



SUMMIT COUNTY PUBLIC HEALTH

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MOSQUITO LARVICIDES

Abate^(R)

$LD_{50} = 8,600 \text{ mg/kg}$

Abate (temephos) is an organic phosphate insecticide effective against the larvae of certain aquatic insects. Because of its relative safety to mammals and birds, it has been widely used for control of mosquito larvae since 1965. In many parts of the world Abate has been approved for use in drinking water supplies for the control of mosquitoes and dracunculiasis (guinea worm disease). Temephos, the active ingredient found in Abate is less toxic to humans than vinegar, salt or aspirin. Abate is not labeled for use in areas which contain fish. Abate biodegrades rapidly and normally persists in the environment for only a few days.

Abate 4E - This is a 40% emulsifiable concentrate formulation of temephos. The Abate is diluted with water and applied at a rate of from 0.5 to 1.5 ounces of concentrate per acre. Abate 4E is not a residual larvicide. Reapplication is necessary as new mosquitoes are found. If mosquito pupae are present they may not be killed by the Abate 4E. Even at the higher application rates 4E is not strong enough to kill pupae which are close to emergence.

Abate 5PG - Is a 5% slow release pellet formulation of temephos. Plaster pellets are applied at a rate of 2 to 10 pounds per acre. The pellets slowly release the temephos and will control mosquito breeding for about 30 days. The pellets can also be applied as a pre hatch treatment to a breeding area prior to flooding.

Bacillus thuringiensis israelensis (Bti)

$LD_{50} > 5,000 \text{ mg/kg}$

Bti is a microbial agent which is effective for the control of mosquito and black fly larvae. The active ingredient is in the form of a protein crystal produced by the spore stage of the bacterium. When ingested by a mosquito larva the spore reacts to the alkaline environment of the mosquitoes midgut, causing destruction of the midgut epithelium of the larva. This product will not harm birds, mammals, fish or numerous other nontarget organisms. Reapplication will be necessary as new broods hatch and new mosquito larvae are found.

Vectobac G - A granular formulation applied with seeders or backpack blower units at a rate of 2 to 10 pounds per acre.

Bactimos Briquets - Are floating sustained release briquets which release Bti for approximately 30 days. Each briquet treats 100 square feet of surface area.

Altosid

$LD_{50} > 34,600 \text{ mg/kg}$

Altosid (methoprene) is an insect growth regulator which interferes with normal development and prevents the adult mosquito from emerging from the pupal stage. Altosid acts specifically on mosquito and other aquatic fly larvae. It is non-toxic to fish, birds, amphibians and numerous other non-target organisms.

Altosid Briquets - One Altosid Briquet is used per one hundred square feet of surface area. Altosid Briquets slowly release the active ingredient into the breeding site (woodland pools, storm sewer catchbasins, etc.) for a 30 day period.

Altosid Pellets - A slow release pellet formulation designed to release methoprene slowly for a period of about 45 days. They are applied at a rate of 2 - 10 pounds per acre. The pellets can be applied as a pre hatch treatment in the spring.

Golden Bear Larviciding Oil

No LD₅₀ value reported. Oral toxicity is relatively low to mammals.

GB-1356 (GB-1111) is a light weight petroleum distillate. It is composed of hydrocarbon, aliphatic amine, and surface active agents. Label rates begin at 2 gal/acre. Rates of 5 gal/acre should be used for areas with dense vegetative cover, or high organic content. Golden Bear is effective as both a larvicide and as a pupacide.

VectoLex CG (B. sphaericus)

B. sphaericus is a common spore-forming bacteria that is effective for the control of *Culex* mosquitoes. VectoLex CG is used at sites that are polluted or have a high content of organic material such as septic ditches, storm sewers and catch basins. VectoLex CG has been tested and no hazardous effects were noted on mammals or nontarget organisms. Although VectoLex CG mode of action is similar to Bti it is more persistent sometimes lasting up to 4 weeks.

If you have additional questions, please contact Summit County Public Health, 1867 West Market Street, Akron, Ohio 44313-6913; (330) 923-8856