

US EPA ARCHIVE DOCUMENT

**DATA EVALUATION REPORT
PRODUCT PERFORMANCE STUDY REVIEW**

by
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8/31/01

Date: August 31, 2001

Products: TC-228, TC-229, and TC-227

EPA File Symbols 499-UOE, 499-UOG, 499-UOR

Registrant: Whitmire Micro-Gen Research Laboratories, Inc.

Product Manager: Marion Johnson, PM 10

Submission: S602193, 602190, 602191

DP #: D277248, 277246, 277247

Active ingredient: sodium tetraborate decahydrate, (borax, $B_4Na_2O_7 \cdot 10H_2O$)
PC code 011102

Formulation: two liquid and one gel ant baits containing 1.3%, 5.4%, and 5.4% borax, respectively.

Application rate: The 5.4% gel and 1.3% liquid are ready-to-use formulations. However, the 5.4% liquid can be a ready-to-use formulation or diluted with water to 1.24% and 0.63% borax. The liquid formulations are applied by filling trays that come with the product and placing them in ant trails or ant inhabiting indoor/outdoor locations. The gel formulation is applied to indoor/outdoor areas where ants are found.

Sites: indoor/outdoor residential and commercial sites.

Pests: claims to kill many ant species.

OPPTS Guideline to the extent it applies: OPPTS 810.35

The registrant submitted a proposed label and a carpenter ant study to support label claims against carpenter ants. The registrant also used the cite-all method of support and sent offer to pay letters to companies on the data submitter's list. In addition, they made the argument that their product was similar - at least in terms of active ingredient concentration - to Terro Ant killer, EPA Reg, No. 149-8, a 5.4% borax product. The registrant requested that the data from the study below for the liquid borax products be bridged to the gel formulation.

Submitted study: MRID 45470501 Field Tests to Determine the Efficacy of Two Carpenter Ant Baits Formulated by Whitmire Micro-Gen Research Laboratories on Carpenter Ant Infestations - 2000 by Laurel Hansen, Spokane Falls Community College.

This was a field study to evaluate the efficacy of two ant bait products against the carpenter ants, *Camponotus modoc* or *C. vicinus*, the two most economically important species in the Pacific Northwest. The ant bait products tested were the pending liquid bait products, 499-UOR and 499-UOG. Concentrations tested were 5.4%, 1.3% and 1.25%. The 0.63% concentration was not tested. This study **did not** test the pending gel formulation.

The description of the study methods are incomplete. The study was conducted at six residential homes in Spokane, Washington. Two to three bait trays were applied indoors at five sites and outdoors at one site only as directed by the label to structures with existing carpenter ant infestations of either *C. modoc* or *vicinus*. Carpenter ant activity/mortality was measured at up to seven visits over a 75 day period. The source of the carpenter ant infestations was not identified. The carpenter ants consumed liquid bait and it was observed to be attractive to and effective against *Formica rufa*. The bait treatment failed in two out of the six treated homes and these were treated with other insecticides. In the outdoor treatment, the bait became moldy and was also fed on by slugs. In the four remaining residences, the study director states that homeowners were satisfied with the treatments since after 54-75 days, carpenter ants were no longer detected. Inspections were to be conducted six months later at these four structures to assess control but these data were not included in the submitted report.

Entomologist's Recommendations:

The submitted study shows that the bait kills carpenter ants and that carpenter ants feed on the liquid bait. At some structures, control was attained in 8 weeks, while in others it took up to 75 days. In two of the structures control was not attained at 75 days. I recommend the following:

1. The claim for control of carpenter ants is acceptable for 499-UOG and 499-UOR only provided the registrant submit conditional data from a lab or field study for *Camponotus pennsylvanicus*, the black carpenter ant. These data are required to demonstrate efficacy against the most common carpenter ant pest in the United States, especially in the Eastern U.S. The species tested in the submitted study occur in the Western U.S. Otherwise, the carpenter ant claim must be changed to "aids in control of" or "kills" carpenter ants.
2. Given the biology of carpenter ants, data can not be bridged from a liquid bait to a gel bait. Carpenter ants generally prefer liquid bait because they need to ingest water frequently to maintain a hydrated state, especially inside structures. You must show that they would find the gel bait formulation attractive, palatable, and efficacious by submitting data to support the label claim for carpenter ants. This novel formulation should also be tested against the Pharaoh ant against a laboratory colony.

3. The outdoor use directions for this product require revision. Please modify the directions on the label to better define outdoor sites and the need to check and change the bait more frequently when used outdoors to ensure an efficacious application.

4. The data do not support use of the 0.63% solution for carpenter ants. Remove this application concentration from the label or submit data to support this concentration.