

# NOTICE

## MOSQUITO PESTICIDE APPLICATION

Date of Application: Aug 20, 2019

Approximate Time: After 8PM

Areas Treated: All outdoor school property

---

For more information please contact

Name: Steve Mark - Littleton Public Schools

Phone Number: 979-546-2508

## PESTICIDE STANDARD WRITTEN NOTIFICATION

### FOR SCHOOLS, DAY CARE PROGRAMS, AND SCHOOL-AGE CHILDCARE PROGRAMS

- The school, day care center, and/or school-age childcare program is responsible for sending this standard written notification form to employees, pupils, parents etc. to insure that they receive this information at least 2 working days prior to any pesticide use.
- It is recommended that the Pest Management Professional use this ready-to-copy standard written notification form for the purpose of providing pesticide use information to the school, day care center, and/or school-age childcare program. The Pest Management Professional should save this form for copying.

**School:** Littleton High School, 56 King St.

Name of School, Day care center, and/or School age childcare program

**Pest Management Company:** Central Mass. Mosquito Control 111 Otis St. Northborough, MA 01532  
(Please Print) Name Address

**Pest Management Professional:** Jeff Provost 36530  
(Please Print) License number

#### A. List the Approximate Dates on which the pesticide use shall commence and conclude

**Beginning Date** 8/20/19 **Ending Date** 8/20/19

#### B. Record the specific location of the anticipated pesticide use

Description of school grounds to be treated:

All outdoor school areas, including but not limited to playgrounds and athletic fields

#### C. Pesticide Information (Pest Management Professional should be specific as is possible when listing product(s) to be used)

Pesticide Product Name	Pesticide Type	EPA Registration #	Description/Purpose of treatment and/or application
ZENIVEX E4 ULV	Synthetic Pyrethroid	2724-807	Control of adult mosquitoes

This standard written notification must be accompanied by the following 2 documents. These materials are available from the Children's Protection Act Notification web page <http://massnrc.org/ipm/schools-daycare/child-protection-act-2000/full-text/written-notification.html> 1). Chemical Specific Fact Sheet(s) 2). Consumer Information Bulletin for school, day care center, and/or school-age childcare program.

## PESTICIDE STANDARD WRITTEN NOTIFICATION

### FOR SCHOOLS, DAY CARE PROGRAMS, AND SCHOOL-AGE CHILDCARE PROGRAMS

- The school, day care center, and/or school-age childcare program is responsible for sending this standard written notification form to employees, pupils, parents etc. to insure that they receive this information at least 2 working days prior to any pesticide use.
- It is recommended that the Pest Management Professional use this ready-to-copy standard written notification form for the purpose of providing pesticide use information to the school, day care center, and/or school-age childcare program. The Pest Management Professional should save this form for copying.

**School:** Littleton Middle School, 55 Russell St.

Name of School, Day care center, and/or School age childcare program

**Pest Management Company:** Central Mass. Mosquito Control 111 Otis St. Northborough, MA 01532  
(Please Print) Name Address

**Pest Management Professional:** Jeff Provost 36530  
(Please Print) License number

#### A. List the Approximate Dates on which the pesticide use shall commence and conclude

**Beginning Date** 8/20/19 **Ending Date** 8/20/19

#### B. Record the specific location of the anticipated pesticide use

Description of school grounds to be treated:

All outdoor school areas, including but not limited to playgrounds and athletic fields

#### C. Pesticide Information (Pest Management Professional should be specific as is possible when listing product(s) to be used)

Pesticide Product Name	Pesticide Type	EPA Registration #	Description/Purpose of treatment and/or application
ZENIVEX E4 ULV	Synthetic Pyrethroid	2724-807	Control of adult mosquitoes

This standard written notification must be accompanied by the following 2 documents. These materials are available from the Children's Protection Act Notification web page <http://massnrc.org/ipm/schools-daycare/child-protection-act-2000/full-text/written-notification.html> 1). Chemical Specific Fact Sheet(s) 2). Consumer Information Bulletin for school, day care center, and/or school-age childcare program.

## PESTICIDE STANDARD WRITTEN NOTIFICATION

### FOR SCHOOLS, DAY CARE PROGRAMS, AND SCHOOL-AGE CHILDCARE PROGRAMS

- The school, day care center, and/or school-age childcare program is responsible for sending this standard written notification form to employees, pupils, parents etc. to insure that they receive this information at least 2 working days prior to any pesticide use.
- It is recommended that the Pest Management Professional use this ready-to-copy standard written notification form for the purpose of providing pesticide use information to the school, day care center, and/or school-age childcare program. The Pest Management Professional should save this form for copying.

