Essex County 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 larvas 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. 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. Chemical control measures are also taken by using an organophosphate larvacide on older larvae that no longer feed. A petroleum oil derivative is also used from time to time, which is mainly used as a pupacide in aquatic habitats. As a last resort, a synthetic pyrethroid is 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.
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 snowpool 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 particular concern are clogged gutters and scattered tires. Both tend to collect leaves, then fill with water and provide very attractive sites for mosquitoes to breed. Since these containers are water tight, 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 (*The Star Ledger* and *The Progress*), via the ECDEA Hotline (973-239-3366 x 2480), and also the agencies web site (below). Any citizen has the right to ask the ECOEA for specific information about a planned application in the county prior to the application.

How can county residents contact ECOEA?
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.

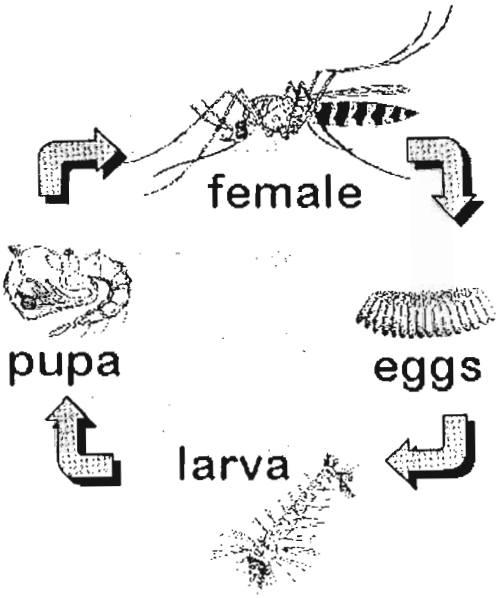
Essex County
Division of Environmental Affairs
99 West Bradford Ave
Cedar Grove, NJ 07009
Tel: 973-239-3366 x2480
Fax: 973-239-0152
Email: ewilliges@essexcountynj.org
Web: http://www.essex-countynj.org/index.php?section=dept/mo

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. As mentioned, they spend their larval and pupal stages in water. Female mosquitoes of most pest species in Mercer County deposit eggs on moist surfaces such as mud or fallen leaves. Rain refloods these surfaces and stimulates the hatching of the eggs, thus 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 Mercer 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, thus, male mosquitoes 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 on a daily basis. 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?
Any insect that feeds on blood has the potential of transmitting disease organisms from animal to human. 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 unwitting 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 virus diseases that use insects as agents of transfer produce tremendously high levels of parasites in the blood. 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.njmosquito.org**

American Mosquito Control Association- **www.mosquito.org**

VectoBac® G / CG

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

What is VectoBac® and how is it used?

VectoBac® is a bacterial larvacide 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, 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 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® 12AS** 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 informat6ion & 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 **609-984-6507**
http://www.state.nj.us/dep/enforcement/pcp/

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**
http://www.epa.gov/ebtpages/pesticides.html

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.essex-countynj.org/index.php?section=dept/mo

For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**
http://www-rci.rutgers.edu/~insects

For general information on the pesticide VectoBac® 12AS and Bti:
Extension Toxicology Network:
http://npic.orst.edu/factsheets/BTgen.pdf
EPA:
http://www.epa.gov/pesticides/health/mosquitoes/larvicides4mosquitoes.htm
Valent Biosciences Corp (Manufacturer):
http://www.valentbiosciences.com/
Clarke Mosquito Control Products (Distributor):
http://www.clarkemosquito.com

AquaBac™ 200G

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Mosquito Control, 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 larvacide 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, 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 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 informat6ion & 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 **609-984-6507**
http://www.state.nj.us/dep/enforcement/pcp/

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**
http://www.epa.gov/ebtpages/pesticides.html

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.essex-countynj.org/index.php?section=dept/mo

For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**
http://www-rci.rutgers.edu/~insects/indexentonj.htm

For general information on the pesticide AquaBac™ 200G and Bti:
Extension Toxicology Network:
http://npic.orst.edu/factsheets/BTgen.pdf
EPA:
http://www.epa.gov/pesticides/health/mosquitoes/larvicides4mosquitoes.htm#methoprene
Adapco (Distributor):
http://www.adapcoinc.com/larvicides.php

Altosid®

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Mosquito Control, 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 solid larvacide 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, 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.
- 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 informat6ion & 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 **609-984-6507**
http://www.state.nj.us/dep/enforcement/pcp/

