

## Evaluation Report for Category B, Subcategory 2.1, 2.3, 2.4, 2.5, 3.4 Application

**Application Number:** 2011-0977  
**Application:** B.2.1 (Product chemistry – guarantee)  
B.2.3 (Product chemistry – identity of formulants)  
B.2.4 (Product chemistry – proportion of formulants)  
B.2.5 (Product chemistry – formulation type)  
B.3.4 (Product labels – application method)  
**Product:** Mosquito-Less  
**Registration Number:** 30681  
**Active ingredients (a.i.):** Garlic oil  
**PMRA Document Number :** 2220717

### Purpose of Application

The purpose of this application was to register a domestic-class product, Mosquito-Less (1.25% garlic oil), for outdoor application at cottages, homes, gardens, pools, outdoor events, parks, recreation areas, RV parks, and marinas to repel mosquitos.

### Chemistry Assessment

Mosquito-Less is an emulsifiable concentrate containing the active ingredient garlic oil at a nominal concentration of 1.25%. This product has a density of 0995 – 1.046 g/mL and pH of 4.5 - 5. The chemistry requirements for Mosquito-Less have been completed.

### Health Assessments

Mosquito-Less is expected to have low acute toxicity by both the oral and dermal route, may be a skin and eye irritant, and possible dermal sensitizer.

The current label statements for Mosquito-Less are considered adequate to address any potential risk due to exposure of the mixer, loader, applicator, and/or bystander to the end-use product. Occupational exposure when applying Mosquito-Less is not expected to result in unacceptable risk when the product is used according to label directions.

### Environmental Assessment

An environmental assessment was not required for this application.

### Value Assessment

One study consisting of three trials conducted in distinct locations was reviewed in support of the area repellent claims against mosquitoes for the domestic-class products, Mosquito-Less (1.25% garlic oil) and Mosquito-Less Ready-to-Use (0.1% garlic oil), and the commercial-class product, Mosquito-Less Commercial (1.25% garlic oil). This study was conducted in Eastern Ontario in 2012, and tested Mosquito-Less in three environments (rural, semi-urban, and urban). This study compared mosquito trapping counts using CDC light traps baited with CO<sub>2</sub> in untreated and treated sites at each location. A statistically significant repellent effect was observed for three days after application, with repellency ranging from 85.3 to 92.4% on the day of application, 77.6 to 81.5% on the day following application, and 50.0 to 63.3% on the third day. By the fourth day, a statistically significant repellent effect was no longer observed in two of the three treated sites, with repellency ranging from 3.7 to 26.9% for all three sites.

## **Conclusion**

The PMRA has completed an assessment of the available information and is able to support the full registration of Mosquito-Less.

## **References**

- 2021640 2011, Chemistry Requirements for Registration of End-Use Product, DACO: 3.1.1,3.1.2,3.1.3,3.1.4,3.2,3.2.1,3.2.2,3.2.3,3.3.1,3.4.1,3.4.2,3.5,3.5.1,3.5.10,3.5.11,3.5.12,3.5.13,3.5.14,3.5.2,3.5.3,3.5.4,3.5.5,3.5.6,3.5.7,3.5.8,3.5.9 CBI
- 2205763 2012, Report on the Efficacy of Mosquito-Less (Garlic Oil 1.25%) in reducing the numbers of nuisance mosquitoes in 3 different environments, Semi-Urban, Rural and Urban., DACO: 10.2.3.3(C)
- 2205764 2012, Trial 1-Otty Lake Development-03july2012, DACO: 10.2.3.3(C)
- 2205765 2012, Trial 2 - Rural Setting- Blakeney-03july2012, DACO: 10.2.3.3(C)
- 2205766 2012, Trial 3 - Urban Setting - Almonte-03july2012, DACO: 10.2.3.3(C)

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