

Products Used in Larval Black Fly Control

Vectobac® 12AS

What is Vectobac® 12AS and how is it used?

Vectobac® 12AS is a liquid formulation that contains the active ingredient *Bacillus thuringiensis israelensis* (Bti). Bti stands for the name of the bacteria of which certain components control black fly larvae. Proteins from the bacteria are pathogenic to filter feeding black flies, and these proteins comprise the active ingredient of Vectobac. Vectobac is applied to black fly larval habitat (rivers and streams) in either a concentrated or diluted fashion (by the use of water). The US Environmental Protection Agency's current evaluation considers Bti containing products to be practically non-toxic when used according to label instructions. Method of application is by helicopter, hand or truck-mounted equipment.

What are the effects of Bti on non-target organisms?

Bti is a "protoxin." This means that it must be digested in specific manner to have negative effects on organisms. The alkaline gut of a specific group of insects, which includes mosquitoes and black flies, is able to effectively digest the Bti to cause mortality. Other insects, including pollinating insects, are unaffected by Bti treatments to black fly and mosquito habitat. Vertebrates, including wildlife, are unaffected by Bti use as well.

How long does Bti last in the environment?

Bti breaks down quickly in the environment, primarily due to its susceptibility to heat and sunlight. Breakdown in water generally occurs within hours of use. Advantages of the product are its specificity to black flies and mosquitoes and its lack of residual in the environment. Because of this lack of residual, however, black fly larvae will hatch within a day or two of its use, producing a new brood of insects.

How can exposure to Vectobac be avoided?

Although risk to the general public from use of this of this product is minimal, avoiding exposure is always the safest course of action. Residents should take precautions to avoid direct eye and skin contact with Bti. Areas of the body that have come in contact with Vectobac can be washed with water. There are no specific categories of individuals who are more susceptible to problems associated with Bti; however, residents who perceive themselves at a higher risk for exposure to other products should take extra care to avoid direct contact with Bti. Such residents might include those who have general allergic reactions to a variety of other products, young children, and chronically ill individuals. Exposure can be reduced by keeping a distance from application equipment and avoiding immediate and direct contact with habitat that has been treated

What are the symptoms of exposure to Vectobac?

Direct exposure could cause mild irritation from eye and skin contact. These conditions could be aggravated by pre-existing skin or eye lesions and hypersensitivity. The chance of experiencing symptoms with diluted material when properly used is low. First aid

procedure includes flushing exposed areas with copious amounts of water and seeking medical attention if irritation persists. Should symptoms persist, immediate medical attention is advised by either contacting a physician or by contacting the New Jersey Poison Information and Education System (NJPIES) at 1-800-222-1222.

Where can more information on these products be found?

Numerous publications exist on the efficacy and environmental fate of Bti. Staff of the HCMVCP can provide examples of these upon request. The following resources can also be used to attain more information on Bti as it pertains to black fly control:

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| National Pesticide Information Center | 800-858-7378 |
| - for overall pesticide specific information
(9:30 AM – 7:30 PM) | |
| New Jersey Poison Information and Education System | 800-222-1222 |
| - for pesticide health information and possible
exposure (24 hours) | |
| NJ DEP Pesticide Control Program | 609-984-6057 |
| - for NJ pesticide regulation and misuse complaints | |
| US EPA Region 2 Office of Pesticide Programs | 732-321-6759 |
| - for federal pesticide regulation information | |
| Hunterdon County Health Department | 908-788-1351 |
| - for pesticide information and information
on local black fly control | |