EFFICACY REVIEW

Kevin J. Sweeney, Entomologist
Insecticide Branch
May 1, 2001

Kevin J Sweeney 5/1/01

EUPs: 432-EUP-U and 264-EUP-121

Product Names: Termidor SC and Termidor WG

Registrant: Aventis Environmental Science

Reviewer: Joseph Tavano

Product Manager: Marion Johnson, PM 10

Submissions: S591384 & S595056

DP: D272853 & D274127

Active Ingredient: Fipronil 9.1% and 80%

Application Rates: 0.06%, 0.09 %, and 0.125%

The registrant submitted an EUP amendment/extension (264-EUP-121) and a new EUP (432-EUP-U) to test the use of Termidor termiticide products as "perimeter only" post-construction treatments at structures in the United States. I have reviewed their request and the comments made by Steven Dwinell, on behalf of the ASPCRO Termiticide Review Committee. My evaluation and recommendations are as follows:

1. I recommend that the labeling, the changes requested to the section G protocol, and other information on location of applications, amount to be used in each state and in the United States, be submitted before the EUP amendment/extension for 264-EUP-121 and the new EUP 432-EUP-U are approved.

2. I recommend that before a section 3 decision on this use pattern is made in the future, that the EPA review the French termiticide data and any other data submitted by AES to support the contention that fipronil can be transferred from one termite to another in sub-lethal doses capable of affecting a termite colony or sub-population.

For you convenience, I have also attached a copy of the ASPCRO comments.

1

EUP Review:

Section B : Labels

Labels were not included for an EUP use. An "experimental use" only label needs to be submitted and approved by the Agency for perimeter only treatments to avoid possible misuse of the registered product. The labeling must include all possible uses as proposed for testing under this EUP. At a minimum, include the following:

1. Directions for use to areas of the structure outside of the interior living areas and allowances for spot treatments at the area of infestation inside the structure and at bath traps must be included.

2. Directions for wells and cisterns must be included as described on the EPA registered labels for these products.

3. Directions and precautions for treatments in structures with french drains and sump pumps must be included.

4. The label must include all areas that can be treated and state explicitly any locations or applications to be excluded.

5. The application to crawl spaces needs to be clear. Are plenums to be included or excluded?

6. The term "perimeter only" may need to be changed to "Exterior perimeter treatment and interior spot treatment only".

7. Revised labels should include all changes required by the Agency for Termidor 80 WG and Termidor SC (based on our past letters) as appropriate.

Section G Protocol: At the request of EPA, Aventis Environmental Sciences (AES) submitted a product performance protocol for review and approval before commencing work.

The following changes/additions/deletions are required:

1. The number of structures to be tested and states in which testing is be conducted must be listed for each product. The amount of each product and a.i to be applied in each state together with the total amount of product applied in the United States must be listed. As discussed, 150 structures is recommended and many construction types should be included. Please include structures from Hawaii unless registration in Hawaii is not sought.

2. In reading the protocol, it is clear that AES desires to reduce the scope of post-construction

(2)

treatment at infested structures. However, the applications must be better defined and the following recommendations serve as guidance:

a. **Include mixing directions for the 0.09% application rate to the label.**

b. **Exterior perimeter treatments**: All structures should receive a complete exterior perimeter treatment as directed (using the exact same language) by the currently registered labels. This includes trenching or trenching and rodding into the trench. Exterior drilling is required for concrete structures such as patios, sidewalks, driveways etc. to complete the exterior perimeter treatment.

c. **Accessible crawl space treatments.** As proposed by AES, spot treatments might be done and trenching around piers could be done. Instead, I recommend that AES selects one-half of the crawl space structures for vertical barrier treatment at piers and pipes by trenching and rodding into the trench, or trenching and that the other half of the crawl space structures receive an exterior perimeter treatment and spot treatment as needed in the crawl space at the site of infestation only.

d. **Inaccessible crawl spaces?** How are they treated using the proposed use pattern?

