



**Essex County
Department of Public Works
Division of Environmental Affairs**

General Mosquito Question and Answer Sheet

What does the agency do?

As the first mosquito control agency established in the state, Essex County's Division of Environmental Affairs has been protecting the residents of Essex County from mosquito-borne diseases through public education, surveillance and control of mosquitoes since the birth of mosquito control in New Jersey over 100 years ago. The division performs "all acts which in its opinion may be necessary for the elimination of mosquito breeding areas, or which will tend to exterminate mosquitoes within the county." A comprehensive surveillance program guides the agencies activities and control is emphasized on the elimination of mosquito-breeding habitat and eradication of mosquitoes when they are still in the aquatic stages of their development. Surveillance for mosquito borne diseases concentrates on the newly introduced West Nile virus, but may also include Eastern equine encephalitis and Saint Louis encephalitis.

What control efforts are utilized by the agency?

In order to accomplish long-range and environmentally sound mosquito control, we employ an Integrated Pest Management (IPM) approach. This program incorporates many pest control methods including vector surveillance, breeding source prevention and reduction, biological and chemical control, and public education. With an IPM strategy, control efforts focus primarily on the immature, water-borne stages of the mosquito. The immature stages are generally confined to an aquatic microhabitat and are easier to treat since they cannot escape control measures.

The primary insecticide used to control the immature stage is a biorational larvacide, which uses bacteria called *Bacillus thuringiensis israelensis* (Bti) to specifically target mosquito larvae. Mosquitoes feed on the bacteria, which then releases a crystallized toxin that ruptures the larval stomach and causes death. Another target specific larvacide uses another bacteria called *Bacillus sphaericus* (Bs) for the same

purpose. At times, an insect growth regulator that mimics naturally found hormones in mosquito larvae are used to suspend and damage the developmental stages of the immature mosquitoes. Chemical control measures are also taken by using an organophosphate larvicide on older larvae that no longer feed. A petroleum oil derivative is also used from time to time, which is mainly used as a pupicide in aquatic habitats. A synthetic pyrethroid may be used as an adulticide if unusually large numbers of adult mosquitoes are present and public health is threatened. All pesticide applications comply with guidelines recommended for mosquito control in New Jersey by the Agricultural Experiment Station of Rutgers University and regulations set forth by the NJ Department of Environmental Protection.

Biological control measures are also taken by utilizing different fish species to control larval populations in enclosed aquatic habitats. The state of New Jersey has established a statewide mosquito fish program that uses resources from the Division of Fish and Game to provide mosquito fish, *Gambusia affinis*, to counties as needed. In addition to *Gambusia*, the program also offers other species of fish for mosquito control, including the fathead minnow and two species of sunfish.

The agency also conducts year-round water management and source reduction projects that eliminate standing water. ECDEA has adopted strategies, in accordance with New Jersey Department of Environmental Protection's Best Management Practices (BMP), to reduce mosquito-breeding habitat by physically managing water's flow. This can range from removing logjams and blocks from a waterway, cleaning of detention and retention basins to ensure proper drainage, stream clearance and environmentally friendly beaver management. Although most water management activities are conducted during the winter in preparation for the approaching season, management is also undertaken as needed during the summer season. Tire collections and removal have also been incorporated to reduce habitat areas for container breeding mosquitoes.

When is the agency active?

Mosquito control is a year-round activity. Generally, the seasonal control operations start in March with the hatching of snow pool mosquito species and continue into November until the temperatures drop significantly. Although ECDEA is most active during the summer season, many activities are also undertaken during the winter. Follow-up record keeping on the season's mosquito activity at all the breeding sites continues beyond the active mosquito season. The inspection routes are revised, surveillance data analyzed to identify areas of high mosquito populations and virus activity, appropriate permits are pursued, equipment is maintained, and plans and protocols revised for the following season. Public education is also another important component of the activities of ECDEA. Agency personnel are available for mosquito education presentations at local schools, community and civic centers.

What can homeowners do?

Homeowners can provide effective control by eliminating standing water on their property. Any container holding water is a potential mosquito-breeding source and is likely to cause problems around the house. Of concern are clogged gutters and scattered tires. Both tend to collect leaves, then fill with water and provide extremely attractive sites for mosquitoes to breed. Since these containers are watertight, they dry out very slowly and are generally the cause of mosquito problems around the home. Gutters

should be kept clean and other containers removed or overturned to limit mosquito-breeding sites. Items such as dog water bowls, horse-watering troughs, and birdbaths should be emptied and refilled at least once a week. Small depressions in the yard can be filled to prevent the accumulation of water. If larger wet areas exist on the property, they should be brought to the attention of the ECDEA.