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**
http://www.epa.gov/ebtpages/pesticides.html

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.essex-countynj.org/index.php?section=dept/mo

For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**
http://www-rci.rutgers.edu/~insects/

For general information on the pesticide methoprene:
Extension Toxicology Network:
http://npic.orst.edu/npicfact.htm
EPA:
http://www.epa.gov/pesticides/health/mosquitoes/larvicides4mosquitoes.htm#methoprene
Wellmark International (Manufacturer):
http://wellmarkinternational.com/mosquito.htm
http://www.altosid.com
Clarke Mosquito Control Products (Distributor):
http://www.cmosquito.com/cmcp/default.asp

Abate®

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Mosquito Control, 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 larvacide 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, 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 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 informat6ion & 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 **609-984-6507**
http://www.state.nj.us/dep/enforcement/pcp/

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**
http://www.epa.gov/ebtpages/pesticides.html

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.essex-countynj.org/index.php?section=dept/mo

For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**
http://www-rci.rutgers.edu/~insects/

For general information on the pesticide temephos:
Extension Toxicology Network:
http://npic.orst.edu/npicfact.htm
EPA:
http://www.epa.gov/pesticides/health/mosquitoes/larvicides4mosquitoes.htm#temephos
Wellmark International (Manufacturer):
http://wellmarkinternational.com/mosquito.htm
http://www.Abate.com
Clarke Mosquito Control Products (Distributor):
http://www.cmosquito.com/cmcp/default.asp

Golden Bear-1111® Oil

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Mosquito Control, 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, 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.
- 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 informat6ion & 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 **609-984-6507**
http://www.state.nj.us/dep/enforcement/pcp/

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**
http://www.epa.gov/ebtpages/pesticides.html

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.essex-countynj.org/index.php?section=dept/mo

For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**
http://www-rci.rutgers.edu/~insects

For general information on the pesticide Golden Bear 1111:
Extension Toxicology Network:
http://npic.orst.edu/npicfact.htm
EPA:
http://www.epa.gov/pesticides/health/mosquitoes/larvicides4mosquitoes.htm

ANVIL 2+2®

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

What is Anvil and how is it used?

ANVIL 2+2 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 **"SUMITHRIN & PIPERONYL BUTOXIDE *(PBO)*"**. The U.S. Environmental Protection Agency (EPA) current evaluation considers **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.

ANVIL 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 ANVIL?

- Risk to the general public from the use of **ANVIL** 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 SYMTOMS OF EXPOSURE TO ANVIL?

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 ANVIL LAST IN THE ENVIRONMENT?

The **ANVIL** spray stays in the air for a short time until it lands on surfaces. **SUMITHRIN** has a low persistence and breaks down in water and soil within 1 to 25 days. **SUMITHRIN** breaks down faster in sunlight.

WHERE CAN I GET MORE INFORMATION ON ANVIL?

The following are resources for more information regarding ANVIL and mosquito control in your area:

For overall pesticide-specific information – 9:30am to 7:30pm:
National Pesticide Information Center **800-858-7378**
http://npic.orst.edu

For pesticide health informat6ion & 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 **609-984-6507**
http://www.state.nj.us/dep/enforcement/pcp/

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**
http://www.epa.gov/ebtpages/pesticides.html

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.essex-countynj.org/index.php?section=dept/mo

For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**
http://www-rci.rutgers.edu/~insects/

For general information on the pesticide sumithrin:
Extension Toxicology Network:
http://npic.orst.edu/npicfact.htm
EPA:
http://www.epa.gov/pesticides/health/mosquitoes/pyrethroids4mosquitoes.htm
Clarke Mosquito Control Products (Distributor):
http://www.clarkemosquito.com/

AQUA-RESLIN®

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Mosquito Control, 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 & PIPERONYL BUTOXIDE *(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 MY 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, 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 SYMTOMS 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 1 to 25 days. **PERMETHRIN** breaks down faster in sunlight.

WHERE CAN I GET MORE INFORMATION ON AQUA-RESLIN?