**School:** Russell St. Elementary School, 57 Russell st.

Name of School , Day care center, and/or School age childcare program

**Pest Management Company:** Central Mass. Mosquito Control 111 Otis St. Northborough, MA 01532  
(Please Print) Name Address

**Pest Management Professional:** Jeff Provost 36530  
(Please Print) License number

#### A. List the Approximate Dates on which the pesticide use shall commence and conclude

**Beginning Date** 8/20/19 **Ending Date** 8/20/19

#### B. Record the specific location of the anticipated pesticide use

Description of school grounds to be treated:

All outdoor school areas, including but not limited to playgrounds and athletic fields

#### C. Pesticide Information (Pest Management Professional should be specific as is possible when listing product(s) to be used)

Pesticide Product Name	Pesticide Type	EPA Registration #	Description/Purpose of treatment and/or application
ZENIVEX E4 ULV	Synthetic Pyrethroid	2724-807	Control of adult mosquitoes

This standard written notification must be accompanied by the following 2 documents. These materials are available from the Children's Protection Act Notification web page <http://massnrc.org/ipm/schools-daycare/child-protection-act-2000/full-text/written-notification.html> 1). Chemical Specific Fact Sheet(s) 2). Consumer Information Bulletin for school, day care center, and/or school-age childcare program.

## PESTICIDE STANDARD WRITTEN NOTIFICATION

### FOR SCHOOLS, DAY CARE PROGRAMS, AND SCHOOL-AGE CHILDCARE PROGRAMS

- The school, day care center, and/or school-age childcare program is responsible for sending this standard written notification form to employees, pupils, parents etc. to insure that they receive this information at least 2 working days prior to any pesticide use.
- It is recommended that the Pest Management Professional use this ready-to-copy standard written notification form for the purpose of providing pesticide use information to the school, day care center, and/or school-age childcare program. The Pest Management Professional should save this form for copying.

**School:** Shaker Lane Elementary School, 35 Shaker Ln.

Name of School, Day care center, and/or School age childcare program

**Pest Management Company:** Central Mass. Mosquito Control 111 Otis St. Northborough, MA 01532  
(Please Print) Name Address

**Pest Management Professional:** Jeff Provost 36530  
(Please Print) License number

#### A. List the Approximate Dates on which the pesticide use shall commence and conclude

**Beginning Date** 8/20/19 **Ending Date** 8/20/19

#### B. Record the specific location of the anticipated pesticide use

Description of school grounds to be treated:

All outdoor school areas, including but not limited to playgrounds and athletic fields

#### C. Pesticide Information (Pest Management Professional should be specific as is possible when listing product(s) to be used)

Pesticide Product Name	Pesticide Type	EPA Registration #	Description/Purpose of treatment and/or application
ZENIVEX E4 ULV	Synthetic Pyrethroid	2724-807	Control of adult mosquitoes

This standard written notification must be accompanied by the following 2 documents. These materials are available from the Children's Protection Act Notification web page <http://massnrc.org/ipm/schools-daycare/child-protection-act-2000/full-text/written-notification.html> 1). Chemical Specific Fact Sheet(s) 2). Consumer Information Bulletin for school, day care center, and/or school-age childcare program.



Commonwealth of Massachusetts  
**Department of Agricultural Resources**  
**Pesticide Bureau**

251 Causeway St. Boston, MA 02114  
Phone: 617-626-1781 Fax: 617-626-1850 Web:  
<http://www.mass.gov/agr/>



**THE ACT PROTECTING CHILDREN AND FAMILIES  
FROM HARMFUL PESTICIDES OF 2000**

**Massachusetts Pesticide Bureau Consumer Information Bulletin FOR SCHOOLS, DAYCARE  
CENTERS AND SCHOOL AGE CHILD CARE PROGRAMS**

The Massachusetts Pesticide Control Act requires parents, staff, and children to receive this Massachusetts Pesticide Bureau Consumer Information bulletin whenever pesticide applications are being made on the property of your school, daycare center or school age child care program. This bulletin is being provided to you along with a Standard Written Notification form and a Pesticide Specific Factsheet.