Keeping adult mosquitoes out of the home is another step. Homeowners should make sure that window and door screens are properly fitted, and holes patched to prevent mosquitoes from entering the home. Personal protective measures should also be undertaken to limit exposure to mosquitoes as much as possible. Limit outdoor activities during the dawn and dusk hours when most species of mosquitoes are active. If outdoor activity is necessary, wear long sleeve clothing to limit exposure areas to mosquitoes. A wide variety of repellents are available to provide relief from mosquitoes and other biting insects. Most repellents contain the same active ingredient and are readily available at a variety of stores. Repellents are generally effective, but caution should be used and manufacturers directions followed carefully.

What pesticides are used to control mosquitoes in Essex County?

The majority of the pesticides used are products to control mosquito larvae in the water. However, it is sometimes necessary to use pesticides to control adult mosquitoes. For more information regarding the specific pesticides used, please refer to the accompanying NJ Department of Environmental Protection approved Fact Sheets.

Where can I find more specific information on mosquito spraying in Essex County and how will I be notified of the spraying?

The community will be notified of any adulticiding activity in Essex County whether by ground or aerial applications through announcements in two local newspapers, via our hotline (973-239-3366 x 2480), and also the agencies web site (below). Any citizen has the right to ask for specific information about a planned application in the county prior to the application.

How can county residents contact Essex County Division of Environmental Affairs?

If mosquitoes present a problem in your area, or you would like a site inspected by division personnel, the below contact information may be used.

Essex County Division of Environmental Affairs

99 West Bradford Ave

Cedar Grove, NJ 07009

Tel: 973-239-3366 x2480

Email: ewilliges@essexcountynj.org

<http://ecdpw.org/>

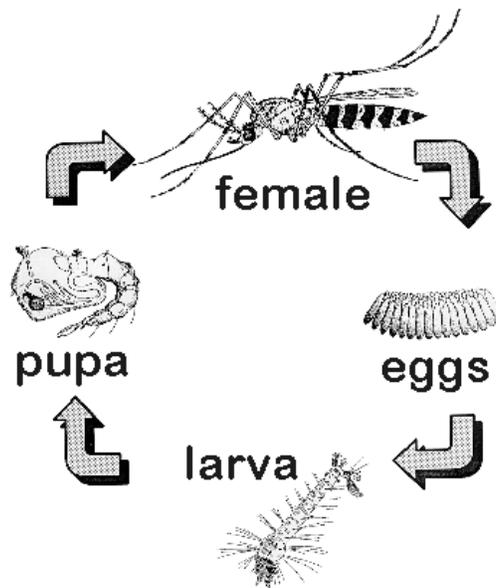
All complaints and general calls are promptly investigated, with follow ups conducted to ensure that the problem does not persist.

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

Mosquitoes...What Everyone Should Know

What is the life cycle of mosquitoes?

Mosquitoes of different species lay their eggs in a variety of water sources that range from small containers to vast expanses of marshland. The larval stage is always aquatic and shuttles from the subsurface where it filter feeds on micro-organisms to the surface to obtain oxygen through a snorkel-like breathing apparatus. The pupal stage does not feed but unlike most insect pupae is extremely active. The adult emerges from the pupal case using air pressure and assumes a terrestrial existence.



Drawing by Brett Crans

Mosquitoes have four stages of development: egg, larva, pupa, and adult, and they spend their larval and pupal stages in water. Female mosquitoes of most pest species in Essex County deposit eggs on moist surfaces such as mud or fallen leaves. Rain refloods these surfaces and stimulates the hatching of the eggs, starting the life cycle. Other mosquito species in the county lay their eggs on the surface of permanent water and since the water is constantly present, there are always eggs hatching and larvae developing. Mosquitoes take approximately one week to develop from egg to the flying adult. After emerging from the aquatic stages, adult mosquitoes mate and the females seek a blood meal to obtain nutrients necessary for egg development. Only the female adult bites, while both sexes utilize sugar sources for general nutrient requirements. While various species differ significantly, the average life expectancy for adult mosquitoes is 4-6 weeks during the summer.

How many kinds of mosquitoes are there?

