

US EPA ARCHIVE DOCUMENT

DATA EVALUATION REPORT
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Insecticides Branch

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Product: Bug-Juice Insecticide Paint Additive

EPA File Symbol: 47332-11

Registrant: Walla Walla Environmental, Inc.

Product Manager: George LaRocca, PM 13

Submissions: S622754 and S623351.

DPs: D285921; D286156; D286440

Active ingredient: deltamethrin 4.75%; end-use dilution of submitted studies associated with this review is 0.05% deltamethrin. Product is incorporated into paints and stains and applied to primed surfaces.

Sites: treatment sites include wood, metal and concrete on the registered label. The registrant is requesting cardboard boxes and a variety of indoor sites including food and non-food areas.

Pests: many crawling pests and some flying insects. Pests are killed by coming into contact with deltamethrin residue in the treated paint surface.

OPPTS Guideline: 810.0035

Three studies were submitted:

MRID 45769701 Efficacy of Deltamethrin for Control of Texas Leaf-Cutting Ants and Fire Ants by J. Victor French of Texas A & M University, Kingsville, Citrus Center

MRID 45730801 Ant, Cockroach, and Silverfish Morbidity Study of Deltamethrin in Latex Paint as Applied to the Exterior Surface of Cardboard by Clyde Webster of Webster Chemical Consultants.

MRID 45773601 Mosquito Morbidity Study of Deltamethrin in Latex Paint by Clyde Webster of Webster Chemical Consultants.

In all of the above studies, the target pests were exposed to plywood panels painted with latex paint that was mixed with the subject product. The deltamethrin concentration in the paint was 0.05% or greater. Insects were in contact with the panels for the entire exposure period. The

shortest time interval at which an observation was recorded was 5 hours post-treatment. Mortality was assessed at 5 or 12 hours post exposure, and again at 24 hours. In all cases, the paint killed the target pest within 24 hours. Efficacy varied with exposures of less than 24 hours.

Entomologist Comments:

1. The registrant added many food-use areas to the revised label. I believe that the registrant needs to request an exemption from a food handling establishment tolerance and explain why these applications, including those made to cardboard containers containing food, are not food uses. However, I defer to George LaRocca and William Sproat for a final determination on the status of these use patterns.
2. The label reads as if the product can be used at almost any site based on the language, "including but not limited to..." on page 1 of the label. The label language needs to be more specific and the product should be clearly restricted for use only as a paint/stain additive.
3. In previous studies, mortality evaluations showed that German and American cockroaches were killed within 24 hours. This result supported the kill claim. Most insect exposures to the product under actual use conditions will be short in duration. The forced aging studies showed 100% kill of cockroaches for up to 24 months post-treatment on treated wood and concrete panels. However, forced aging studies need to be viewed cautiously with regard to the approval of long term residual claims and should be confirmed by actual aging studies. What they show is that the deltamethrin is still available to kill insects. It is not likely that this product can be used as a sole means of controlling any insect population, especially outdoors, because insects must stay in contact with the surface for a prolonged time period to absorb a lethal dose.
4. As stated in previous reviews, I do not understand the statements made in the study regarding the bridging of the nymphal cockroach control data to vector control.
5. The submitted data support a kill claim for American cockroach, German cockroach, and silverfish on cardboard surfaces treated with 0.075% deltamethrin latex paint. However, these may be food use applications.
6. The data for mosquitoes requires some revision. The species name appears to be incorrect. You probably tested *Culex quinquefasciatus* or *Anopheles quadrimaculatus*. The former is more likely if the study was done in California, or with mosquitoes from California, because *An. quadrimaculatus* does not occur in California. The number of mosquitoes tested is low and male mosquitoes do not need to be tested.

Using treated surfaces to kill mosquitoes resting in an area over time in areas like a sewer or barn is acceptable. However, application to the outside of structures may not do much to control mosquito populations and I do not believe that outdoor residential use claims should be allowed, especially for disease vectors.

7. The data for fire ants and leaf-cutter ants show that when these insects are subject to 24 hour exposure to plywood surfaces treated with 0.05% deltamethrin latex paint, they are killed. These data can apply to residential outdoor surface treatments where fire ants (or leaf-cutter ants?) may enter a building. But the use of this product for control of leaf-cutter ants is another matter. Ants under a field situation are not likely to have prolonged contact with the treated surface. If this product were proposed for use in nurseries, tree plantations, greenhouses, or citrus groves, more data are required to demonstrate control of this ant species. Field study data may be required.