**Why am I receiving this information and what should I do when I receive it?**

The purpose of the Standard Written Notification is to provide you with information about pesticide applications which are taking place on the property of your school, day care center or school age child care program. The bulletin provides information about precautions you can take to minimize exposure to any pesticides. The Pesticide Specific Factsheets provide information about the properties of the pesticides being used.

**Who applies pesticides in my school, daycare center or school age child care program?**

Commercial pest management professionals, facilities managers, grounds personnel or custodians. Regardless of the approach used, the person who applies the pesticides must have a current and valid Pesticide Bureau Applicator license. Check the standard written notification form for the applicator's license number.

**How do I know when pesticides are being applied?**

Employees, supervised children and their guardians must receive standard written notification at least two working days prior to the application of pesticides outdoors on the property. The standard written notification form, which accompanies this bulletin, includes:

- approximate dates when the application shall commence and conclude;
- specific location of the application;
- product name, type and EPA Registration number of the pesticide;
- a Pesticide Specific Fact Sheet;
- a description of the purpose of the application and
- this Consumer Information Bulletin

The notification must also be posted in a common area of the facility at least two working days before the outdoor application is to commence and at least 72 hours after the application. Treated areas will be posted with clear and conspicuous warning signs along the perimeter. This information will be supplied to the school by the licensed pesticide applicator.

**Are applications of pesticides safe?**

All pesticides must be treated with caution. They are intended to be specifically poisonous to target pest insects, weeds, mold, fungus etc. - and may also be harmful to other living things including humans.

Some degree of risk is always posed by their use. Because of this inherent risk, a number of regulatory and non-regulatory mechanisms have evolved to deal with those risks. Included among these mechanisms are pesticide regulations such as those enforced by the Massachusetts Pesticide Bureau; licensing and training of pesticide applicators; improved pesticide application methods; and the use of Integrated Pest Management (IPM).

#### **What precautions can I take to minimize my exposure to pesticide applications?**

There are several precautions that can be taken to reduce potential exposure to pesticides. These precautions will vary depending on where and how the pesticides are applied. Chemicals may be ingested, inhaled and absorbed through the skin. Know where the pesticide will be applied and how you might come into contact with it. Use common sense. The licensed pesticide applicator is required to post yellow signs to indicate a pesticide application on school grounds. These are some suggested general precautions. Ask the licensed pesticide applicator for other suggestions or directions specific to the work being done.

#### **For outdoor applications:**

- be familiar with the small yellow signs which applicators are required to post when a pesticide is applied outdoors to turf. Stay off the field until the flags are removed.
- if you are sensitive to chemicals, avoid the area of pesticide application for 72 hours.
- ensure that pets are kept away from the area of pesticide application

#### **For indoor applications:**

- cover or refrigerate edible products.
- remove or cover toys, clothes, and bedding from areas to be treated.
- remove pets including their food and water bowls and toys from the area to be treated.
- ventilate as much as possible during and, following an indoor pesticide application, open the windows.
- do not walk on treated areas and carpets until completely dry. Ask about drying times.

#### **What types of pesticides will be applied?**

Pesticide applicators may apply pesticides in several forms for control of insects and weeds. Dusts, aerosol sprays, sprays, baits, and fogs are all common forms in which pesticides exist and are used. For control of termites, the soil around the building may be impregnated with a pesticide. To control weeds, pesticides may be used as granules or sprays. Mechanical traps may also be used to control rodents.

In Massachusetts schools daycare centers and school age child care programs have to develop special pest management plans called Integrated Pest Management (IPM) plans. IPM is an approach to pest management which relies on a combination of common sense practices, including pesticides, for preventing and controlling pests. All plans are required to be submitted to the Department of Agricultural Resources. Check the DAR website to see if your school has submitted its plan.

<http://massnrc.org/ipm/index.html>

#### **What if I have a question or problem?**

Questions about what pesticides will be applied and why, and specific information about the application should be referred to the licensed pesticide applicator doing the work.

The Massachusetts Department of Agricultural Resources, Pesticide Bureau is responsible for enforcing the pesticide regulations and laws. Contact the Pesticide Bureau at 617-626-1781. Additional information can be found at the Pesticide Bureau website: <http://www.mass.gov/agr/pesticides/>

**Updated April 2008.**

NPTN fact sheets are designed to answer questions that are commonly asked by the general public about pesticides that are regulated by the U.S. Environmental Protection Agency (US EPA). This document is intended to be educational in nature and helpful to consumers for making decisions about pesticide use.

