

## Evaluation Report for Category B, Subcategory 3.1, 3.3, 3.4 Application

**Application Number:** 2013-2008  
**Application:** Product labels (application rate increase, application number or frequency and application method)  
**Product:** Formic Acid 65% for use with MiteGone Ready to Fill and Use Kits - Pads and Method  
**Registration Number:** 31315  
**Active ingredients (a.i.):** Formic acid  
**PMRA Document Number:** 2357964

### Purpose of Application

The purpose of this application was to register the end-use product Formic Acid 65% for use with MiteGone Ready to Fill and Use Kits - Pads and Method for domestic use to control tracheal and varroa mite in honey bee colonies.

### Chemistry Assessment

Formic Acid 65% for use with MiteGone Ready to Fill and Use Kits - Pads and Method is a method to control insect infestation in beehives. The pesticide portion of the product contains registered formic acid at 65%. The chemistry requirements for Formic Acid 65% for use with MiteGone Ready to Fill and Use Kits - Pads and Method have been completed.

### Health Assessments

As the source of the technical grade active ingredient is already registered, no further toxicological information was required to characterize the toxicology of Formic Acid 65% for use with MiteGone Ready to Fill and Use Kits - Pads and Method and the active ingredient, formic acid. Incidents were searched and reviewed for the active ingredient formic acid. As of December 12, 2013, there were no human or domestic animal incident reports submitted to the PMRA involving the active ingredient formic acid. Similarly, no incidents involving formic acid were reported by the California Department of Pesticide Regulation, or the United States Environmental Protection Agency.

The use pattern (method of application, rates, and timing) is similar to the slow release method currently on the registered label for Formic Acid 65%; therefore the exposure scenario for this product was not expected to significantly differ from that of the currently registered liquid formic acid products.

The directions for use of Formic Acid 65% for use with MiteGone Ready to Fill and Use Kits - Pads and Method will be protective against formic acid residues in honey at concentrations of toxicological concern by restricting use to outside of honey flow when no honey supers are present, and including the pre-harvest interval of two weeks, consistent with other formic acid products registered for this use.

### **Environmental Assessment**

The use of a 65% solution of formic acid for control of tracheal and varroa mites in bee colonies is unlikely to result in significant environmental exposure. The product will be contained within the physical colony container where it will readily volatilize and dissipate; no liquid leakage to the environment is expected under these conditions.

### **Value Assessment**

Value information reviewed in support of Formic Acid 65% for use with MiteGone Ready to Fill and Use Kits - Pads and Method included five trials, observational reports, scientific rationales, and use history reports. The submitted value information supported treatment of honeybee colonies infested with varroa mite with an application rate of one MiteGone pad soaked in 120-125 g of 65% liquid formic acid for every 5 frames of bees, demonstrating 65 to 100% control of this pest. While no data were submitted on tracheal mites, treatment of honeybee colonies infested with this pest is supported. Formic acid is known to have activity against tracheal mite and control of this pest can be extrapolated from the information provided on control of varroa mite.

### **Conclusion**

The Pest Management Regulatory Agency has completed an assessment of the information provided in support of the product, Formic Acid 65% for use with MiteGone Ready to Fill and Use Kits - Pads and Method, and has found the information sufficient to support a domestic use to control tracheal and varroa mite in honey bee colonies.

## References

<b>PMRA Document Number</b>	<b>Reference</b>
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2290427	2013, FORMIC ACID AS A REPELLENT FOR THE SMALL HIVE BEETLE. HISTORY OF OBSERVATION AND EXPERIENCES FROM RESEARCH IN FLORIDA USA, DACO: 10.2.3.4
2290428	2013, EVALUATION OF SELECTED BIO PESTICIDES FOR THE LATE FALL CONTROL OF VARROA MITES IN A NORTHERN TEMPERATE CLIMATE, DACO: 10.2.3.4
2290429	2013, FORMIC ACID EVAPORATION PADS (MITEGONE) AS A Varroa MITE CONTROL TOOL, DACO: 10.2.3.4
2290430	2013, ECONOMICS, DACO: 10.4
2290431	2013, CAPABILITY with CURRENT MANAGEMENT PRACTICES & IPM, DACO: 10.5.2
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2290433	2013, CONTRIBUTION TO RISK REDUCTION, DACO: 10.5.4
2290434	2013, SURVEY OF ALTERNATIVES CHEMICAL AND NON CHEMICAL, DACO: 10.5,10.5.1
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2290465	Bill Ruzicka and Steve and Mike Grande BRANDON central Florida 2007, 2007, EVALUATION OF MITEGONE FORMIC ACID TREATMENT AS AN EFFECTIVE CONTROL OF VARROA AND TRACHEA MITES AND VARIOUS APPLICATIONS OF MITEGONE PADS AS SMALL HIVE BEETLE REPELLENT IN A SUBTROPICAL CLIMATE - PHASE 1, DACO: 10.2.3.4
2290466	Bill Ruzicka, 2007, EVALUATION OF MITEGONE FORMIC ACID TREATMENT AS AN EFFECTIVE CONTROL OF VARROA AND TRACHEA MITES AND VARIOUS APPLICATIONS OF MITEGONE PADS AS SMALL HIVE BEETLE REPELLENT IN A SUBTROPICAL CLIMATE PHASE 1, DACO: 10.2.3.2
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