

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

## **ADULT MOSQUITO CONTROL PRODUCT**

### **MERUS 3.0**

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

#### **How does Merus Work?**

Merus 3.0 is an EPA registered product for public health mosquito control that contains natural pyrethrin, which is derived from chrysanthemum flowers in Africa. The Merus formulation has no chemical synergists or petroleum distillates, and can be applied via ground or air. It is Organic Material Review Institute (OMRI) Listed for use and in around organic farms and gardens.

Other formulas components include a vegetable oil (e.g., corn oil) and proprietary vegetable – derived biodegradable emollient commonly used in cosmetic creams, liquids and lotions, pharmaceuticals, lipsticks, mouthwash, and flavorings for baked goods and candies.

#### **How will Merus be applied?**

Merus may be applied by ground or air with ULV (ultra low volume) application nozzles.

ULV applications create a fine spray cloud (mist) that is comprised of tiny droplets – think 15 droplets on the head of a pin – that moves through the air in order to make contact with in – flight adult mosquitoes.

#### **Will application of this product harm people and/ or pets? Can they be outdoors during the application?**

Merus is applied at extremely low dosage rates – less than an ounce per acre. An acre is equivalent to approximately a football field, and a shot glass holds one ounce of liquid. Such low rates mean there is very low exposure even if present during or immediately after application made; this level of exposure is far less than the amount necessary to pose a health concern.

People and pets can be outdoors during the application; there are no re-entry restrictions or limitations for Merus. If you choose to remain indoors, the spray (mist) will dissipate quickly through the treatment area (in 5 – 30 minutes, depending on weather conditions).

The low application rate and wide area dispersal of the spray ensure that exposures are minimal.

### **Can Merus be used around organic farms?**

Yes. All components in Merus 3.0 are approved for crops grown for human food and animal feed. Merus 3.0 is the only OMRI Listed and National Organic Program (NOP) compliant mosquito control product available for the public health industry, which means that Merus can be used in and around organic crops and gardens as well as conventional farms.

### **Will I notice a scent when Merus is applied?**

No. Merus 3.0 is virtually odorless, making it more attractive for mosquito control programs.

### **How does Merus affect non- target insects?**

Because of the manner in which Merus is applied and the time of day it is applied, it should not affect beneficial insects, like bees and butterflies. Merus is applied in small droplets, which break down quickly in the environment. Since the product must hit a mosquito while it is in flight to have an effect, it is sprayed at night when mosquitoes are actively flying and when other insects, such as bees and butterflies, are inactive or in their hives.

Mosquito control products, including Merus, are specifically formulated and applied in a very fine aerosol spray to control mosquitoes, and should not pose a risk to bees even if they inadvertently come in contact with the spray. In a 2016 Louisiana State University study of several public health mosquito control products applied by typical ULV sprayers found no harm to bees, even with direct exposure at a 50 foot distance from the sprayer and at the highest possible label rate.

### **Are residues on leaves toxic to foraging bees?**

No. In studies with pyrethrins, the insecticide in Merus, applications made directly to flowering plants at application rates more than 10 times the rates used in mosquito control did not affect honeybees or adversely affect the conditions of bee colonies, individual survival, flight intensity, or brood development.

### **How long will Merus last in environment?**

Depending on weather conditions, the Merus spray mist will dissipate in 5 to 30 minutes, and the product does not have any residual effect.

Mosquito control products are designed and applied in a very specific way (ultra – low volume mist) to limit deposition on the ground and other surfaces. Any deposition that does occur following a ULV treatment will be minimal, non – toxic to animals and the environment, and will continue degrading quickly upon exposure to sunlight.

**Will Merus 3.0 harm the finish of my car / house? Do I need to rinse off outdoor toys?**

No. The ingredients of Merus 3.0 are not corrosive or staining and should cause no chemical harm to the finish of a car / house. There is no need to wash off outdoor toys.

**Do I need to close my doors or windows during the application?**

No, it is not necessary to close doors or windows. The spray will dissipate from the treated area quickly (5 – 30 minutes.)

**Should I turn off my air conditioner during the application?**

No. There is no need to take precautions with air conditioning systems.

**Do vegetables and fruits need to be harvested before Merus 3.0 is applied?**

No. Merus 3.0 will not deposit in significant amounts, and residues that may result are far below internationally established thresholds of safe dietary exposure. Residues will degrade quickly on exposure to sunlight. However, it is always prudent to wash fruits and vegetables before eating.

**Do I need to cover my fishpond before Merus 3.0 is applied?**

No. Merus 3.0 is applied in such a way that only an incidental amount of spray may settle in the area and will not pose a risk to a healthy pond.

**Do horses and livestock need to be sheltered during the application?**

No. Horses and livestock should not be adversely affected by applications of Merus.

This product has low mammalian toxicity.

## **Where can I get more information on Merus 3.0?**

The following are resources for more information regarding Merus 3.0 and mosquito control in your area (unless otherwise noted, available during normal business hours):

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

**National Pesticide Information Center 800-858-7378**

For pesticide health information & possible exposures – 24 hours

**NJ Poison Information & Education System 800-222-1222**

For pesticide regulation & misuse complaints:

**NJ DEP Pesticide Control Program 609-984-6568**

For pesticide regulation:

**USEPA Region 2 Office of Pesticide Programs 732-321-6768**

For pesticide health information

**Bergen County Department of Health Services 201-634-2600**

For mosquito control insecticide recommendations:

**Rutgers University, Department of Entomology 732-932-9774**

Where can I get more information about local mosquito Control?

**Bergen County Mosquito Control 201-634-2881**

For state – wide mosquito control information:

**NJDEP Office of Mosquito Control Coordination 609-292-3649**