

US EPA ARCHIVE DOCUMENT

DP Barcode: D221706

MRID: 41626703

DATA EVALUATION RECORD
ACUTE CONTACT TOXICITY TEST WITH THE HONEY BEE
§ 141-1

1. CHEMICAL: Mepiquat chloride

PC Code No.: 109101

2. TEST MATERIAL: Technical

Purity: 46.3%

3. CITATION

Authors: Hoxter, K.A., and G.J. Smith
Title: Mepiquat Chloride: An Acute Contact

Toxicity Study with the Honey Bee

Study Completion Date: August 9, 1990

Laboratory: Wildlife International

Sponsor: BASF Corp.

Laboratory Report ID: 147-137

MRID No.: 41626703

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4. REVIEWED BY: Allen W. Vaughan, Entomologist, EEB, EFED

Signature: *Allen W. Vaughan*

Date: 1-25-96

5. APPROVED BY: Norman J. Cook, Head, Section 2, EEB, EFED

Signature: *Norman J. Cook*

Date: 6/26/96

6. STUDY PARAMETERS

Test Species: *Apis mellifera*

Age of Test Organisms at Test Initiation: 1 to 4 days

Exposure Duration: 48 hours

7. CONCLUSIONS: LD50 > 100 µg ai/bee
Toxicity category: Practically nontoxic
Slope of Response: N/A
NOEL: 100 µg/bee

8. ADEQUACY OF THE STUDY

A. Classification: Core

B. Rationale: N/A

C. Repairability: N/A

9. GUIDELINE DEVIATIONS: No significant deviations.

10. SUBMISSION PURPOSE: Reregistration; generic data

11. MATERIALS AND METHODS

A. Test Organisms

Guideline Criteria	Reported Information
Species	Honey Bee (<i>Apis mellifera</i> L.)
Age at beginning of test Worker bees of uniform age.	1-4 days
Source	Wildlife Int'l. colonies
Were bees from disease-free colonies?	Yes
Were bees kept in conditions conforming to proper cultural practices?	Yes

B. Test System

Guideline Criteria	Reported Information
Test Chambers	One pint rolled paper containers
Temperature during exposure	Range: 22 to 23°C
Relative humidity during exposure	Mean: 82%
Lighting	8 hr. light per day
Feeding	50% sugar water ad libitum

C. Test Design

Guideline Criteria	Reported Information
Nominal dosage levels tested	13, 22, 36, 60, and 100 ug ai/bee
Number of bees exposed per dosage level	50 (25 per rep)
Other experimental design information	25 bees per chamber

Guideline Criteria	Reported Information
Bees randomly or impartially assigned to test groups	Yes
Control	No treatment
Solvent control	Ethanol (2 μ l per bee)
Total observation period and frequency of interim observations	48 hours; observations made twice on day of test init., once each on Day 1 and 2 after dosing.

12. REPORTED RESULTS

Guideline Criteria	Reported Information
Quality assurance and GLP compliance statements were included in the report?	Yes
Observed adverse effects on bees at respective dosages	No signs of toxicity
Control and Solvent Control Mortality	Control: 8% Solvent Control: 2%
Were raw data included?	Yes

Mortality and Observations

Experimental Group	Number Exposed	Number (Percent) Dead	Observations
Control	50	4 (8%)	
Sol. Control	50	1 (2%)	
13 μ g/bee	50	1 (2%)	
22 μ g/bee	50	2 (4%)	
36 μ g/bee	50	5 (10%)	
60 μ g/bee	50	0 (0%)	
100 μ g/bee	50	3 (6%)	

Agency Statistical Analysis

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Method Used: No analysis conducted.
Results: N/A

13. REVIEWER'S COMMENTS: No comments.