**N**ational  
**P**esticide  
**T**elecommunications  
**N**etwork

# Pyrethrins & Pyrethroids

**The Pesticide Label:** Labels provide directions for the proper use of a pesticide product. *Be sure to read the entire label before using any product.* A signal word on each product label indicates the product's short-term toxicity.

**CAUTION-** low toxicity

**WARNING-** moderate toxicity

**DANGER-** high toxicity

## What are pyrethrins?

- Pyrethrins are insecticides that are derived from the extract of chrysanthemum flowers (pyrethrum) (1).
- The plant extract, called pyrethrum contains pyrethrin I and pyrethrin II collectively, called pyrethrins.
- Pyrethrins are widely used for control of various insect pests.

## What are pyrethroids?

- Pyrethroids are synthetic (human-made) forms of pyrethrins. There are two types that differ in chemical structure and symptoms of exposure.
- Type I pyrethroids include allethrin, tetramethrin, resmethrin, d-phenothrin, bioresmethrin, and permethrin (1, 2).
- Some examples of type II pyrethroids are cypermethrin, cyfluthrin, deltamethrin, cyphenothrin, fenvalerate, and fluvalinate (1, 2).
- Both type I and II pyrethroids inhibit the nervous system of insects. This occurs at the sodium ion channels in the nerve cell membrane. Some type II pyrethroids also affect the action of a neurotransmitter called GABA (3).

## How do pyrethrins (and pyrethroids) work?

- Nerve cell membranes have a specific electrical charge. Altering the amount of ions (charged atoms) passing through ion channels causes the membrane to depolarize which, in turn, causes a neurotransmitter to be released. Neurotransmitters help nerve cells communicate. Electrical messages sent between nerve cells allow them to generate a response, like a movement in an animal or insect.
- Pyrethrins affect the nervous system of insects by causing multiple action potentials in the nerve cells by delaying the closing of an ion channel (3).
- Pyrethrins and pyrethroids act as contact poisons, affecting the insect's nervous system (1, 4).
- Even though pyrethrins and pyrethroids are nerve poisons, they are not cholinesterase inhibitors like organophosphate or carbamate insecticides.
- Pesticide products containing pyrethrins usually contain a synergist (such as piperonyl butoxide). Synergists work by restricting an enzyme that insects use to detoxify the pyrethrins. A synergist allows the insecticide to be more effective (4).

**There are many different types of pyrethroids, but the remainder of this fact sheet will deal with pyrethrins. Information on specific pyrethroids is available in other fact sheets.**

## What are some types of products that contain pyrethrins?

- indoor bugbombs or foggers
- human head-lice treatments
- pet flea sprays
- Dragon
- Drione
- Pyrenone
- Pyroicide

## How toxic are pyrethrins?

### Animals

- Pyrethrins are one of the least poisonous insecticides to mammals (2).
- Rats fed high doses (1,000 milligrams per kilogram of body weight or mg/kg) of pyrethrins showed liver damage (5).
- Rats exposed to pyrethrins exhibited difficulty or rapid breathing, incoordination, sprawling of limbs, tremors, aggression, sensitivity to external stimuli, twitching, and exhaustion (6). See box on **laboratory testing**.

### Humans

- Inhaling pyrethrins can cause coughing, wheezing, shortness of breath, runny or stuffy nose, chest pain, or difficulty breathing (7).
- Skin contact can cause a rash, itching, or blisters (7).

**Laboratory Testing:** Before pesticides are registered by the U.S. EPA, they must undergo laboratory testing for short-term and long-term health effects. In these tests, laboratory animals are purposely fed a pesticide at high doses to cause toxic effects. These tests help scientists judge how these chemicals might affect humans, domestic animals, and wildlife in cases of overexposure. When pesticide products are used according to the label directions, toxic effects are not likely to occur because the amount of pesticide that people and animals may be exposed to is low compared to the doses fed to laboratory animals.

Effects of pyrethrins on human health and the environment depend on how much pyrethrins are present and the length and frequency of exposure. Effects also depend on the health of a person and/or certain environmental factors.

