - ADULT MOSQUITO TREATMENTS

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

Applications of pesticides by the Monmouth County Mosquito Control Division to control adult mosquitoes may be made at any point from May 1st through November 30th as is necessary. Below is a list of common questions and answers related to this type of pesticide application.

How does the Monmouth County Mosquito Control Division (MCMCD) determine the need for applications of pesticides for adult mosquitoes?

The MCMCD treats for adult mosquitoes in response to extreme nuisance levels or the presence of mosquito-borne disease. This decision is based on a number of factors and relies heavily on our surveillance of mosquito populations throughout the county and our monitoring of mosquitoes for the presence of mosquito-borne diseases such as West Nile Virus and Eastern Equine Encephalitis. We are also in constant communication with state and local health officials who notify us when mosquito-borne diseases are found in humans, birds, horses, and other animals.

How does MCMCD apply these pesticides?

Most applications of pesticides for adult mosquitoes, known as "adulticides," are made using ground equipment. Truck-mounted machines aerosolize the pesticide into droplets that are only microns in size. This is the ideal size to contact mosquitoes in flight, minimize droplets from falling to the ground, and allow the pesticides to be applied at only ounces per acre. Thus, these machines are known as Ultra Low Volume (ULV) Sprayers. These machines possess equipment that accurately meters out the pesticides and allows us to uniformly treat an area without over application.

Another type of ground application equipment for adulticides are handheld sprayers. These use the same aerosolizing mechanism as the truck mounted machines, but are small enough to be carried through an area by a technician on foot.

On rare occasions the MCMCD may determine that an area needs to be treated with adulticides by air. Aerial applications of adulticides are generally made to control an outbreak of mosquito-borne disease. Aerial application equipment may also be used when an extreme mosquito nuisance problem is spread over a large area and cannot be effectively treated by ground equipment. Aerial adulticide applications are made using helicopter mounted spray equipment. The helicopter is equipped with spray booms that disperse the adulticide using a series of nozzles to produce the appropriate droplet size.

What if I have more/ specific questions?

More information about our treatments for mosquitoes, including any specific plans for adulticide treatments can be found at www.visitmonmouth.com/mosquito or you can contact our office at 732-542-3630 or email us at mosquitoes@co.monmouth.nj.us. For general pesticide specific questions you can also contact the National Pesticide Information Center at 1-800-858-7378.

What can I do to reduce adult mosquitoes around my home?

Reducing mosquito habitat around your home is both essential and greatly appreciated. A third of mosquito nuisances reported by Monmouth County residents in 2014 were a result of "home grown mosquitoes." Unfortunately, MCMCD does not have the resources to abate mosquitoes at every home in the County and home grown mosquitoes detract from control efforts in other areas like fresh water swamps and salt marshes.

The most effective strategy for controlling mosquitoes around your home is to not give larval mosquitoes a place to live and grow. Mosquitoes are very resourceful and larvae can live in nearly any water filled container that lays stagnant for 7 days or more. These mosquitoes prefer not to fly very far and stick close to your home feeding off your family, pets, and neighbors.

Eliminate standing water by:

- Disposing of items that you don't need and may collect water. Those containers that you need, like buckets or watering cans, should be turned over so as not to collect water.
- Drilling drainage holes in the bottom of garbage bins.
- Keeping roof gutters clean of debris and properly pitching downspout extensions so they don't hold water.

Don't forget: check for containers under your porch or deck, under bushes, and behind sheds.
If you need advice or assistance call us at 732-542-3630 or email us at mosquitoes@co.monmouth.nj.us.

How can I tell if I am being physically affected by the pesticides?

The chance of experiencing symptoms of exposure with proper use is low. The USEPA has estimated the exposure to both adults and children posed by ULV aerial and ground applications of adulticides to be hundreds or even thousands of times below an amount that might pose a health concern. Symptoms of acute over exposure will vary according to the pesticide used and can include skin rash, difficulty breathing, eye and nasal irritation, abnormal sensations of the skin (tingling or prickling), irritation headache, nausea, dizziness, fatigue, excessive sweating, salivation, excessive tearing, and a runny nose.

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 the above symptoms following exposure to pesticide spraying.

What do I do to avoid exposure to pesticides while MCMCD is conducting treatments?

The United States Environmental Protection Agency does not require relocating or taking special precautions during mosquito control spraying. However, the Division realizes that some people may prefer to avoid or minimize exposure by practicing common sense precautions. These precautions include: staying indoors during and immediately after treatments, keeping windows shut, and turning window air conditioners and window fans off during spraying.

What if I have questions or concerns about pesticide regulations or misuse of pesticides?

If you believe that pesticides are being misused in any way or have questions about pesticides regulations please call the New Jersey Department of Environmental Protection, Pesticide Control Program at 609-984-6507.

