Product Performance Review

by

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8/8/03

To: Melody Banks

Date: August 8, 2003

EPA Reg No. or File Symbol: 59905-6

Product Name: ShellGuard

Registrant: Perma-Chink Systems, Inc.

PM: PM 10

Action: 306

Submission: S629597

DP: D288803

OPPTS Guideline: 810.36

Chemical: Disodium Octaborate Tetrahydrate 20.98%

Applied as 10% or greater DOT solution for protection from or control of wood infesting pests.

Pests: wood infesting pests.

Sites: residential and commercial - indoor and outdoor. Apply product to surface of wood and wood foam composites.

Action requested: Review submitted efficacy to support product use for control of the labeled pests and the addition of carpenter ants. Review label amendment to add "professional use" and the use pattern for new construction as a pre-treatment to wood framing members.

Entomologist's Recommendations:

1. The registrant's proposal to split the current label into a professional and residential users labels is not acceptable. The professional use label should be split out and the registrant should

file for a separate registration number. This requires the registrant to submit an application for registration indicating the split-out of the professional product from the currently registered product. A CSF and a label are also required. All data would be cited from 59905-6. This would be a "fast-track" submission.

2. The registrant makes reference to the [redacted] label, the source product for Shell-Guard. However, Shell-Guard is not a 100% repack and product specific efficacy data are required. Shell-Guard is not a "me-too" of [redacted] should not be referenced under item 6 on the application for registration as a reason for an expedited review.

The label has many deficiencies and needs a complete revision for professional use to include the following at a minimum.

15% DOT should be the minimum application dilution. Dilutions less than 15% should be removed from the label. There are no studies available to demonstrate the efficacy of less diluted solutions in structures or structural wood members under attack by termites.

3. Add mixing/application rate tables to the directions for use for preventive and remedial treatment. Include the size of the surface area to be treated and describe the exact amount of the product and water to be used. Indicate DOT Equivalent expressed in lbs. for each treatment. The directions and corresponding table should be designed in a way that makes it easy for the applicator to prepare the finished solution and to interpolate to intermediate values if needed. Include mixing directions for the solution strengths stated in this section in terms of weight/volume and weight/weight. Note that the direction "spray until thoroughly wet" is not acceptable because each applicator may interpret this term differently and this lack of specificity makes label enforcement more difficult.

4. For remedial treatments infested wood must be drilled and injected if it is more than one inch thick. Formulate detailed directions - with illustrations - for wood treatment for remedial pest control to include a description of injection and pressure treatment. Explain how treatment is made to wood members of different size and dimensions. Explain the calculation of surface area and volume for treatment purposes.

5. What data support the use of a foaming agent to apply this product? How will a dry foam (20:1) deliver enough DOT to the wood to protect it from wood destroying insects? Foam application results in less runoff, but because it is dry, it unclear how it helps deliver DOT into the wood in order to form the barrier needed to prevent wood destroying insect attack.

6. Provided the response to bullet #5 is satisfactory, add a table describing the preparation of a foam as is done for other termiticide products. Include a statement instructing an applicator not to apply a foam that is greater than 20:1. Most importantly, the directions for applying the foam should ensure that the %DOT equivalent and amount of DOT applied per square foot should be the same when the product is applied as a liquid and a foam. Otherwise, the use of a foam

application will result in less DOT per square foot and unit volume than is required.

7. Add board feet values to the application tables if you propose use of this product to treat freshly cut wood following processing into boards.

8. The directions for non-food use should be moved to the beginning of the "Directions for Use" section of the label. The Boric Acid RED referred to a Food Additive Tolerance under 40 CFR Part 185 and label language for food handling establishments. However, this tolerance was not established in 40CFR. Therefore add the following statements: "Do not use in edible product areas of food processing plants or on counter tops and other surfaces where food is prepared. Do not use in serving areas where food is exposed. Do not contaminate feed, water, or food. Do not use to treat lumber that will contact soil or be exposed to leaching by weather."

9. Add directions for the treatment of logs and poles. The directions on your label are insufficient. It is unlikely that a surface treatment can protect these structural components. Revise these directions to insure adequate treatment of these structural members or remove these sites from the label. The registrant may need to add directions for dip-diffusion and/or pressure treatments to this label. The DOT retention for pressure and dip-diffusion treatment should be equivalent to 0.28 lbs. per cubic foot as specified by the AWPA.

10. Submit or cite data to demonstrate that this product provides protection of structural woodfoam composites. Also add the statement "Do not treat foamboard." to the beginning of the directions for use section. The data don't support this use pattern.

11. Remove the terms "pre-treatment" and "pre-construction treatment" from the product labels. Remove the term"stand-alone" from the label. Explain how a 2 foot x 2 foot DOT treatment will protect a structure from termite attack. Cite or submit data to demonstrate the efficacy of such a treatment.

12. Remove carpenter ants from the label for preventive treatments. Cite data for remedial treatments.

Submitted study reviews:

MRID 45839301 Soil Block Decay Test for Perma-Chink Systems, Inc

This is supplemental data because the boric acid RED provided "Cite-all" data for this use pattern.

MRID 45839302 Determining the Termite Resistance of Two Experimental Formulations
This is a laboratory study performed according to AWPA specifications. However, how does this test bridge to treating a piece of lumber with a surface only application? %DOT equivalent was

also not measured or reported.

MRID 45839303 Efficacy of Formulated Pesticide Products Against Dry Wood Termites (*Incisitermes minor*) This test was conducted with adult termites only. They don't cause significant wood damage. The test should have been conducted with infested wood members containing worker termites. The test should have also evaluated the ability of drywood termite workers to damage treated wood.

MRID Tests to Determine the Efficacy of Wood Treatments to Prevent Damage by Carpenter ants.

This was a lab study. The wood used in the study does not appear to be the type favored by carpenter ants because of the apparently low moisture content (moisture content was not reported). Therefore, the light damage in the control does not represent a difference significant to supporting a preventive treatment claim. Carpenter ants usually don't damage sound wood unless it is wet for prolonged periods.