

DATA EVALUATION RECORD

1. Chemical: Chloridazon (Pyrazon)
2. Test Material: Technical, 97.36% ai
3. Study Type: Honey bee acute contact LD50

Species tested: Apis mellifera

4. Study ID: Winter, P., K.A. Hoxter, and G.J. Smith. 1990. Chloridazon (Pyrazon): An acute contact toxicity study with the honey bee. Wildlife International Ltd. Project No. 147-138. Submitted by BASF Corporation, Research Triangle Park, NC. EPA Acc. No. 416098-11.

5. Reviewed By:

Allen W. Vaughan  
Entomologist  
EEB/EFED

Signature: Allen W. Vaughan  
Date: 10.29.96

6. Approved By

Norman J. Cook  
Supervisory Biologist  
EEB/EFED

Signature: Norman J. Cook  
Date: 10.29.96

7. Conclusions:

This study is scientifically sound, and shows chloridazon to be practically nontoxic to honey bees. In an acute contact test, the LD50 was determined to be greater than 100 micrograms per bee. This study fulfills the guideline requirement for an acute contact toxicity test on honey bees.

8. Recommendations: N/A
9. Background: This study was submitted in support of registration.
10. Discussion of Individual Tests: N/A

11. Materials and Methods:

Apparently healthy worker bees, less than seven days of age, were used as test animals. Test chambers were rolled paper containers. Each container was covered with a plastic petri dish through which a glass vial containing 50% sugar water was inserted. This food source was available to the test bees throughout the study.

Test bees were maintained in the dark except during dosing and daily observations. Test temperatures ranged from 22 to 24° C.

Five treatment levels, 13, 22, 36, 60, and 100 micrograms per bee, were tested along with a solvent control and a negative control. Two replicates were tested at each dosage, with 25 bees per replicate. The solvent control bees received a volume of acetone equal to the largest volume used during the test.

Recently collected bees were immobilized with N<sub>2</sub> to facilitate handling. Each bee was individually dosed with the appropriate test solution. Solvent control bees were dosed with acetone.

Observations on mortality and signs of toxicity were made twice on the day of initiation and once on Day 1 and Day 2 after dosing.

An estimation of the LD50 value was made by a visual inspection of the mortality data.

12. Reported Results:

The study authors found that chloridazon was practically nontoxic to honey bees, with an LD50 > 100 ug per bee.

13. Study Authors' Conclusions/ QA Measures

48-hr. LD50 > 100 ug per bee (practically nontoxic).

14. Reviewer's Discussion and Interpretation of the Study

A. Test Procedures: Procedures were in accordance with protocols recommended in the guidelines. There was a problem with high mortality in the controls (34% mortality in solvent controls, 28% mortality in negative controls). No cause for the high mortality could be determined. However, since mortality levels at the two lowest dose levels were acceptable (8%), EEB considers the test results to be valid.

- B. Statistical Analysis: Visual inspection of the mortality data indicates that the conclusions were appropriate.
- C. Discussion/Results: Chloridazon is practically nontoxic to honey bees.
- D. Adequacy of Study:
  - 1. Classification: Core
  - 2. Rationale: Guidelines protocol
  - 3. Reparability: N/A
- 15. Completion of One-Liner for Study: N/A
- 16. CBI Appendix: N/A