## Do pyrethrins cause sensitization?

### Animals

- The crude pyrethrum (initial plant extract) contains about 30 to 35 percent pyrethrins and about 50 percent impurities (2, 5).
- Various extracts from pyrethrum flowers have caused allergic contact dermatitis in sensitized and unsensitized guinea pigs (8). The commercially refined extract, which is present in insecticides today, did not produce any allergic reactions in guinea pigs (8, 9).
- Sensitization sometimes occurs in some individuals after a single exposure which causes either an asthmatic condition or a skin rash or inflammation. After the initial exposure to the sensitizing agent, the sensitized individual responds to a dose smaller than the initial dose.

### Humans

- In one study, a person with a history of allergic contact dermatitis experimentally exposed to crude pyrethrum developed contact dermatitis, although this may have been caused by impurities in the extract (10).

## Do pyrethrins break down and leave the body?

### Animals

- Pyrethrins are low in toxicity to mammals because they are quickly broken down into inactive forms and pass from the body in the urine and feces (2, 5).

### Humans

- Pyrethrum (the plant extract) may be absorbed by the digestive tract and the lungs. However, it is poorly absorbed through the skin (5).
- Based on animal studies, any amount of pyrethrins absorbed by humans would be expected to be rapidly excreted. Therefore, it is unlikely that pyrethrins

would accumulate in humans.

## Are pyrethrins likely to cause cancer?

### Animals

- In one study, rats were fed moderate to very high doses (100, 1000, or 3000 mg/kg) of pyrethrum (the plant extract) for 104 weeks. There was an increase in the non-cancerous (benign) thyroid tumors in females exposed to all doses and in males exposed to high to very high doses (11).
- In the same study, some females fed high doses (3000 mg/kg) of pyrethrum developed ovarian and benign liver tumors and males exposed to high doses (3000 mg/kg) developed benign parathyroid tumors and benign skin lesions.
- In another study, rats were fed low doses (up to 10 mg/kg) of pyrethrins, flavoring agents, and other pesticides showed no increase in tumors (6).

### Humans

- Scientists have no data from work-related, accidental poisonings, or epidemiological studies that indicate whether or not pyrethrins are likely to cause cancer in humans.
- Initially, the Health Effects Division Carcinogenicity Peer Review Committee (CPRC) at the US EPA recently reviewed the carcinogenicity data of pyrethrins in animals and decided that they showed carcinogenicity. However, the CPRC could not classify pyrethrins into a carcinogenicity group until some of the tissue specimens from rats and mice were re-read. Subsequently, the CPRC will perform a second review of the carcinogenicity of pyrethrins (11).

**Cancer:** The U.S. EPA has strict guidelines that require testing of pesticides for their potential to cause cancer. These studies involve feeding laboratory animals large daily doses of the pesticide for up to 2 years. These animals are compared with a group of animals that did not receive the chemical. Animal studies help show whether a chemical is a potential human carcinogen. If a pesticide does not cause cancer in animal tests, then the EPA considers it unlikely the pesticide will cause cancer in humans.

## Do pyrethrins cause reproductive problems or birth defects?

### Animals

- Rabbits fed moderate doses (up to 90 mg/kg) of pyrethrins during a sensitive period of pregnancy had normal litters (5).
- Rats fed very high doses (5000 mg/kg) of pyrethrins for three weeks before their first mating produced low birth weight pups (5).
- There were no birth defects in pups of rabbits exposed to pyrethrins (12).

### Humans

- There are no epidemiological, work-related or accidental exposure data on the potential of pyrethrins to cause reproductive problems or birth defects.

## What happens to pyrethrins in the environment?

### Soil

- Pyrethrins have a soil half-life of 12 days (13). They have an extremely low pesticide movement rating because they bind tightly to the soil (13). See box on **half-life**.

### Photodegradation

- Pyrethrins are unstable in light or air (2). Pyrethrins are rapidly degraded in sunlight at the soil surface and in water.

**Half-life** is the time required for half of the compound to degrade.

<b>1 half-life</b>	<b>=</b>	<b>50% degraded</b>
<b>2 half-lives</b>	<b>=</b>	<b>75% degraded</b>
<b>3 half-lives</b>	<b>=</b>	<b>88% degraded</b>
<b>4 half-lives</b>	<b>=</b>	<b>94% degraded</b>
<b>5 half-lives</b>	<b>=</b>	<b>97% degraded</b>

Remember that the amount of chemical remaining after a half-life will always depend on the amount of the chemical originally applied.

