



### 1. What is Duet?

**Answer:** Duet is the name of a public health mosquito control product. It has two active ingredients: Sumithrin and Prallethrin. They are formulated to mimic the natural pyrethrins that are extracted from chrysanthemum flowers. Duet was registered by the U.S. EPA for use for public health applications in 1995 to help control adult mosquito populations.

### 2. Does Duet pose a health risk to humans?

**Answer:** The U.S. EPA has reviewed Duet and approved it for both ground and aerial application in outdoor residential, recreational areas and other areas. Sumithrin, the active ingredient in Duet products, has been approved for use for outdoor mosquito control since 1987. Sumithrin is also a key ingredient used in products for the pet industry, in household insecticide products for flea and cockroach control, and in medicated lice control shampoos for humans. The second active ingredient in Duet is Prallethrin. It was developed in the 1980s as an alternative to pyrethrins and is used widely in pest control products throughout the world.

### 3. Will this product harm my children and/or pets?

**Answer:** No. The U.S. EPA has approved Duet for use in outdoor residential and recreational areas. Duet is applied at extremely low dosage rates –less than an ounce per acre. An acre is equivalent to approximately a football field. Such low rates mean there is very low exposure even if present during or immediately after the application is made. For added safety it's recommended for children and pets to wait until any application is dry before going into treated areas.

### 4. Can my children and/or pets play outside after the application? How long after the application can we go outside?

**Answer:** There are no re-entry precautions or limitations for Duet. It degrades rapidly in the environment and does not bio-accumulate, which means it is not passed through the naturally-occurring food chain. Each state may make particular recommendations when communicating to their public to ensure that common sense steps are taken during and after spraying.

### 5. Will Duet harm my unborn baby?

**Answer:** A number of studies have been conducted to determine the teratogenic effects on unborn babies. No teratogenic effects have been associated with either active ingredient in the product. Duet is applied at extremely low dose rates and minimal precautions can eliminate or at least drastically minimize exposure to any insecticide that is sprayed to further reduce concerns.

**6. Will this chemical harm the finish on my car and/or house?**

**Answer:** The ingredients of Duet are not corrosive or staining and therefore should cause no chemical harm to the finish of a car and/or house.

**7. Do vegetables and fruits need to be harvested before the spraying? Or is there a certain amount of time I need to wait? Is rinsing with water sufficient?**

**Answer:** Duet degrades quickly in the environment and will not have an accumulative effect. It is good common sense to always rinse fruits and vegetables with water as a precautionary measure.

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

**Answer:** The spraying should not pose a risk for a healthy pond under sound environmental conditions. If an individual does have a concern, covering the fish pond as an added precaution would be the best approach.

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

**Answer:** Horses and livestock should not be adversely affected by applications of Duet. This product breaks down quickly through sunlight and does not bioaccumulate, meaning it will not affect the livestock.

**10. How does Duet affect non-target insects?**

**Answer:** Because of the manner in which Duet is applied and the time of day it is applied, it should not impact beneficial insects. Duet is applied in small droplets, which degrade quickly in the environment. Since the product must impinge or strike a mosquito to have an effect, it is sprayed at night when mosquitoes are actively flying. This happens to be when other insects, such as bees and butterflies, are not active.

**11. How does Duet affect the environment?**

**Answer:** The U.S. Environmental Protection Agency has determined that Duet can be applied by truck or aircraft in outdoor residential and recreational areas, including vegetation surrounding parks, woodlands, swamps, marshes, overgrown areas and golf courses. It breaks down quickly in sunlight to primarily carbon dioxide, which is found in the air that humans exhale. It also breaks down into benzoic acid, which according to the EPA poses little or no risk to soil, plants and the environment in general, if applied in the recommended amounts.

**12. How is Duet applied?**

**Answer:** Generally, Duet is applied at an ultra low volume in an extremely fine mist of tiny drops, where the average droplet size is 17 microns. This amount is smaller than the size of a pinhead.

**13. How much is typically applied?**

**Answer:** Duet is applied in very low dosages, from less than half an ounce to a little more than one ounce of formulated product per acre (.41 to 1.23 fl oz/ac). This is approximately a teaspoon of formulated product on an area the size of a football field.

#### **14. Will this eliminate our mosquito population?**

**Answer:** Mosquito populations are not static. Instead, they are constantly regenerating. Source reduction (reducing unnecessary standing water), surveillance, and larviciding (controlling the mosquito population before adulthood) are not alone sufficient to control mosquito populations. To control the spread of disease, adulticiding, or spraying, is necessary.

Duet is effective in controlling disease-spreading mosquitoes. A specific problem area is identified and sprayed, 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 an application is made, which is called re-infestation, (i.e., they drift in on wind currents from upwind areas that have not been treated). When mosquito re-infestation occurs, additional sprayings must be considered to control the spread of the vector of West Nile Virus, mosquitoes. Effectively controlling an adult mosquito population through spraying also depends on a number of external factors, including timing, the level of re-infestation, methodology used during the spraying, and weather conditions.

#### **15. Do I have to go indoors during the applications?**

**Answer:** No. The U.S. EPA has approved Duet for use in outdoor residential and recreational areas. Each state may make particular recommendations when communicating to their public to ensure that common sense steps are taken during and after spraying.