About 3000 species of mosquitoes have been described on a world-wide basis with approximately 150 known to occur in North America. The term "Mosquito State" is appropriate for New Jersey because 64 species of mosquitoes have been found within its boundaries, to date. Only 15 of those species have been documented in Essex County so far. This number should rise drastically, as the surveillance and identification efforts of the county improve for the upcoming season.

Why do mosquitoes bite?

Mosquitoes belong to a group of insects that require blood to develop fertile eggs. Males do not lay eggs and do not bite. The females are the egg producers and "host-seek" for a blood meal. Female mosquitoes lay multiple batches of eggs and require a blood meal for every batch they lay. Few people realize that mosquitoes rely on sugar as their main source of energy. Both male and female mosquitoes feed on plant nectar, fruit juices and liquids that ooze from plants. The sugar is burned as fuel for flight and is replenished daily. Blood is reserved for egg production and is imbibed less frequently.

Why do mosquitoes leave welts when they bite?

When a female mosquito pierces the skin with her mouthparts, she injects a small amount of saliva into the wound before drawing blood. The saliva makes penetration easier and prevents the blood from clotting in the narrow channel of her food canal. The welts that appear after the mosquito leaves is not a reaction to the wound but an allergic reaction to the saliva injected to prevent clotting. In most cases, the itching sensation and swellings subside within several hours. Some people are highly sensitive, and symptoms persist for several days. Scratching the bites can result in infection if bacteria from the fingernails are introduced to the wounds.

Can mosquitoes carry diseases?

Mosquitoes are highly developed blood-sucking insects and are the most formidable transmitters of disease in the animal kingdom. Mosquito-borne diseases are caused by human parasites that have a stage in their life cycle that enters the blood stream. The female mosquito picks up the blood stage of the parasite when she imbibes blood to develop her eggs. The parasites generally use the mosquito to complete a portion of their own life cycle and either multiply, change in form inside the mosquito or do both. After the mosquito lays her eggs, she seeks a second blood meal and transmits the fully developed parasites to the next unwilling host. Malaria is a parasitic protozoan that infects the blood cells of humans and is transmitted from one human to the next by *Anopheles* mosquitoes. Encephalitis is a virus of the central nervous system that is passed from infected birds to humans by mosquitoes that accept birds as blood meal hosts in addition to humans. Yellow fever is a virus infection of monkeys that can either be transmitted from monkey to human or from human to human in tropical areas of the world. Dog heartworm is a large filarial worm that lives in the heart of dogs but produces a blood stage small enough to develop in a mosquito. The dog heartworm parasite does not develop properly in humans and is not regarded as a human health problem. A closely related parasite, however, produces human elephantiasis in some tropical areas of the

world, a debilitating mosquito-borne affliction that results in grossly swollen arms legs and genitals.

Can mosquitoes transmit AIDS?

The HIV virus that produces AIDS in humans **does not** develop in mosquitoes. If HIV infected blood is taken up by a mosquito the virus is treated like food and digested along with the blood meal. If the mosquito takes a partial blood meal from an HIV positive person and resumes feeding on a non-infected individual, insufficient particles are transferred to initiate a new infection. If a fully engorged mosquito with HIV positive blood is squashed on the skin, there would be insufficient transfer of virus to produce infection. The levels of HIV that circulate in human blood are so low that it is unlikely for a mosquito to pick up any sufficient numbers for a secondary infection.

For more information on mosquitoes and mosquito-borne diseases, please visit the following sites:

New Jersey Mosquito Biology and Control- www.njmca.org

American Mosquito Control Association- www.mosquito.org

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

Abate

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Division of Environmental Affairs, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is Abate and how is it used?

Abate is a larvicide that is used to prevent mosquito larvae from molting into the adult stage. **Abate** contains the active ingredient of **temephos**, which is an organophosphate chemical toxic to mosquito larvae on contact or ingestion. The product inhibits chemical pathways in the larval mosquito, causing hyperactivity and larval death. **Abate** is recommended for mosquito control in New Jersey by the Agricultural Experiment Station of Rutgers University. The U.S. Environmental Protection Agency's (EPA) current evaluation considers **temephos**- containing products to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

Abate is applied to water to prevent mosquitoes from emerging in lakes, ponds and other aquatic habitats. Since the product specifically targets mosquito larvae, it has minimal effect on other organisms. **Abate** is a 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 Abate?

Risk to the general public from the use of **Abate** is minimal. Avoiding exposure is always the safest course of action, and 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 Abate?

Temephos is not a skin irritant or a sensitizer. The chance of experiencing symptoms of exposure with proper use is very 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.

Where can I get more information on Abate?

