EFFICACY REVIEW

PRODUCT:	Ultratec 100 RTU Insecticide (Please note that the product name on the pending label differs from what is currently accepted by the Agency. The name on the pending label is UltraTec HPC 1)
REG NUMBER:	73049-186
DATE:	February 10, 2009
GLP:	Partially
BARCODE:	D358078
DECISION:	401431
CHEMICAL:	Deltamethrin (.01%)
CHEMICAL NUMBER:	097805
PURPOSE:	Review data to determine if it supports the addition of multiple public health pests.
MRIDS:	*47570901. Donahue, W. (2008) In vitro Efficacy Evaluations of UltraTec 5 SC MUP Against Selected Arthropod Pest Species: Final Report. Project Number: VBS05/3E, VBS05/3. Unpublished study prepared by Sierra Research Labs. 100 p.*
TEAM REVIEWER:	Olga Odiott
EFFICACY REVIEWER:	Kable Bo Davis, M.S., Entomologist 2-10-09

BACKGROUND:

Ultratec 100 RTU Insecticide (EPA Reg. No. 73049-186) is a ready-to-use pesticide intended for the control of a variety of pests. The directions for use state to apply to surfaces only a spot and crack and crevice treatment. The product should be applied until surface is slightly moist, but not to the point of runoff (~4 squirts per sq ft of surface).

Previously accepted labels contained the following public health and/or structural pests: German cockroaches, fleas, deer ticks, flies, mosquitoes, cockroaches, ants, centipedes, fleas, palmetto bugs, ticks, waterbugs, carpenter ants and scorpions. MRID 47570901 contains efficacy data for the following public health pests: black widow spiders (*Latrodectus mactans*), brown recluse spiders (*Loxosceles spp.*), Mediterranean

paper wasps (*Polistes dominulus*), black flies (*Simulium vittatum*) and bed bugs (*Cimex lectularius*).

DATA REVIEW:

The following data review is comprised of explanations of materials and methods, and a summation of experimental results containing tables with reformatted data.

47570901. Donahue, W. (2008) In vitro Efficacy Evaluations of UltraTec 5 SC MUP Against Selected Arthropod Pest Species: Final Report. Project Number: VBS05/3E, VBS05/3. Unpublished study prepared by Sierra Research Labs. 100 p.

The objective of this study was to determine percent mortality of various arthropods exposed to a deltamethrin product diluted to 0.01% deltamethrin. The experimental design consisted of introducing test species (number varies upon species; 5 replicates) into stainless steel screened cages, PVC screen cages or plastic containers with varying substrates. All arthropods not within control groups were treated with 2-3 grams of product. Test material was applied with a hand-held pump spray. Observations on mortality were recorded 24 hours post-treatment.

Table 1. Experimental Design; Number of Test Subjects

	Number Arthropods Per Replicate	Total Treated with Test Product
Black Widow	1	5
Brown Recluse	1	5
Med. Paper Wasps	5	25
Black Flies	21-30	130
Bed Bugs	7	35

Results-

Table 2. Mean Percent Mortality; MRID 47570901

		Knockdown					Mortality
	Rate	1 min	30 min	60 min	2 hr	8 hr	24 hr
Black Widow	3 g	20%	100%	100%	100%	100%	100%
Brown Recluse	3 g	60%	100%	100%	100%	100%	100%
Med. Paper Wasps	3 g	0%	96%	100%	100%	100%	100%
Black Flies	2 g	99.2%	100%	100%	100%	100%	100%
Bed Bugs	2 g	2.8%	17.3%	34.3%	34.3%	80%	100%

The percent mortality of all public health pests referenced in Table 1 exposed to 0.01% deltamethrin for 24 hours was 100%. All test had acceptable levels of control mortality (10% or less) with the exception of black flies (26.2%).

RECOMMENDATIONS:

The submitted data do not support the addition of kill claims for black widow, brown recluse, Mediterranean paper wasps, black flies and bed bugs on the pending label. The following recommendations apply:

1. The data were considered inadequate for the following reasons:
    a. All of the test subjects had forced exposure to the pesticide for the duration of the test. The experimental design for future submissions should include transferring test species to clean arenas following a brief exposure period (~5 min.).
    b. There were not enough test subjects used for black widow and brown recluse spiders. There were only a total of five spiders from each species tested with product.
    c. There was an unacceptable level of control mortality of black flies after 24 hours. Control mortality should remain at 10% or below.

Label Comments-

1. All references to spiders should include the disclaimer "*excluding black widow and brown recluse spiders*".
2. All references to bed bugs must be deleted from the label.
3. All claims for "*flies*" and "*wasps*" may remain as is, however no specific claims for kill of Mediterranean paper wasps or black flies may be added in the future (without the submission of acceptable data).