Health Canada Santé Canada

Evaluation Report for Category B, Subcategory 3.10 (Rate Increase) Application

Application Number: 2005-4084
Application: Evaluation Report for Category B, Subcategory 3.10 (Rate Increase)
Product: Warrior Insecticide
Registration Number: 26837
Active ingredients (a.i.): Lambda-cyhalothrin, 122 g/L
PMRA Document Number: 1425260

Background

Warrior Insecticide has been registered since October 18, 2001. Warrior Insecticide is registered for control of a range of insects on tree fruits, tobacco, field vegetables, oilseed crops, cereals and legumes. For specific details of uses, application rates and methods, precautions, restrictions, and personal protective equipment requirements, refer to the product label.

Purpose of Application

The purpose of this application is to amend the registration of Warrior Insecticide to increase the application rate for control of heavy infestation of soybean aphids on soybeans. This application increases the rate from 83 to 233 mL product/ha (10 to 28 g ai/ha), allowing a range of application rates depending on insect pressure.

Chemistry, Health and Environmental Assessments

Chemistry and toxicology assessments were not required since there was no change to product chemistry or formulation.

To support the increase in application rate in/on soybeans for use under heavy pest population pressures, residue data were considered and the new use pattern was deemed to be acceptable. Following treatment according to the new use pattern, residues of lambda-cyhalothrin and the epimer R157836 will still be covered under the existing MRL of 0.02 ppm in/on soybeans and will not pose an unacceptable risk to any segment of the population, including infants, children, adults, and seniors.

An acceptable margin of exposure was obtained for persons occupationally exposed to the product at the increased application rate of lambda-cyhalothrin on soybeans.

Canada

An increase in the registered application rate of Warrior Insecticide for controlling soybean aphids will increase the potential exposure of lambda-cyhalothrin to the environment and wildlife. The increased rate poses various degrees of risk to fish, wild mammals, aquatic and terrestrial invertebrates, and bird reproduction. Lambda-cyhalothrin should not pose significant risk to wild bird individual survival, or freshwater algae.

Value Assessment

Data were submitted from three field trials conducted in Ontario in 2005. Efficacy of a range of rates, 10 to 28 g ai/ha, were assessed and compared to a commercial standard, dimethoate.

Under very high aphid pressure, only 20 and 28 g ai/ha reduced aphid populations below the economic threshold, while the aphid populations in the untreated control remained relatively consistent or increased. Rates of 10 and 15 g ai/ha provided little to no reduction in the number soybean aphids. Though not statistically significant, 28 g ai/ha showed a greater reduction in aphids than 20 g ai/ha. The highest tested rate, 28 g ai/ha, demonstrated a reduction in soybean aphid similar to dimethoate.

Conclusions

The PMRA has completed an evaluation of the subject application and has found the information sufficient to amend the registration of Warrior Insecticide to increase the rate for control of soybean aphid on soybeans to 10 - 28 g ai/ha.

References List

7.1. Studies/Information Provided by Applicant/Registrant

PMRA Document Number	Reference
1160334	PP321 Residues on soybeans (TMU1490/B)(KARATE), DACO: 7.4.2
1160335	KARATE: PP321 Residues from aerial/ground applications to soybeans-1984 AND 1985 USA Field Trials (TMU1991/B), DACO: 7.4.2
1160363	Lambda-cyhalothrin (ICIA0321): Magnitude of the residue study on soybean seed.(0321-88-MR-14;RR90-437B;A030.0091) (KARATE), DACO: 7.4.2
1163851	PP321: Quantification of radioactive residues found on soya beans from plants treated with 14C-PP321.(RJ0438B;D3.1/03;REF#23).(MATADOR 50EC,KARATE 100EC), DACO: 6.3
1163852	PP321: Quantification and characterisation of radioactive residues found in soya leaves from plants treated with 14C-PP321.(RJ0507B;D3.1/04;REF#24).(MATADOR 50EC,KARATE 100EC), DACO: 6.3

PMRA Document Number	Reference
1326188	2004, Lambda-Cyhalothrin - Residue Levels on Soybeans (Seed) from Trials Conducted with Matador Insecticide and Warrior Insecticide in Canada during 2002, N/S, CER07117/02, MRID: N/S, DACO: 7.4.1
1107305	Efficacy Summary to Increase the Rate of Matador 120 EC Insecticide for soybean aphid control in soybeans. Study report date: 30-Nov-2005. Brady Code, Syngenta Crop Protection Canada Inc. pp. 9. DACO 10.2.3.1. Received by PMRA 05-Dec-2005.
1107307	Adverse effects on use site summary. Study Report Data: 30-Nov-2005. Theresa Brimner, Syngenta Crop Protection Canada Inc. pp. 1. DACO 10.3.1. Received by PMRA 05-Dec-2005.
1107306	Efficacy trials - Small Scale Field Trials (3). Tracey Kloepfer. pp. 6. DACO 10.2.3.3. Received by PMRA 05-Dec-2005

7.3 Additional Information Considered

7.3.1 Published Information

PMRA. 2003. Lambda-cyhalothrin Demand CS insecticide. PRDD 2003-3. http://www.pmra-arla.gc.ca/english/pdf/prdd/prdd2003-03-e.pdf

7.3.2 Unpublished Information

Environment Canada Review. 1989. Technical PP3221 (Lambda-cyhalothrin), Karate 50 EC, and Charge 100 EC.

PMRA Document Number	Reference
1348044	Correspondence RE: Technical PP321 (lambda-cyhalothrin); Sub. No. 85-1628. Karate 50 EC; Sub. no. 85-1627, and Charge 100 EC; Sub. No. 87-0901 + Canadian Wildlife Service: Evaluation Summary and Recommendations for PP321 (Karate and Charge). To: W. Charnetski, Agriculture Canada.
1348014	Amended Science Proposal on Cyhalothrin-lambda. August 2, 1996. + Proposed Regulatory Decision Document (PRDD). November 21, 1995.
1348027	Correspondence Re: Technical PP321 (lambda-cyhalothrin); Sub. No. 85-1628. Karate 50 EC; Sub. No. 85-1627. Charge 100 EC; Sub. No. 87-0901. To: W. Charnetski, Agriculture Canada.

PMRA Document Number	Reference
1347995	Memorandum Subject: Level D Review of Matador 120 EC, cyhalothrin-lambda, Reg. No. 24984, Sub. No. 1999-0483. To: Terry Caunter, Product Sustainability and Divison, Health Canada PMRA. From: Christopher P. Dufault, Envrionmental Assessment Division, Health Canada PMRA.

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