The following are resources for more information regarding AQUA-RESLIN and mosquito control in your area:

For overall pesticide-specific information – 9:30am to 7:30pm:
National Pesticide Information Center **800-858-7378**
http://npic.orst.edu

For pesticide health informat6ion & 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 **609-984-6507**
http://www.state.nj.us/dep/enforcement/pcp/

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**
http://www.epa.gov/ebtpages/pesticides.html

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.essex-countynj.org/index.php?section=dept/mo

For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**
http://www-rci.rutgers.edu/~insects/

For general information on the pesticide Permethrin:
Extension Toxicology Network:
http://npic.orst.edu/npicfact.htm
EPA:
http://www.epa.gov/pesticides/health/mosquitoes/pyrethroids4mosquitoes.htm
Adapco (Distributor):
http://myadapco.com/

Duet®

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Mosquito Control, 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 called **"PRALLETHRIN, SUMITHRIN, AND PIPERONYL BUTOXIDE *(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 SYMTOMS 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 1 to 25 days. **PRALLETHRIN** and **SUMITHRIN** break down faster in sunlight.

WHERE CAN I GET MORE INFORMATION ON DUET?

The following are resources for more information regarding DUET and mosquito control in your area:

For overall pesticide-specific information – 9:30am to 7:30pm:
National Pesticide Information Center **800-858-7378**
http://npic.orst.edu

For pesticide health informat6ion & 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 **609-984-6507**
http://www.state.nj.us/dep/enforcement/pcp/

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**
http://www.epa.gov/ebtpages/pesticides.html

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.essex-countynj.org/index.php?section=dept/mo

For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**
http://www-rci.rutgers.edu/~insects/

For general information on the pesticide Prallethrin and Sumithrin:
Extension Toxicology Network:
http://npic.orst.edu/npicfact.htm
EPA:
http://www.epa.gov/pesticides/health/mosquitoes/pyrethroids4mosquitoes.htm
Clarke Mosquito Control Products (Distributor):
http://www.clarkemosquito.com/

Fyfanon ULV®

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Mosquito Control, 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 has been used in the United States since the mid 50's. 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 "**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. 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:

- 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 informat6ion & 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 **609-984-6507**
http://www.state.nj.us/dep/enforcement/pcp/

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**
http://www.epa.gov/ebtpages/pesticides.html

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.essex-countynj.org/index.php?section=dept/mo

For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**
http://www-rci.rutgers.edu/~insects

For general information on the pesticide Fyfanon ULV® and malathion:
Extension Toxicology Network:
http://npic.orst.edu/factsheets/malagen.pdf
EPA:
http://www.epa.gov/pesticides/health/mosquitoes/malathion4mosquitoes.htm
Cheminova (Manufacturer)
http://www.cheminova.us.com/pages/specialty_products/fyfanon_ulv/index.html
Adapco (Distributor)
http://www.myadapco.com/adulticides.php

Scourge®

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Mosquito Control, 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, 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:

- 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 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. **Resmethrin** breaks down faster in sunlight.

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**
http://npic.orst.edu

For pesticide health informat6ion & 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 **609-984-6507**
http://www.state.nj.us/dep/enforcement/pcp/

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**
http://www.epa.gov/ebtpages/pesticides.html

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.essex-countynj.org/index.php?section=dept/mo

For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**
http://www-rci.rutgers.edu/~insects

For general information on the pesticide Scourge® and resmethrin:
Extension Toxicology Network:
http://npic.orst.edu/npicfact.htm
EPA:
http://www.epa.gov/pesticides/health/mosquitoes/pyrethroids4mosquitoes.htm
Aventis Environmental Science (Manufacturer):
http://www.mosquitocontrolonline.com
Clarke Mosquito Control Products (Distributor):
http://www.clarkemosquito.com

ZENIVEX®

This sheet answers some basic questions about a mosquito control product in use in Essex County. Essex County Mosquito Control, 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, 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 SYMTOMS 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 ENVIRONMENT?

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 1 to 25 days. **Etofenprox** breaks down faster in sunlight.

WHERE CAN I GET MORE INFORMATION ON ZENIVEX?

The following are resources for more information regarding ZENIVEX and mosquito control in your area:

For overall pesticide-specific information – 9:30am to 7:30pm:
National Pesticide Information Center **800-858-7378**
http://npic.orst.edu

For pesticide health informat6ion & 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 **609-984-6507**
http://www.state.nj.us/dep/enforcement/pcp/

For Federal pesticide regulations:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**
http://www.epa.gov/ebtpages/pesticides.html

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.essex-countynj.org/index.php?section=dept/mo

For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**
http://www-rci.rutgers.edu/~insects/

For general information on the pesticide Etfenprox:
Extension Toxicology Network:
http://npic.orst.edu/npicfact.htm
Adapco (Distributor):
http://myadapco.com/