

Evaluation Report for Category B, Subcategory 3.4 Application

Application Number: 2010-4184
Application: Changes to product label: application method
Product: Concept Liquid Insecticide
Registration Number: 29611
Active ingredients (a.i.): Deltamethrin, Imidacloprid
PMRA Document Number: 2105143

Background

Concept Liquid Insecticide, containing the active ingredients deltamethrin and imidacloprid, was first registered in 2010 for control of listed pests in certain fruit and vegetable crops. Please refer to the Evaluation Report in the public registry under Application Number 2007-5011 for details.

Purpose of Application

The purpose of this application was to amend the label of Concept Liquid Insecticide to add aerial application for control of listed insect pests on potatoes.

Chemistry Assessment

A chemistry assessment was not required for this application.

Health Assessment

Please refer to the Evaluation Report under Application Number 2007-5011.

Environmental Assessment

A risk assessment of exposure to honeybees to the maximum application rate was conducted considering three aerial applications of Concept Liquid Insecticide at a rate of 650 mL/ha (48.75 g imidacloprid per hectare) per application with a five day interval and a default foliar half-life of 10 days and assuming fine droplets. As the application rate for ground and aerial applications is the same, calculated risk quotients (RQs) for exposure to the maximum application rate will also be the same for both methods of application. The maximum application rate screening level RQs for acute oral exposure to honeybees are 11.8, 20.1 and 26.0 after the first, second and third (cumulative) applications, respectively. The maximum application rate screening level RQs for acute contact exposure to honeybees are 5.4, 9.2 and 11.9 after the first, second and third (cumulative) applications, respectively. Risk quotients exceed the level of concern (LOC=1) for honeybees for both contact and acute exposure at the maximum application rate. This risk will, however, be mitigated by label statements that indicate to not apply the product if bees are actively foraging in the field.

Exposure to off-field spray drift was also considered as the drift from aerial application can be greater than the drift resulting from a ground application. At one metre downwind from the spray equipment, drift from aerial application is 26% of the maximum application rate compared to 11% of the maximum application rate following ground application. Using the acute oral endpoint, the off-field RQs are 3.1, 5.2 and 6.8 after the first, second and third (cumulative) aerial applications, respectively, whereas the ground application off-field RQs are 1.3, 2.2 and 2.9 after the first, second and third (cumulative) applications. Using acute contact exposure, off-field RQs following an aerial application are 1.4, 2.4 and 3.1 after the first, second and third (cumulative) applications, respectively, whereas the ground application off-field RQs are 0.6, 1.0 and 1.3 after the first, second and third (cumulative) applications, respectively. In all above-mentioned scenarios, the RQs exceeded the level of concern (LOC=1) and the off-field risk is potentially greater for an aerial application than for a ground application.

The overall conclusion is that there is uncertainty concerning the actual exposure route and amount of Concept Liquid Insecticide to which bees and other pollinators may be exposed. An increased risk to bees and other pollinators was, however, identified due to increased exposure to the pesticide through aerial spray drift when compared to a ground application. Although a buffer zone could potentially mitigate the risk from spray drift to bees and other pollinators in off-field areas, the PMRA does not currently consider this practice for the protection of pollinators.

Buffer zones for co-formulated products are determined by the active ingredient in the formulation with the most conservative buffer zone; in this case, the buffer zones for Concept Liquid Insecticide were determined based on currently registered deltamethrin products.

Value Assessment

Please refer to the Evaluation Report under Application Number 2007-5011.

Conclusion

The PMRA conducted an evaluation of the subject application and determined that use of the product in accordance with the label has value and will not pose unacceptable health or environmental risk. Both the active ingredients deltamethrin and imidacloprid are under re-evaluation. Any future regulatory action resulting from the re-evaluation of these active may impact the registration and/or label of Concept Liquid Insecticide.

References

None

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