The following are resources for more information regarding **Abate** 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

<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System

800-222-1222

<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program

609-984-6568

<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs

732-321-6759

<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination

609-292-3649

<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control

973-239-3366 x2480

http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:

Rutgers University, Department of Entomology

732-932-9437

<https://entomology.rutgers.edu/>

EPA:

<https://www.epa.gov/mosquitocontrol>

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

Altosid

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Division of Environmental Affairs, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is **Altosid** and how is it used?

Altosid is a larvicide in both solid and liquid formulations that is used to prevent mosquito larvae from molting into the adult stage. **Altosid** contains the active ingredient of **methoprene**, which is an imitation of a hormone found in mosquitoes that keeps larvae in the immature or juvenile stage. The product causes abnormalities in the growth and shedding processes of mosquito larvae and causes death in the pupal stage. **Altosid** is recommended for mosquito control in New Jersey by the Agricultural Experiment Station of Rutgers University. The U.S. Environmental Protection Agency's (EPA) current evaluation considers **methoprene**-containing products to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

Altosid is applied to water to prevent mosquitoes from emerging in lakes, ponds and other aquatic habitats. Since the product specifically targets mosquito larvae, it has minimal effect on other organisms. **Altosid** is a 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 **Altosid**?

Risk to the general public from the use of **Altosid** is minimal. Avoiding exposure is always the safest course of action and 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.
- Avoid 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 **Altosid**?

Methoprene is not a skin irritant or a sensitizer. The chance of experiencing symptoms of exposure with proper use is very 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 **Altosid** last in the environment?

Methoprene has a low persistence and breaks down in water within a few days. In soil, it breaks down in less than 10 days.

Where can I get more information on **Altosid**?

The following are resources for more information regarding **Altosid** 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

<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System

800-222-1222

<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program

609-984-6568

<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs

732-321-6759

<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination

609-292-3649

<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control

973-239-3366 x2480

http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:

Rutgers University, Department of Entomology

732-932-9437

<https://entomology.rutgers.edu/>

For general information on the pesticide Altosid:

Extension Toxicology Network:

<http://npic.orst.edu/ingred/methoprene.html>

EPA:

<https://www.epa.gov/mosquitocontrol>

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

Aqua-Reslin

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Division of Environmental Affairs, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is **Aqua-Reslin** and how is it used?

Aqua-Reslin is an insecticide product that is recommended for Ultra Low-Volume mosquito control in New Jersey by Rutgers, The State University of New Jersey. It contains the pesticides called **Permethrin** and **PBO**. The U.S. Environmental Protection Agency (EPA) current evaluation considers **Permethrin** and **PBO** containing products to be slightly toxic with minimal potential risk to people when used properly as part of an integrated mosquito control program.

Aqua-Reslin 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 avoid exposure to **Aqua-Reslin**?

- Risk to the general public from the use of **Aqua-Reslin** is minimal. Avoiding exposure is always the safest course of action, and 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 closed and with window air conditioners on non-vent (closed to the outside) and window fans turned off during spraying.
- Avoid direct contact with surfaces that are 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 **Aqua-Reslin**?

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.

How long will **Aqua-Reslin** last in the environment?

The **Aqua-Reslin** spray stays in the air for a short time until it lands on surfaces. **Permethrin** has a low persistence and breaks down in water and soil within 25 days. **Permethrin** breaks down faster in sunlight.

Where can I get more information on **Aqua-Reslin**?

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

National Pesticide Information Center

800-858-7378

<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System

800-222-1222

<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program

609-984-6568

<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs

732-321-6759

<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination

609-292-3649

<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control

973-239-3366 x2480

http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:

Rutgers University, Department of Entomology

732-932-9437

<https://entomology.rutgers.edu/>

EPA:

<https://www.epa.gov/mosquitocontrol>

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

Aqua-Zenivex

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Division of Environmental Affairs, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is **Aqua-Zenivex** and how is it used?

Aqua-Zenivex is an insecticide product that is recommended for Ultra Low-Volume mosquito control in New Jersey by Rutgers, The State University of New Jersey. It contains the pesticides called **Etofenprox**. The U.S. Environmental Protection Agency (EPA) current evaluation considers **Etofenprox** containing products to be slightly toxic with minimal potential risk to people when used properly as part of an integrated mosquito control program.

Aqua-Zenivex 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 avoid my exposure to **Aqua-Zenivex**?