e. **Plenum treatments?** They are not mentioned. How will plenum construction be treated?

f. **Hollow block foundation treatments?** They are not mentioned. How will this construction be treated?

g. **Basement Structures:** Exterior perimeter treatments only as directed by the currently registered product labels.

h. **Curative treatments?!** If curative treatments are required to eliminate a termite infestation inside the structure after the EUP application is made, it is evidence that the application was not successful and a complete post-construction, not a spot treatment, is necessary. To advocate repeated spot treatment is a band-aid approach to a large infestation.

i. **Well and Cistern treatments** must be addressed and included on the label.

j. **Retain directions for foam use, mixing and application.**

k. **Posts, poles etc.** They should be removed from the label unless they an integral part of this treatment. This use has already been accepted.

l. **Concrete slab construction** - Perform exterior perimeter treatment as directed on the current labels. Remove sub-slab application directions.

3

m. Remove **pre-treatment directions** from experimental WG label.

3. Include clear directions for monitoring termite populations. The EUP is very non-committal and unclear on termite population monitoring. I suggest the following:

a. Wooden stakes, commercial monitoring devices such as Termatrol, and bucket traps are the types of monitoring devices mentioned. State where they must be placed inside each construction type (crawl space, slab, basement) and identify structures with bath traps. Second, state the intervals, location, and number of each monitor to be placed around the exterior of the structure. Specify the species of wood used. One stake placed every ten linear feet (two feet into the soil) for stakes is the standard operating procedure for most PCOs. Stakes should be placed in the treatment zone and against the foundation wall since termites will travel along the wall until they find an entry point to the structure. However, bucket traps should be placed outside the treatment zone to monitor termite population activity and document the presence of foraging termites. In the crawl space, use wooden stakes at the piers and at least one bucket trap outside the treatment zone. Bath traps must be monitored also.

Additional wood stakes can be placed outside the treatment zone if desired but not in lieu of those in the zone. Stakes should also be placed near pipes entering the structure except for natural gas or heating oil pipes. I am concerned about the use of commercial monitoring devices and do not recommend their use unless a longer stake is used. Commercial devices tend to monitor only the top foot of soil.

All monitoring devices should be inspected every month until 6 MAT and then every TWO months (not six as proposed). The presence/absence of termites at all monitoring devices must be recorded. ASTM ratings should be used to assess damage on wood stakes. Wood in bucket traps should be weighed at each inspection. **Note on bucket trap procedure:** Prepare wood sandwiches and weigh before placing them in the bucket trap. At each inspection interval, weigh the sandwich with a scale designed for field use. In order not to disturb foraging termites - which could cause a false negative result in subsequent inspections - do not clean the wood sandwich in the bucket trap before weighing. Carefully inspect it for damage, termite activity, mud etc. Add an additional sandwich when the sandwich is destroyed (do not remove the destroyed sandwich or termites may leave the trap permanently). Each structure should be mapped, include the site of infestation(s), areas treated, construction type, and placement of all monitoring devices.

b. Termites should be collected and identified to the species level. DNA extraction for the purpose of identifying colonies is not necessary for registration since we are concerned with structural protection, not population behavior.(However, the samples must be retained in case the need for DNA analysis arises.) DNA studies will allow us to know if the termites infesting the house are the same as those foraging at the monitoring devices. However, if termites persist in the treatment zone, remain in the structure and/or re-invade it - same colony or not - the treatment is a failure. The treatment must kill the termites and control the post-construction

4

infestation during the TWO-YEAR PERIOD.

c. ALL raw data, statistical analyses, maps, and summaries of finding must be submitted to document the EUP findings. ASPCRO has expressed a strong interest in intensive monitoring in at least 30 homes in at least three Southeastern states. We concur and this should be done as closely to GLP protocol as possible.

d. Test the lowest rate - 0.06% - in all states in which testing is conducted under this EUP.