EEB files

4-13-93

MRID No. 423078-04

DATA EVALUATION RECORD

1. **CHEMICAL:** Triadimefon.
Shaughnessey No. 109901.

2. **TEST MATERIAL:** Bayleton® technical fungicide; Formula No. 609202; Batch No. 0006019 1030139; 95.6% purity; off-white chunky particles.

3. **STUDY TYPE:** 141-1. Acute Contact LD_{50} Test. Species Tested: Honey Bee (*Apis mellifera*).

4. **CITATION:** Hoxter, K.A. and S.P. Lynn. 1992. Technical Bayleton: An Acute Contact Toxicity Study with the Honey Bee. Laboratory Project No. 149-168B. Conducted by Wildlife International Ltd., Easton, MD. Submitted by Miles Incorporated, Kansas City, MO. EPA MRID No. 423078-04.

5. **REVIEWED BY:**

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Date: 10/15/92

6. **APPROVED BY:**

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Supervisor, EEB/EFED
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7. **CONCLUSIONS:** This study is scientifically sound and fulfills the requirements for an acute contact study with the honey bee. A 48-hour LD_{50} of >25 µg ai/bee classifies Bayleton technical as relatively non-toxic to honey bees (*Apis mellifera*). The NOEL was 12.5 µg ai/bee.

8. **RECOMMENDATIONS:** N/A.

9. **BACKGROUND:**

10. **DISCUSSION OF INDIVIDUAL TESTS:** N/A.

11. **MATERIALS AND METHODS:**

A. **Test Animals:** Five days before test initiation, two frames of bee (*Apis mellifera*) pupae were placed in an incubator (34-35°C, relative humidity of 61%, 8 hours of light/day) and the bees were allowed to emerge as adults. The bees were 1 to 5 days old at the initiation of the test, and appeared to be in good health.

B. **Test System:** Bees were contained in one pint rolled paper containers (87 mm in diameter and 85 mm high). Each container was covered with a plastic petri plate in which a 20-ml glass vial containing 50% sugar/water was inserted. This food source was available *ad libitum* throughout the test. A sponge affixed to the chamber was misted daily to increase humidity. Bees were kept in a room that was supplied with 8 hours of light/day. The temperature was maintained at 20-24°C, and the relative humidity was 48%.

C. **Dosage:** Forty-eight-hour acute contact test. Five treatment levels representing 1.6, 3.1, 6.3, 12.5, and 25 µg active ingredient (ai)/bee were tested along with a solvent control (2 µl acetone/bee) and a negative control.

An appropriate amount of the test material was dissolved in 10 ml of acetone to prepare the highest concentration dosing solution. Lower concentration dosing solutions were prepared by serial dilution. The doses were corrected for the purity of the test substance (95.6%).

D. **Design:** Two replicates of 25 bees each were used for each treatment and the controls. Each replicate test chamber was selected by random draw for dosing. The bees were immobilized with nitrogen and laid out on paper. They were then dosed individually on the thorax and/or abdomen with 2 µl of test solution. Negative control bees were handled identically to treated bees, but were not dosed with any material. Solvent control bees received only acetone. Observations were recorded twice on day 0 and once on day 1 and day 2. Bees exhibiting only slight wing or appendage movement were considered immobile.

E. **Statistics:** An LD_{50} value was determined by visual inspection due to the pattern of mortality in this

study with the honey bee. A 48-hour LD_{50} of >25 µg ai/bee classifies Bayleton technical as relatively non-toxic to honey bees (*Apis mellifera*). The NOEL was 12.5 µg ai/bee, based on treatment related mortality at the 25 µg ai/bee dosage level.

D. **Adequacy of the Study:**

(1) **Classification:** Core.

(2) **Rationale:** N/A.

(3) **Repairability:** N/A.

15. **COMPLETION OF ONE-LINER:** Yes, 10-11-92.

RIN 5710-93

TRIADIMEFON EFB REVIEW

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