

Category B

Evaluation Report for Category B, Subcategory 2.3, B.2.4 Application

Application Number: 2006-5906
Application: B.2.3, B.2.4 New Identity and Proportion of Formulants
Product: Lambda-Cyhalothrin 1 EC
Registration Number: 29052
Active ingredients (a.i.): Lambda-cyhalothrin (CYH)
PMRA Document Number: 1642349

Background

Lambda-Cyhalothrin 1 EC is a commercial class insecticide which contains a new source of the active ingredient, cyhalothrin-lambda (120 g/L). The active ingredient, lambda-cyhalothrin, was first registered in Canada in 1996 and is currently used in several commercial class products to control insect pests in agricultural and non-agricultural activities.

Purpose of Application

The purpose of this application was to register the new commercial class product, Lambda-Cyhalothrin 1 EC, to control a variety of insect pests (aphids, hemipteran pests, leafhoppers, beetles, lepidoperan pests) on oilseeds, cereals, pasture, tree fruit, strawberries, tobacco, potatoes, tomatoes, cole crops, head lettuce, bulb vegetables (crop group 3), chokecherry and legume vegetables (crop group 6). Depending on the use, the product may be applied using ground application equipment at rates between 42-125 mL product/ha with a maximum of 3 applications per year, with a 7 day interval between applications and a minimum pre-harvest interval between 1-60 days. The product may also be applied using aerial application equipment for some uses. Refer to product label for specific details of uses, application rates and methods, precautions, restrictions, and personal protective equipment requirements.

Chemistry Assessment

Lambda-Cyhalothrin 1 EC is formulated as an emulsifiable concentrate containing cyhalothrin-lambda at a nominal concentration of 120 g/L. This end-use product has a density of 0.94305 g/mL and pH of 6.45. The product contains a list 2 formulant. The chemistry requirements for Lambda-Cyhalothrin 1 EC are complete.

Health Assessments

Lambda-Cyhalothrin 1 EC is highly toxic to rats following acute oral exposure ($LD_{50} = 98.11$ mg/kg bw in females), is of low toxicity to rats following acute dermal exposure ($LD_{50} > 2000$ mg/kg bw), and is slightly acutely toxic to rats via the inhalation route ($LC_{50} = 1.83$ mg/L). It is severely irritating to the eyes, but only slightly irritating to the skin of rabbits, and is a dermal sensitizer in guinea pigs.

Lambda-Cyhalothrin 1EC fits within the existing use pattern for the active ingredient. The requested change in formulation is not expected to result in an increase in occupational exposure. The active ingredient application rates, timings and methods of application are all identical to the precedent product containing lambda-cyhalothrin.

To support the registration of Lambda-Cyhalothrin 1EC, no new residue data were submitted. The food residue risk profile of the new commercial insecticide is expected to be similar to that of other registered lambda-cyhalothrin products. Therefore, no increase in dietary exposure is anticipated. The new lambda-cyhalothrin product from a new source will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.

Environmental Assessment

No new environmental fate or ecotoxicological data were submitted to support the new commercial insecticide, Lambda-Cyhalothrin 1 EC. The environmental risk profile of the new commercial insecticide is expected to be similar to that of other registered lambda-cyhalothrin products. Therefore, no increase in environmental exposure is anticipated.

Value Assessment

Thirteen bridging trials which compared the efficacy of the Lambda-Cyhalothrin 1 EC with a precedent product against 8 pests on 5 different crops were submitted. These trials demonstrated that the Lambda-Cyhalothrin 1 EC and the precedent product have equivalent efficacy. Any uses not tested in the trials were supported because the efficacy of Lambda-Cyhalothrin 1 EC is expected to be the same as the efficacy of the precedent product registered for those same uses.

Conclusion

The PMRA has completed an evaluation of Lambda-Cyhalothrin 1 EC and has found the information sufficient to support the registration of Lambda-Cyhalothrin 1 EC to control a variety of insect pests (aphids, hemipteran pests, leafhoppers, beetles, lepidoperan pests) on oilseeds, cereals, pasture, tree fruit, strawberries, tobacco, potatoes, tomatoes, cole crops, head lettuce, bulb vegetables (crop group 3), chokecherry and legume vegetables (crop group 6).

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