



## Evaluation Report for Category B, Subcategory B.2.1, B.2.3, B.2.4, B.3.11 Application

**Application Number:** 2004-3791  
**Application:** Category B, Subcategory B.2.1, B.2.3, B.2.4, B.3.11  
**Product:** Prescription Treatment Brand 221L Residual Insecticide Formula 2  
**Registration Number:** 28485  
**Active ingredients (a.i.):** Cyhalothrin-Lambda at 0.05%  
**PMRA Document Number:** 1440133

### Purpose of Application

The purpose of this application is to register Prescription Treatment Brand 221L Residual Insecticide Formula 2, a new commercial class insecticide intended for use in Use Site Categories 3 and 20. For specific details of uses, application rates and methods, precautions, restrictions, and personal protective equipment requirements, refer to the product label.

### Chemistry Assessment

Prescription Treatment Brand 221L Residual Insecticide Formula 2 is a solution containing the active ingredient lambda-cyhalothrin at a nominal concentration of 0.05%. This product has a density of 0.7855 g/cm<sup>3</sup> and pH of 3.97. The chemistry requirements for Prescription Treatment Brand 221L Residual Insecticide Formula 2 are complete.

### Health Assessment

Prescription Treatment Brand 221L Residual Insecticide Formula 2 is considered to be slightly acutely toxic to rats via the oral route (LD<sub>50</sub> between 1500 and 5000 mg/kg bw) and of low acute toxicity to rats via the dermal (LD<sub>50</sub> > 5000 mg/kg bw) and inhalation routes (LC<sub>50</sub> > 2.01 mg/L). It is considered to be mildly irritating to the skin and minimally irritating to the eyes of rabbits. Prescription Treatment Brand 221L Residual Insecticide Formula 2 is a potential skin sensitizer in guinea pigs.

The estimated risk for workers applying Prescription Treatment Brand 221L Residual Insecticide Formula 2 indoors or outdoors is above the target MOE of 100. There is some uncertainty in the risk assessment concerning the applicability of the dermal absorption value for the proposed product. However, since the estimated MOEs are well over the target of 100, the risk is considered to be acceptable.

## Environmental Assessment

An environmental assessment was not required as the subject product is registered for empty food storage areas and structure. The environmental exposure and risk posed by the subject product is limited compared to existing agricultural uses of lambda cyhalothrin. There are no environmental concerns with the use of the subject product that are not mitigated by the existing label statements.

## Value Assessment

A total of nine laboratory efficacy studies, testing residual contact control and direct-spray control for various insects, were evaluated to support the claim for Whitmire Micro-Gen Prescription Treatment Brand 221L Residual Insecticide (0.05% lambda-cyhalothrin) for the control of various insect pests as a crack-and-crevice, barrier and perimeter residual and direct contact spray (structural and empty food storage).

The data supports residual control of ants, cockroaches, and flour beetles for 21 days. As well, residual control of millipedes and sowbugs for 21 days can be extrapolated from registered uses of lambda-cyhalothrin. Residual control (1 second spray per 0.1m<sup>2</sup>) for 21 days of Indian meal moth larvae on non-porous surfaces is also supported. Direct-contact control (1 second spray) of ants, ticks, honey bees, carpenter ants, centipedes, house flies and stable flies, cockroaches, crickets, earwigs, confused flour beetle, grain weevils, Indian meal moth larvae and adults, silverfish, paper wasps, and yellow jackets is also supported by the data. Based on the evaluated data and currently registered products, it is possible to extrapolate residual control efficacy to flies, silverfish, millipedes, centipedes, and sowbugs. Wall void treatment application rates (1-5 seconds per 0.085 cubic metres of wall void space, i.e. 2.5 square metres of treated area) are supported based on the area to be treated, application rate, and the fact that wall voids are enclosed spaces which will confine the spray to the treated area.

## Conclusions

The Agency has completed an assessment of the available information for Prescription Treatment Brand 221L Residual Insecticide Formula 2 and has found it sufficient to allow for full registration.

## Reference List

PMRA #	Reference
933940	2002, The Determination of The Efficacy of TC241 vs Oriental Cockroach ( <i>Blatta orientalis</i> ) by Direct Spray Application., LR 068/02, DACO: 10.2.3.2
933941:	2003, Evaluation of Residues of Lambda-Cyhalothrin Compared to D-Force HPX in the Control of the German Cockroach, American Cockroach, Argentine Ant, Confused Flour Beetle, Indian Meal Moth Larvae, and Field Cricket., 259-F-02, DACO: 10.2.3.2

<b>933942</b>	2003, Laboratory bioassay to determine the efficacy of a directed spray of TC-241 for the control of bed bugs ( <i>Cimex lectularius</i> )., 02/64A, DACO: 10.2.3.2
<b>933943</b>	2003, Laboratory bioassay to determine the efficacy of a directed spray of TC-241 for the control of black ants ( <i>Lasius niger</i> )., 02/61, DACO: 10.2.3.2
<b>933944</b>	2003, Evaluation of Experimental Insecticide Formula 215-006, Compared to D-Force HPX, in the Control of the German Cockroach, American Cockroach, Argentine Ant, Confused Flour Beetle, Indian Meal Moth Adult, Indian Meal Moth Larvae, Paper Wasp, Western Yellowjacket
<b>933945</b>	2003, Efficacy Evaluations of TC-241 (0.05% Lambda-Cyhalothrin) against selected Arthropod Pests in vitro., WMG02-5-A, DACO: 10.2.3.2
<b>933946</b>	2003, Laboratory bioassay to determine the efficacy of TC 241 against three species of cockroach ( <i>Blatta orientalis</i> , <i>Periplaneta americana</i> , <i>Blattella germanica</i> )., 02/76, DACO: 10.2.3.2
<b>933948</b>	2003, Laboratory bioassay to determine the efficacy of residual deposits of TC 241 against the black ant ( <i>Lasius niger</i> )., 03/11, DACO: 10.2.3.2
<b>933949</b>	2003, Laboratory bioassay to determine the efficacy of residual deposits of TC 241 against the bed bug ( <i>Cimex lectularius</i> )., 02/69A, DACO: 10.2.3.2
<b>933922</b>	Description of Starting Materials., DACO: 3.2.1
<b>933923</b>	Description of Starting Materials., DACO: 3.2.2
<b>933925</b>	Enforcement Analytical Method., DACO: 3.4.1
<b>933926</b>	Physical and Chemical Characteristics of TC-240., ID 02-0268, DACO: 3.5
<b>933932</b>	Product Identification., DACO: 3.1
<b>1077303</b>	Enforcement Analytical Method., DACO: 3.4.1
<b>1077304</b>	Shelflife Stability and Corrosion Report., DACO: 3.5.10
<b>1080926</b>	Physical and Chemical Characteristics of TC-240., DACO: 3.5
<b>1081100</b>	Batch Preparation Report., 11-0018C, DACO: 3.2.2
<b>1081102</b>	Recipes Detail Report Factory F1 WMG Factory Recipe 11-0018-3:1 and 02-0211:1., DACO: 3.2.2

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