## What effects do pyrethrins have on wildlife?

- Pyrethrins are highly toxic to fish and tadpoles. They affect their skin touch receptors and balance organs (4).
- Pyrethrins are toxic to beneficial insect (such as honeybees) and many aquatic invertebrates (4).
- Pyrethrins are low in toxicity to humans, other mammals, and birds (4).

### References

1. Klaassen, C. D., Amdur, M. O., & Doull, J. (Eds.). (1996). *Casarett & Doull's Toxicology. The Basic Science of Poisons* (5<sup>th</sup> ed.). Toronto: McGraw-Hill Companies, Inc.
2. Ray, D. E. (1991). Pesticides derived from plants and other organisms. In W. J. Hayes, Jr. & E. R. Laws (Eds.), *Handbook of Pesticide Toxicology. Vol. 2.* (pp.585-593). Toronto: Academic Press.
3. Costa, L. G. (1997). Basic Toxicology of Pesticides. In M. C. Keifer, M. D., M. P. H. (Ed.), *Human Health Effects of Pesticides. Occupational Medicine. State of the Art Reviews.* (Vol. 12 No. 2). (pp. 251-268). Philadelphia: Hanley & Belfus, Inc.
4. Tomlin, C. (Ed.). (1994). *A World Compendium. The Pesticide Manual. Incorporating the agrochemicals handbook.* (10th ed.). Bungay, Suffolk, U.K.: Crop Protection Publications.
5. Hayes, W. J. (1982). *Pesticides Studied in Man.* Baltimore: Williams & Wilkins.
6. Leahey, J. P. (Ed.). (1985). *The pyrethroid insecticides.* Philadelphia: Taylor & Francis Ltd.
7. Sittig, M. (1991). *Handbook of Toxic and Hazardous Chemicals and Carcinogens.* (3<sup>rd</sup> ed.). (Vol. 2). New Jersey: Noyes Publications.
8. Rickett, F. E., Tyszkiewicz, K., and Brown, N. C. (1972). *Pyrethrum dermatitis. I. The allergenic properties of various extracts of pyrethrum flowers.* Pestic. Sci. 3:57-66.
9. Rickett, F. E. and Tyszkiewicz, K. (1973). *Pyrethrum dermatitis. II. The allergenicity of pyrethrum oleoresin and its cross-reactions with saline extract of pyrethrum flowers.* Pestic. Sci. 4:801-810.
10. Mitchell, J. C., Dupuis, G. H. N. (1972). *Allergenic dermatitis from pyrethrum (Chrysanthemum spp.). The roles of pyrethrosin, a sesquiterpene lactone, and of pyrethrin II.* Br. J. Derm. 86:568-573.
11. United States Environmental Protection Agency (US EPA). Office of Prevention, Pesticides and Toxic Substances. *Carcinogenicity Peer Review of Pyrethrins.* February 22, 1995. Washington, DC.
12. Vettorazzi, G. (1979). *International Regulatory Aspects for Pesticide Chemicals. Toxicity Profiles.* (Vol.1). Boca Raton, Florida: CRC Press, Inc.
13. Wauchope, R. D., T. M. Butler, A. G. Hornsby, P. M. Augustijn-Beckers, & J. P. Burt. (1992). The SCS/ARS/CES pesticide properties database for environmental decision making.[Online]. <ftp://ftp.nrcs.usda.gov/centers/itc/applications/wqmodels/gleams/>

---

For more information, call or write:

NPTN, Oregon State University, 333 Weniger Hall, Corvallis, Oregon 97331-6502.

Phone: 1-800-858-7378

Fax: 1-541-737-0761

Email: [nptn@ace.orst.edu](mailto:nptn@ace.orst.edu)

Internet: <http://ace.orst.edu/info/nptn/> or

<http://ace.orst.edu/info/extoxnet/>

---

Date reviewed: December 1998

# Zenivex® E4

## RTU

For use only by federal, state, tribal, or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

- **FOR THE CONTROL OF ADULT MOSQUITOES, NON-BITING MIDGES, AND BLACK FLIES**
- **FOR USE AS A SPACE SPRAY BY AIR AND GROUND APPLICATION TO CONTROL ADULT MOSQUITOES**
- **APPROVED FOR USE OVER AGRICULTURAL CROPS (INCLUDING THOSE INTENDED FOR HUMAN CONSUMPTION), PASTURE AND RANGELAND**
- **READY TO USE WITHOUT DILUTION**
- **CONTROLS ADULT MOSQUITOES THAT MAY CARRY WEST NILE VIRUS, EASTERN EQUINE ENCEPHALITIS, ST. LOUIS ENCEPHALITIS**
- **CONTROLS NON-BITING MIDGES, NUISANCE AND BITING FLIES**
- **QUICK, PERMANENT KNOCKDOWN OF ADULT MOSQUITOES**

