



# Biomist Adulticide FAQs

## 1. What is Biomist?

Biomist is a mosquito control product designed for use in Integrated Pest Management nuisance and public health mosquito management programs. The active ingredient in Biomist is permethrin, a synthetic pyrethroid that mimics the insect-killing (insecticidal) properties of natural substances called pyrethrins, found in chrysanthemum flowers.

The Biomist product line is available in various formulation versions, with varying ratios of active ingredient (permethrin) and piperonyl butoxide (PBO), a chemical synergist that enhances the efficacy of permethrin against mosquito populations.

The Biomist brand of adulticides have been registered with the U.S. EPA since 1989 to help control adult mosquito populations that may transmit disease.

## 2. How is Biomist applied?

Biomist is applied in an ultra-low volume (ULV) non-thermal aerosol spray by ground or air, most typically through truck-mounted equipment. Some formulations are labeled for use in truck-mounted or hand-carried thermal fog sprayers. Biomist is approved for application in residential and in recreational areas such as parks, campsites, woodlands, athletic fields, golf courses, gardens and playgrounds. It is also approved for use over and around certain crops and range grasses (please see product label for complete list).

## 3. How much is typically applied?

Biomist is applied at a very low rate, typically less than 3 ounces per acre. This low application rate equates to a maximum of approximately 3 grams permethrin per acre. An acre is approximately the size of a football field.

## 4. Does Biomist pose a health risk to humans?

When applied as indicated on the label for adult mosquito control, Biomist does not endanger human health.

Prior to registering a public health mosquito control product, the EPA evaluates products

thoroughly to be sure there is no significant risk to humans, animals and the environment from their responsible use. Biomist and its ingredients have been thoroughly evaluated in rigorous tests required by the EPA, and have been approved for ground and aerial application in outdoor, residential and recreational areas, and other similar areas.

**5. Will application of this product harm my children and/or pets? Can they be outdoors during the application?**

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

**6. Will this chemical harm the finish on my car and/or house? Do I need to rinse off outdoor toys?**

No. The ingredients in Biomist are not corrosive or staining and therefore should cause no chemical harm to the finish of a car and/or house. There is no need to wash off outdoor toys but if that's preferred, use a mild detergent such as dish soap and water to clean toys, other objects and/or surfaces.

**7. Do I need to close my doors and windows during the applications?**

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

**8. I have an air conditioner. Should I turn it off if spraying is scheduled in my area?**

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

**9. Do vegetables and fruits need to be harvested before the spraying? Or is there a certain amount of time I need to wait?**

No. The EPA has evaluated Biomist and determined that using it in residential areas, which can include gardens, does not pose a risk to people or animals. Fruits and vegetables from gardens may be harvested according to their normal schedules after application. It is good common sense to rinse all fruits and vegetables with water prior to eating.

**10. Do I need to cover my fish pond prior to a spraying?**

No. The spraying should not pose a risk for a healthy pond.

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

No. Horses and livestock should not be adversely affected by applications of Biomist. This product has very low mammalian toxicity. However, the EPA does require that any exposed drinking water sources, water fountains, and animal feed be covered before a Biomist application. Consult with the product label for full list of application requirements and use directions.

### **12. How does Biomist affect non-target insects?**

Because of how and when Biomist is applied, it should not affect beneficial insects, like bees and butterflies. Biomist is applied via ultra-low volume spray in very 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 not active.

However, Biomist is an insecticide and may be toxic in cases of direct exposure to bees active outside the hive. Beekeepers can protect their bees by sheltering the hives during the spraying operation. Per the product label, applicators should also take all necessary precautions to avoid applying the product when bees are active in the treatment area and prevent drift onto blooming crops or weeds.

### **13. How does Biomist affect the environment?**

Mosquito control formulations of permethrin break down quickly in the environment, and high temperatures and sunlight further accelerate this process.

Biomist has very low mammalian toxicity and has been found to be practically non-toxic to birds. Like many insecticides, Biomist may be toxic to bees upon direct exposure, as well as some aquatic organisms, including fish and invertebrates. However, the small amount of product, manner and time of day at which Biomist is applied greatly reduces these risks.

### **14. Will Biomist treatments eliminate mosquito populations?**

No, this will not completely eliminate all mosquitoes. Killing adult mosquitoes (adulticiding) – or spraying – helps to control the size of mosquito populations and prevent the spread of disease. Mosquito populations are constantly dying off and regenerating, and adulticiding will not eliminate all of the adult mosquitoes in the community. Adulticiding is needed because source reduction (reducing unnecessary standing water), surveillance and larviciding

(killing the mosquito population at the larval stage) alone are not enough to control mosquito populations.

Biomist is effective in controlling nuisance and disease-spreading mosquitoes. A specific problem area is identified and treated, but the spraying in this targeted area is not reaching an entire habitat of mosquitoes. Sometimes mosquitoes move into the spray zone from outside of it after it is treated, which is called “reinfestation” (i.e., they drift in on wind currents from areas that have not been treated).

When mosquito reinfestation occurs, additional sprayings may need to be considered to control the spread of mosquitoes that transmit disease. Effectively controlling an adult mosquito population through spraying also depends on a number of external factors, including timing, the level of reinfestation, methodology used during the application and weather conditions.