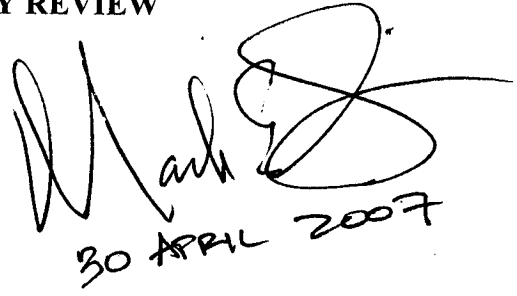


US EPA ARCHIVE DOCUMENT

PRODUCT PERFORMANCE / EFFICACY REVIEW

Mark Suarez, Entomologist - IB



30
25 April 2007
30 APRIL 2007

DATE: 30
25 April 2007

EPA REG. NUMBER: 63823-LU

PRODUCT NAME: TC 253

REGISTRANT: Management Contract Services, Inc.

PM: George LaRocca, PM13
REVIEWER: Bonaventure Akinlosotu

DECISION #.: 367048
DP BARCODE: 335370

ACTION: R31

ACTIVE INGREDIENT(S): 128897, λ -Cyhalothrin.....9.7%

MRID: 46831608

GLP ?: No

SITES: Indoors and Outdoors

PESTS: Honeybee; Earwig; Cat flea; mealybug;
Millipede; Southern House Mosquito;
Clothes moth; Meal moth; Pillbug; Scale;
Cellar Spider; Paper wasp; Whitefly

STUDY APPLICATION RATE: 0.9 mL direct contact aerosolized spray;
0.00054 lb AI/ft² applied to particle board
0.00054 lb AI/ft² applied to ceramic tile

LABEL APPLICATION RATE: 0.0001 lb AI/ft² to 0.0004 lb AI/ft²

STUDY SUMMARY:

MRID 46831608. Uchima, ST. 2005. Laboratory Evaluation of the Experimental Product TC-253 Lambda Cyhalothrin CS V.2A in the Control of Common Pesticiferous Arthropods. Unpublished. 49 pp.

The registrant submitted a series of data testing a 9.7% lambda cyhalothrin formulation against a variety of arthropod taxa. The laboratory studies tested the efficacy (i.e., mortality and mortality plus knockdown) of the undiluted formulation. The direct spray assays (application rate of 0.9 mL of a 0.030% AI dilution of the concentrated product) were conducted against a variety of arthropod pests (i.e., honeybee, earwig, cat flea, mealybug, millipede, southern house mosquito, clothes moth, meal moth, pillbug, scale, cellar spider; paper wasp, and whitefly). Residual efficacy studies were conducted by applying product (application rate of 11.78 mg AI/ft²) to glazed ceramic tile and particle board and exposing either Indian meal moth larvae or adults to for 1 to 24 hours to surfaces aged for up to 90 days. (The application rates used in the trials were submitted on 27 November 2006 subsequent to the registrant's receipt of the original DER dated 2 November 2006.)

The results reported for the contact kill studies are summarized below in Table 1. The data provided suggest that the product may be efficacious against insects; however, the data submitted did not adequately demonstrate support of "kill claims" due to high control mortalities and the inclusion of knockdown in the mortality in

The residual study was also deemed insufficient to support the desired claims. The product was tested against only Indian meal moth adults and larvae. The mortality observed was inconsistent and the information provided about the weathering of tile and particle board squares insufficient for complete analyses of the results.

ENTOMOLOGIST'S COMMENTS AND RECOMMENDATIONS:

The data submitted do not support any claims against arthropods of public health or economic importance. The registrant argued that the data submitted are adequate for kill and control claims based upon additional information provided about the studies. The data provided indicate knockdown + mortality of all species tested (except brown scales) at 24 hours. However, interpretation of the data is complicated by two factors: (1) high control mortality and (2) the inability to distinguish between the percentages of insects knocked down and those killed. The registrant's assertion that knocked down insects are unlikely to recover and can be considered to be dead is not the position of this reviewer. This is mainly due to the fact that even at 24 hours after treatment individuals were still moribund. After this duration, mortality should have been observed.

Residual claims against only Indian meal moths are not supported due to the short length of activity noted for unpainted plywood. Additional of residual claims against only Indian meal moths on ceramic tile to the label would not be informative and might serve to confuse the user.

Data demonstrating that the product is efficacious at the label application rate against the pests excluded below may be submitted at a later date. Data may also be cited in support of the desired residual claims.

Remove all claims against the following pests listed below from the label:

1. Carpenter Ants

2. Fire Ants
3. Harvester Ants
4. Pharaoh Ants
5. Bed Bugs
6. Carpenter Bees
7. Centipedes
8. Chiggers
9. Cluster Flies
10. Cockroaches
11. Fleas
12. Flies
13. Hornets
14. House Flies
15. Mosquitoes
16. Scorpions
17. Spiders
18. Stable Flies
19. Termites
20. Ticks
21. Yellowjackets
22. Wasps
23. Wood-infesting Borers and Beetles
24. Black Widow Spiders
25. Brown Recluse Spiders
26. Wood Destroying Insects

Claims against the other pests listed, which are not of public health or economic concern, may be retained on the label. This includes “ants (except Carpenter, Fire, Harvester, or Pharaoh ants)” and “Spiders (except Black Widow or Brown Recluse spiders).

Claims that the product kills the following pests of public health concern may be retained on the label:

1. Bees (Honeybees only)

Common Name	Species	Mortality (>90%)		Control Mortality		Mortality + Knockdown (>90%)		Control Mortality + Knockdown	
		Time	%	Time	%	Time	%	Time	%
European honeybee	<i>Apis mellifera</i>	4 HAT	100	24 HAT	0	5 MAT	100	24 HAT	0
European earwig	<i>Forficula auricularia</i>					20 MAT	100	24 HAT	0
Cat flea	<i>Ctenocephalides felis</i>					5 MAT	95	6 HAT	12.5
Longtailed mealybug	<i>Pseudococcus longispinus</i>					10 MAT	96	20 HAT	22.5
Millipede	<i>Julus hesperus</i>	20 HAT	100	20 HAT	30	1 HAT	95	10 HAT	25
Southern house mosquito	<i>Culex quinquefasciatus</i>					20 MAT	100	20 MAT	13
Webbing clothes moth	<i>Tineola bisselliella</i>					30 MAT	98	20 HAT	30
Indian meal moth	<i>Plodia interpunctella</i>					4 HAT	92	6 HAT	19
Pillbug	<i>Armadillium vulgare</i>	10 HAT	98	10 HAT	48	30 MAT	100	6 HAT	40
Brown soft scale	<i>Coccu hesperidum</i>								
Cellar spider	<i>Pholcus phalangioides</i>					20 Mat	90	24 HAT	0
European paper wasp	<i>Polistes dominulus</i>					10 MAT	95	24 HAT	0
Silverleaf whitefly	<i>Bemisia agentifolii</i>	20 HAT	100	20 HAT	100	6 HAT	100	6 HAT	20

Table 1. The effectiveness of the test formulation against the listed species. The time at which the specified mortality or knockdown plus mortality is indicated in MAT (minutes after treatment), HAT (hours after treatment), or DAT (days after treatment). Grayed blocks indicate that the reported metric never reached or exceeded 90%