## SPECIMEN LABEL

### ACTIVE INGREDIENT:

Etofenprox (CAS #80844-07-1)..... 4%

OTHER INGREDIENTS\*:..... 96%

Total: ..... 100%

\*Contains petroleum distillates

Contains 0.30 lbs etofenprox per gallon

EPA Reg. No. 2724-807

EPA Est. No. 2724-TX-1

KEEP OUT OF REACH OF CHILDREN

### CAUTION

See additional Precautionary Statements,

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Applicators and other handlers must wear long-sleeved shirt, long pants, socks and shoes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and laundry before reuse. Repeated exposure to etofenprox can cause skin irritation.

### FIRST AID

**If swallowed** • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.

**If in eyes** • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. • Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.

**NOTE TO PHYSICIAN:** May pose an aspiration pneumonia hazard. Contains petroleum distillate.

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic organisms, including fish and aquatic invertebrates. Runoff from treated areas or deposition into bodies of water may be hazardous to fish and other aquatic organisms. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are

present, and weather conditions will facilitate movement of applied material away from water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Time applications to provide the maximum possible interval between treatment and the next period of bee activity. Do not apply to blooming crops or weeds when bees are visiting the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease-causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

### PHYSICAL/CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. **READ AND FOLLOW ALL LABEL DIRECTIONS.** Before making the first application of the season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist.

### GENERAL

**ZENIVEX® E4 RTU** is an effective insecticide used at low volumes to control adult mosquitoes, non-biting midges, biting and non-biting flies. Use **Zenivex® E4 RTU** undiluted as UltraLow Volume (ULV) for the control of pest species in or near residential, industrial, commercial, urban, recreational areas, woodlands, golf courses, and other areas where these pests are a problem. **Zenivex® E4 RTU** may be applied over agricultural areas prior to or following harvest for the control of adult mosquitoes within or adjacent to these areas. In the treatment of corrals, feedlots, swine lots, and zoos, cover any exposed drinking water, drinking water fountains, and animal feed before application. Apply **Zenivex® E4 RTU** aurally (both fixed and rotary aircraft) for low volume applications or through mist-blowers, backpack, and handheld sprayers for ground applications. **Zenivex® E4 RTU** will control mosquitoes and flies and can be used as part of a total integrated pest management program for controlling disease vectors. Apply **Zenivex® E4 RTU** at rates from 0.00175 to 0.0070 pounds of etofenprox per acre by ground ULV. Use this product undiluted only; do not mix with water. Apply when wind is  $\geq 1$  mph. Do not apply when wind speeds exceed 10 mph. A temperature inversion is preferable to keep the fog close to the ground and applications should be made when labeled insects are most active.

Do not spray more than 0.18 lbs etofenprox per acre per site per year. Do not make more than 25 applications per site per year. More frequent treatments may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease-causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

### GROUND APPLICATION

Use a vehicle-mounted cold aerosol ULV sprayer to apply the product. Direct the spray equipment nozzle to provide even distribution of the product. For best results, apply perpendicular to the wind direction using a swath width of 300 ft. Spray equipment must be adjusted so that the volume median diameter (VMD) is between 10-30 microns ( $10\mu \leq D_{v0.5} \leq 30\mu$ ) and that 90% of the spray is contained in droplets smaller than 50 microns ( $D_{v0.9} < 50\mu$ ). Directions from the equipment manufacturer or vendor, pesticide registrant, or test facility using a laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

The appropriate application rate can be achieved by using the following table. Refer to the following chart for examples.

Application rate pound A.I. per acre	Flow rates		Vehicle Speed
	Undiluted		
	Oz/Acre	Oz/Minute	
0.00175	0.75	2.25	5
		4.50	10
		7.00	15
0.00350	1.5	4.50	5
		9.00	10
		13.50	15
0.00700	3.0	9.00	5
		18.00	10

Use the higher label rates when spraying areas where dense vegetation is present. Conduct applications when temperatures are between 50-95° F.