- Risk to the general public from the use of **Aqua-Zenivex** is minimal. Avoiding exposure is always the safest course of action, and 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 closed and with window air conditioners on non-vent (closed to the outside) and window fans turned off during spraying.
- Avoid direct contact with surfaces that are 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 **Aqua-Zenivex**?

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.

How long will **Aqua-Zenivex** last in the atmosphere?

The **Aqua-Zenivex** spray stays in the air for a short time until it lands on surfaces. **Etofenprox** has a low persistence and breaks down in water and soil within 25 days. **Etofenprox** breaks down faster in sunlight.

Where can I get more information on **Aqua-Zenivex**?

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

National Pesticide Information Center

800-858-7378

<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System

800-222-1222

<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program

609-984-6568

<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs

732-321-6759

<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination

609-292-3649

<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control

973-239-3366 x2480

http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:

Rutgers University, Department of Entomology

732-932-9437

<https://entomology.rutgers.edu/>

EPA:

<https://www.epa.gov/mosquitocontrol>

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

AquaBac 200G

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Division of Environmental Affairs, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is **AquaBac 200G** and how is it used?

AquaBac 200G is a bacterial granular larvicide that is recommended for mosquito control in New Jersey by the Agricultural Experiment Station of Rutgers University. It contains the active ingredient called **Bacillus thuringiensis israelensis (Bti)**. The U.S. Environmental Protection Agency's (EPA) current evaluation considers **Bti**- containing products to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

AquaBac 200G contains parts of a naturally occurring soil bacterium. When mosquito larvae eat the spores, toxins are released by the mosquito's stomach fluids, which in turn cause the larvae to die. **AquaBac 200G** 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 **AquaBac 200G**?

Risk to the general public from the use of **AquaBac 200G** is very minimal. Avoiding exposure is always the safest course of action, and 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 **AquaBac 200G**?

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 **AquaBac 200G** 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 **AquaBac 200G**?

The following are resources for more information regarding **AquaBac 200G** 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

<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System

800-222-1222

<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program

609-984-6568

<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs

732-321-6759

<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination

609-292-3649

<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control

973-239-3366 x2480

http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:

Rutgers University, Department of Entomology

732-932-9437

<https://entomology.rutgers.edu/>

For general information on the pesticide Aquabac:

Extension Toxicology Network <http://npic.orst.edu/factsheets/BTgen.pdf>

EPA:

<https://www.epa.gov/mosquitocontrol>

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

BVA 2 Mosquito Larvicide Oil

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Division of Environmental Affairs, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is **BVA 2 Mosquito Larvicide Oil** and how is it used?

BVA 2 Mosquito Larvicide Oil is petroleum oil derivative that is recommended for mosquito control in New Jersey by the Agricultural Experiment Station of Rutgers University. It contains a special oil formulation as the active ingredient. The U.S. Environmental Protection Agency's (EPA) current evaluation considers petroleum oil containing products to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

BVA 2 Mosquito Larvicide Oil is used to kill mosquitoes in the water by spreading a thin layer of oil on top of the water surface. It acts on larvae and pupae of mosquitoes by suffocating them as they take in toxic vapors through their breathing tubes. **BVA 2 Mosquito Larvicide Oil** 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 **BVA 2 Mosquito Larvicide Oil**?

Risk to the general public from the use of **BVA 2 Mosquito Larvicide Oil** is minimal. Avoiding exposure is always the safest course of action, and 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.
- 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 **BVA 2 Mosquito Larvicide Oil**?

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 **BVA 2 Mosquito Larvicide Oil** last in the environment?

The oil photo degrades rapidly in water, breaking down after a few days.

Where can I get more information on **BVA 2 Mosquito Larvicide Oil**?

The following are resources for more information regarding **BVA 2 Mosquito Larvicide Oil** 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**
<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:
New Jersey Poison Information & Education System **800-222-1222**
<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:
NJDEP Pesticide Control Program **609-984-6568**
<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**
<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:
NJDEP Office of Mosquito Control Coordination **609-292-3649**
<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:
Essex County Mosquito Control **973-239-3366 x2480**
http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**
<https://entomology.rutgers.edu/>

EPA:
<https://www.epa.gov/mosquitocontrol>

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

CocoBear

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

What is **CocoBear** and how is it used?

CocoBear 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 **Mineral Oil**. The U.S. Environmental Protection Agency's (EPA) current evaluation considers **Mineral Oil**-containing products to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

CocoBear is used to prevent mosquitoes from hatching in lakes, ponds, and other bodies of water. It acts on the pupa, or immature stage, of the mosquito in water immediately before the flying mosquito emerges. **CocoBear** 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 **CocoBear**?