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

"Duet Dual-Action® Adulticide"

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

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 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 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, nausaea, 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 pesticide regulation & misuse complaints:
NJDEP Pesticide Control Program **609-984-6507**

For 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 mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9774**

For local mosquito control information:
Monmouth County Mosquito Control Division **732-542-3630**

For health related pesticide information:
The Monmouth County Health Department **732-431-7456**

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

"Fyfanon®"

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

What is Fyfanon® and how is it used?

Fyfanon® is an insecticide product that is recommended for mosquito control in New Jersey by Rutgers, The State University of New Jersey. Fyfanon® contains the pesticides called ***"Malathion."*** The U.S. Environmental Protection Agency's (EPA) current evaluation considers Malathion containing products to be slightly toxic. Malathion when applied according to the label, can be used for public health mosquito control without posing unreasonable risks to the general population.

Fyfanon® is used for the control of adult mosquitoes. While habitat management and measures to control immature mosquitoes in water are preferred, 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. As reported on EPA pesticide fact sheets, ULV applications involve small quantities of active ingredient in relation to the size of the treated area which minimizes exposure and risks to people and the environment.

How can I reduce my exposure to Fyfanon®?

While risk to the general public from the use of **Fyfanon®** may be 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.
- Keep children's toys indoors.
- Keep your pets, their food, water dishes and toys indoors.
- 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 Fyfanon®?

Symptoms of exposure can include headache, nausea, dizziness, excessive sweating, salivation, excessive tearing, and a runny nose. The chance of experiencing these symptoms of exposure with proper use is low. EPA has estimated the exposure to both adults and children posed by ULV aerial and ground applications of malathion to be hundreds or even thousands of times below and amount that might pose a health concern. 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 the above symptoms following a pesticide spraying. Bring this sheet with you if you visit a physician or other medical provider.

How long will Fyfanon® last in the environment?

The **Fyfanon®** spray stays in the air for a short time until it lands on surfaces. Malathion has a low persistence and breaks down in water and soil within 1 to 25 days. Malathion breaks down faster in sunlight. The EPA cites that Malathion does not pose unreasonable risks to wildlife or the environment.

Where can I get more information on Fyfanon®?

The following are resources for more information regarding **Fyfanon®** 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 pesticide regulation & misuse complaints:
NJDEP Pesticide Control Program **609-984-6507**

For 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 mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9774**

For local mosquito control information:
Monmouth County Mosquito Control Division **732-542-3630**

For health related pesticide information:
The Monmouth County Health Department **732-431-7456**

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

"Scourge®"

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

What is Scourge® and how is it used?

Scourge® is an insecticide product that is recommended for mosquito control in New Jersey by Rutgers, The State University of New Jersey. Scourge® contains the pesticides called ***"Resmethrin and Piperonyl Butoxide (PBO)."*** The U.S. Environmental Protection Agency's (EPA) current evaluation considers Pyrethroid/piperonyl butoxide containing products to be slightly toxic with minimal potential risk to people when used properly as part of an integrated mosquito control program.

Scourge® is used for the control of adult mosquitoes. While habitat management and measures to control immature mosquitoes in water are preferred, 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. As reported on EPA pesticide fact sheets, ULV applications involve small quantities of active ingredient in relation to the size of the treated area which minimizes exposure and risks to people and the environment.

How can I reduce my exposure to Scourge®?

While risk to the general public from the use of **Scourge®** may be 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.
- Keep children's toys indoors.
- Keep your pets, their food, water dishes, and toys indoors.
- 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 Scourge®?

Irritation or sensitization sometimes occurs after exposure, causing an asthmatic condition or skin rash. 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 Scourge® last in the environment?

Pyrethroid spray stays in the air for a short time until it lands on surfaces. Pyrethroids have a low persistence and break down in water and soil within 1 to 25 days. Pyrethroids break down faster in sunlight. The EPA cites that pyrethroids do not pose unreasonable risks to wildlife or the environment when used as part of a mosquito control program.

Where can I get more information on Scourge®?

The following are resources for more information regarding **Scourge®** 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 pesticide regulation & misuse complaints:
NJDEP Pesticide Control Program **609-984-6507**

For 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 mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9774**

For local mosquito control information:
Monmouth County Mosquito Control Division **732-542-3630**

For health related pesticide information:
The Monmouth County Health Department **732-431-7456**

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

"Zenivex® Adulticide"

This **Fact Sheet** answers some basic questions about mosquito control products in use in your county. The Monmouth County Mosquito Control Division, 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 pesticide. It poses a low risk to human health and the environment when used properly as 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 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 *Zenivex®*?

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 *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. *Zenivex*® 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 this adulticide?

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
& possible exposures – 24 hours:
New Jersey Poison Information
& Education System **800-222-1222**

For pesticide regulation & misuse complaints:
NJDEP Pesticide Control Program **609-984-6507**

For 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 mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9774**

For local mosquito control information:
Monmouth County Mosquito Control Division **732-542-3630**

For health related pesticide information:
The Monmouth County Health Department **732-431-7456**