### Backpack Sprayer ULV Application

Apply **Zenivex® E4 RTU** undiluted through non-thermal ULV backpack sprayer capable of applying the product in the 10 to 30 micron range. Apply product to the area as evenly as possible. Apply at the rate of 0.00175 to 0.0070 pounds etofenprox per acre.

### Urban ULV Mosquito Control Applications

For control of resting or flying adult mosquitoes, biting flies and non-biting midges in areas such as utility

tunnels, sewers, storm drains and catch basins, pipe chases, underground basements, underground passages, parking decks, crawl spaces or uninhabited buildings, apply **Zenivex® E4 RTU** using mechanical foggers, hand-held or truck-mounted ULV equipment, thermal foggers or other spray equipment suitable for this application. Apply **Zenivex® E4 RTU** at rates up to but not exceeding 0.0070 pounds of etofenprox per acre.

#### **Thermal Fogging Application**

Apply using a truck, dolly mounted, handheld, or other thermal fogging equipment. Following the equipment manufacturer's instructions, apply this product at a rate of 0.00175 to 0.0070 pounds etofenprox per acre. Direct fog to areas where mosquitoes and other pests are located. The volume median diameter (VMD) of droplets produced by thermal foggers is less than 60 microns ( $D_{v0.5} < 60\mu$ ) and 90% of the spray is contained in droplets smaller than 100 microns ( $D_{v0.9} < 100\mu$ ).

#### **AERIAL APPLICATION**

Apply **Zenivex® E4 RTU** aerially, undiluted, by fixed wing or rotary aircraft. Apply at the rate of 0.00175 to 0.0070 pounds of etofenprox per acre. Apply using ULV equipped and capable aircraft. Spray equipment must be adjusted so that the volume median diameter (VMD) produced is less than 60 microns ( $D_{v0.5} < 60\mu$ ) and that 90% of the spray is contained in droplets smaller than 100 microns ( $D_{v0.9} < 100\mu$ ). The effects of flight speed and, for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant, or test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated. Do not apply **Zenivex® E4 RTU** at altitudes below 100 feet. Apply at altitudes from 100-300 feet. Apply when wind speed on the ground is  $\geq 1$  mph. Apply when labeled insects are most active. For best results, use Global Positioning System (GPS) equipped aircraft.

**IN FLORIDA:** Do not apply by aircraft except with the approval of the Florida Department of Agriculture and Consumer Services.

#### **APPLICATIONS OVER CROPS OR TO AREAS FAVORING DRIFT OVER CROPS**

**Zenivex® E4 RTU** may be applied over crops (including row, tree, fruit, citrus, pasture and other areas where agricultural enterprises take place) or to areas, where drift over cropland could occur. **Zenivex® E4 RTU** can be applied to these areas by either ground or aerial application. Use label rates and follow directions for use as directed in this label. Applications over crops or where drift may occur over crops are limited to 4

applications per month to the same site but no more than two applications within a seven day interval. Do not apply more than 0.028 pounds of active ingredient per month to the same site within a month. Do not spray more than 0.18 lbs etofenprox per acre per site per year. Do not make more than 25 applications per site per year.

#### **PESTICIDE STORAGE AND DISPOSAL**

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

**STORAGE AND SPILL PROCEDURES:** Store upright at room temperature. Avoid exposure to extreme temperatures. In case of spill or leakage, soak up with an absorbent material such as sand, sawdust, earth, fuller's earth, etc. Dispose of with chemical waste.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL: Refillable 30 Gallon Drums, 120 Gallon Mini-Tote and 275 Gallon Tote:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. If not refilled, offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration. To clean the container before final disposal, triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with mineral oil or other suitable oil diluents. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Non-refillable 2.5 gallon containers: Non-refillable container.** Triple rinse (or equivalent), promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank and drain container for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  full of with mineral oil or other suitable oil diluents and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank. Drain container for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once triple rinsed, recycle if available, or puncture and dispose of in a sanitary landfill, or by incineration.

To the extent consistent with applicable law, seller makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risks of use and handling of this material when such use and handling are contrary to label instructions.

In case of an emergency or for product use information, call **1-800-248-7763**.

**[www.zenivex.com](http://www.zenivex.com)**

**Wellmark International**  
1501 East Woodfield Road 200W  
Schaumburg, Illinois 60173