Risk to the general public from the use of **CocoBear** 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.
- Move animals and their food and water dishes out of the application areas
- Stay away from application equipment, whether or not it is in use

What are the symptoms of exposure to **CocoBear**?

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 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.

Where can I get more information on **CocoBear**?

The following are resources for more information regarding **CocoBear** 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

<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System

800-222-1222

<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program

609-984-6568

<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs

732-321-6759

<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination

609-292-3649

<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control

973-239-3366 x2480

http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:

Rutgers University, Department of Entomology

732-932-9437

<https://entomology.rutgers.edu/>

EPA:

<https://www.epa.gov/mosquitocontrol>

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

Duet

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Division of Environmental Affairs, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is **Duet** and how is it used?

Duet is an insecticide product that is recommended for Ultra Low- Volume mosquito control in New Jersey by Rutgers, The State University of New Jersey. It contains the pesticides **Prallethrin**, **Sumithrin**, and **PBO**. The U.S. Environmental Protection Agency (EPA) current evaluation considers **Prallethrin**, **Sumithrin**, and **PBO** containing products to be slightly toxic with minimal potential risk to people when used properly as part of an integrated mosquito control program.

Duet 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 avoid my exposure to **Duet**?

- Risk to the general public from the use of **Duet** is minimal. Avoiding exposure is always the safest course of action, particularly for populations that may be at higher risk such as pregnant women, 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 closed and with window air conditioners on non-vent (closed to the outside) and window fans turned off during spraying.
- Avoid direct contact with surfaces that are 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**?

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.

How long will **Duet** last in the environment?

The **Duet** spray stays in the air for a short time until it lands on surfaces. **Prallethrin** and **Sumithrin** have a low persistence and break down in water and soil within 25 days. **Prallethrin** and **Sumithrin** break down faster in sunlight.

Where can I get more information on **Duet**?

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

National Pesticide Information Center

800-858-7378

<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System

800-222-1222

<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program

609-984-6568

<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs

732-321-6759

<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination

609-292-3649

<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control

973-239-3366 x2480

http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:

Rutgers University, Department of Entomology

732-932-9437

<https://entomology.rutgers.edu/>

EPA:

<https://www.epa.gov/mosquitocontrol>

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

Fourstar

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

What is **Fourstar** and how is it used?

Fourstar 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 sphaericus** and **Bacillus thuringiensis subspecies israelensis**. The U.S. Environmental Protection Agency's (EPA) current evaluation considers **Bacillus sphaericus** and **Bacillus thuringiensis subspecies israelensis** -containing products to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

Fourstar is used to prevent mosquitoes from hatching in lakes, ponds, and other bodies of water. It acts on the pupa, or immature stage, of the mosquito in water immediately before the flying mosquito emerges. **Fourstar** 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 **Fourstar**?

Risk to the general public from the use of **Fourstar** is minimal. Avoiding exposure is always the safest course of action and 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.
- Move animals and their food and water dishes out of the application areas
- Stay away from application equipment, whether or not it is in use

What are the symptoms of exposure to **Fourstar**?

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 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.

Where can I get more information on **Fourstar**?

The following are resources for more information regarding **Fourstar** 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
<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:
New Jersey Poison Information & Education System 800-222-1222
<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:
NJDEP Pesticide Control Program 609-984-6568
<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs 732-321-6759
<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:
NJDEP Office of Mosquito Control Coordination 609-292-3649
<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:
Essex County Mosquito Control 973-239-3366 x2480
http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:
Rutgers University, Department of Entomology 732-932-9437
<https://entomology.rutgers.edu/>

EPA:
<https://www.epa.gov/mosquitocontrol>

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

Fyfanon ULV

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Division of Environmental Affairs, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is **Fyfanon ULV** and how is it used?

Fyfanon ULV is an organophosphate insecticide that is recommended for mosquito control in New Jersey by the Agricultural Experiment Station of Rutgers University. It contains the active ingredients of **malathion** and **piperonyl butoxide**. The U.S. Environmental Protection Agency's (EPA) current evaluation considers **malathion** and **piperonyl butoxide**- containing products to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

Fyfanon ULV applications are made with Ultra Low Volume (ULV) equipment, which put out very small drops of the material at very low levels. 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. The application of **Fyfanon ULV** will only be conducted if deemed absolutely necessary. A very fine mist is sprayed into the air since flying mosquitoes must directly contact the pesticide in order for it to be effective. **Fyfanon ULV** is not residual and breaks down rapidly in sunlight, minimizing the buildup of this product in the environment.

How can I avoid exposure to **Fyfanon ULV**?

Risk to the general public from the use of **Fyfanon ULV** is minimal however 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 newspaper, 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.

What are the symptoms of exposure to **Fyfanon ULV**?

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 **Fyfanon ULV** last in the environment?

The **Fyfanon ULV** spray stays in the air for a short time until it lands on surfaces. Malathion has a low persistence and lasts no longer than 25 days in water and soil. Malathion breaks down faster in sunlight.

Where can I get more information on **Fyfanon ULV**?

The following are resources for more information regarding **Fyfanon ULV** 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

<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System

800-222-1222

<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program

609-984-6568

<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs

732-321-6759

<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination

609-292-3649

<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control

973-239-3366 x2480

http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:

Rutgers University, Department of Entomology

732-932-9437

<https://entomology.rutgers.edu/>

For general information on the pesticide **Fyfanon ULV** and **malathion**:

Extension Toxicology Network <http://npic.orst.edu/factsheets/malagen.pdf>

EPA:

<https://www.epa.gov/mosquitocontrol>

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

Golden Bear-1111 Oil

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Division of Environmental Affairs, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is **Golden Bear** and how is it used?

Golden Bear is petroleum oil derivative that is recommended for mosquito control in New Jersey by the Agricultural Experiment Station of Rutgers University. It contains a special oil formulation as the active ingredient. The U.S. Environmental Protection Agency's (EPA) current evaluation considers petroleum oil containing products to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

Golden Bear is used to kill mosquitoes in the water by spreading a thin layer of oil on top of the water surface. It acts on larvae and pupae of mosquitoes by suffocating them as they take in toxic vapors through their breathing tubes. Golden Bear 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 **Golden Bear**?

Risk to the general public from the use of **Golden Bear** is minimal. Avoiding exposure is always the safest course of action, and 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.
- 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 **Golden Bear**?

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 **Golden Bear** last in the environment?

The oil photo degrades rapidly in water, breaking down after a few days.

Where can I get more information on **Golden Bear**?

The following are resources for more information regarding Golden Bear 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

<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System

800-222-1222

<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program

609-984-6568

<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs

732-321-6759

<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination

609-292-3649

<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control

973-239-3366 x2480

http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:

Rutgers University, Department of Entomology

732-932-9437

<https://entomology.rutgers.edu/>

EPA:

<https://www.epa.gov/mosquitocontrol>

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 Essex County. Essex County Division of Environmental Affairs, 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 imitation mimic of a naturally occurring insecticide that is produced by certain chrysanthemum flowers. It is an adulticide that is recommended for mosquito control in New Jersey by the Agricultural Experiment Station of Rutgers University. It contains the active ingredients of **resmethrin** and **piperonyl butoxide**. The U.S. Environmental Protection Agency's (EPA) current evaluation considers **resmethrin** and **piperonyl butoxide**- containing products to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

Scourge applications are made with Ultra Low Volume (ULV) equipment, which put out very small drops of the material at very low levels. 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. The application of **Scourge** will only be conducted if deemed absolutely necessary. A very fine mist is sprayed into the air since flying mosquitoes must directly contact the pesticide in order for it to be effective. **Scourge** is not residual and breaks down rapidly in sunlight, minimizing the buildup of this product in the environment.

How can I avoid exposure to **Scourge**?

Risk to the general public from the use of **Scourge** is minimal. Avoiding exposure is always the safest course of action, and any possible exposure risk can be reduced by following some common sense actions:

- Pay attention to notices about spraying found through newspaper, websites, automated telephone messages or distributed by municipal, county or state agencies.
- Plan your activities to limit time spent outside during times of possible 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.

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?

The **Scourge** spray stays in the air for a short time until it lands on surfaces. Resmethrin has a low persistence and lasts no longer than 25 days in water and soil

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, during normal business hours):

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

National Pesticide Information Center **800-858-7378**
<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System **800-222-1222**
<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program **609-984-6568**
<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs **732-321-6759**
<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination **609-292-3649**
<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control **973-239-3366 x2480**
http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:
Rutgers University, Department of Entomology
<https://entomology.rutgers.edu/>

732-932-9437

EPA:
<https://www.epa.gov/mosquitocontrol>

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

VectoBac

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Division of Environmental Affairs, 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 a bacterial larvicide that is recommended for mosquito control in New Jersey by the Agricultural Experiment Station of Rutgers University. It contains the active ingredient called **Bacillus thuringiensis israelensis (Bti)**. The U.S. Environmental Protection Agency's (EPA) current evaluation considers **Bti**-containing products to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

Vectobac contains parts of a naturally occurring soil bacterium. When mosquito larvae eat the spores, toxins are released by the mosquito's stomach fluids, which in turn cause the larvae to die. **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 very minimal. The bacterial spores that are so lethal to mosquitoes are harmless to other organisms. Avoiding exposure is always the safest course of action, and 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
<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System 800-222-1222
<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program 609-984-6568
<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs 732-321-6759
<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination 609-292-3649
<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control 973-239-3366 x2480
http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:

Rutgers University, Department of Entomology 732-932-9437
<https://entomology.rutgers.edu/>

For general information on the pesticide Vectobac (Bti):

Extension Toxicology Network <http://npic.orst.edu/factsheets/BTgen.pdf>

EPA:

<https://www.epa.gov/mosquitocontrol>

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

VectoPrime

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Division of Environmental Affairs, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is **VectoPrime** and how is it used?

VectoPrime is a larvicide that is recommended for mosquito control in New Jersey by the Agricultural Experiment Station of Rutgers University. It contains the active ingredient **Bti** and **(S)-methoprene**. The EPA's current evaluation considers both **Bti** and **(S)-methoprene** containing products to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

VectoPrime contains parts of a naturally occurring soil bacterium **Bti**. When mosquito larvae eat the spores, toxins are released by the mosquito's stomach fluids, which in turn cause the larvae to die. It also contains **(S)-methoprene** which is an imitation of a hormone found in mosquitoes that keeps larvae in the immature or juvenile stage. The product causes abnormalities in the growth and shedding processes of mosquito larvae and causes death in the pupal stage. **VectoPrime** 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 **VectoPrime**?

Risk to the general public from the use of **VectoPrime** is very minimal. The bacterial spores that are so lethal to mosquitoes are harmless to other organisms. 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 illness. 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 **VectoPrime**?

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 **VectoPrime** 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. **(S)-Methoprene** has a low persistence and breaks down in water within a few days. In soil, it breaks down in less than 10 days.

Where can I get more information on **VectoPrime**?

The following are resources for more information regarding **VectoPrime** 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

<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System

800-222-1222

<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program

609-984-6568

<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs

732-321-6759

<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination

609-292-3649

<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control

973-239-3366 x2480

http://www.ecdpw.org/mosquito_control.php

For mosquito control recommendations:

Rutgers University, Department of Entomology

732-932-9437

<https://entomology.rutgers.edu/>

EPA:

<https://www.epa.gov/mosquitocontrol>

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

Zenivex

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Division of Environmental Affairs, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is **Zenivex** and how is it used?

Zenivex is an insecticide product that is recommended for Ultra Low- Volume mosquito control in New Jersey by Rutgers, The State University of New Jersey. It contains the pesticides called **Etofenprox**. The U.S. Environmental Protection Agency (EPA) current evaluation considers **Etofenprox** containing products to be slightly toxic with minimal potential risk to people when used properly as part of an integrated mosquito control program.

Zenivex 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 avoid my exposure to **Zenivex**?

- Risk to the general public from the use of **Zenivex** is minimal. Avoiding exposure is always the safest course of action, and 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 closed and with window air conditioners on non-vent (closed to the outside) and window fans turned off during spraying.
- Avoid direct contact with surfaces that are 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**?

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.

How long will **Zenivex** last in the atmosphere?

The **Zenivex** spray stays in the air for a short time until it lands on surfaces. **Etofenprox** has a low persistence and breaks down in water and soil within 25 days. **Etofenprox** breaks down faster in sunlight.

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

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

National Pesticide Information Center

800-858-7378

<http://npic.orst.edu>

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System

800-222-1222

<http://www.njpies.org>

For New Jersey pesticide regulation & misuse complaints:

NJDEP Pesticide Control Program

609-984-6568

<http://www.state.nj.us/dep/enforcement/pcp/>

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs

732-321-6759

<https://www.epa.gov/aboutepa/epa-region-2>

For state-wide mosquito control information:

NJDEP Office of Mosquito Control Coordination

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<http://www.state.nj.us/dep/mosquito>

For local mosquito control information:

Essex County Mosquito Control

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