

US EPA ARCHIVE DOCUMENT

AMENDMENT TO DER BY JOHNSTON, 3/24/82

1-10-91
Duplicate
in files

1. CHEMICAL: Cypermethrin
2. FORMULATION: 87.8% active ingredient (technical grade)
3. STUDY/ACTION TYPE: Avian dietary LC50
Bobwhite quail (Colinus virginianus)
4. CITATION: The subacute dietary toxicity (LC50) of cypermethrin (PP383) to the bobwhite quail. Submitted by ICI Americas for Phase 4 List B review. MRID 92027-003 (Summary Report) and MRID 00090072 (Study Report).

5. REVIEWED BY: Ann Stavola
Aquatic Biologist
EEB/EFED

Signature: *Ann Stavola*
Date: 1/8/91

6. APPROVED BY: Charles Lewis
Acting Section Head
EEB/EFED

Signature: *Charles Lewis*
Date: 1-10-91

7. CONCLUSIONS: The original DER was re-evaluated based upon the summary report submitted for the Phase 4 List B review. The report indicates that dietary concentrations of cypermethrin >3951 ppm were repellent. The repellency increased in a dose related fashion. This fact is corroborated in the DER by the statements regarding decreases in food consumption and body weight. Therefore, the LC50 value is being adjusted to correct for this repellency effect. The 8-day dietary LC50 value of technical cypermethrin for bobwhite quail is >3951 ppm. This study is scientifically sound and fulfills our guideline requirements for an avian dietary LC50 study. This study indicates that cypermethrin is slightly toxic to upland gamebirds.

8. RECOMMENDATIONS: This study does not need to be re-done as a new study will not provide any additional data, and the chemical has a low toxicity. Also, the terrestrial residues produced by the use of cypermethrin are significantly less than the LC50 value.

Original report, next page

DATA EVALUATION

1. CHEMICAL: Cypermethrin
2. FORMULATION: 87.8 % active ingredient (Technical grade) cis: trans ratio 53:47
3. CITATION: Roberts, N.L., Fairley, C., and Woodhouse, R. N. (1981) The subacute dietary toxicity (LC₅₀) of Cypermethrin to the bobwhite quail. Unpublished study submitted 12/28/81 by ICI Americas, Inc., Wilmington, Delaware.

EPA Accession No. 070561 MRID 00090072
4. REVIEWED BY: Thomas B. Johnston
Biologist, EEB/HED
5. REVIEW DATE: 3/24/82
6. TEST TYPE: Avian subacute dietary LC₅₀
7. REPORTED RESULTS: The reported 8-day dietary LC₅₀ of Cypermethrin for bobwhite quail is > 20,000 ppm.
8. REVIEWER'S CONCLUSIONS: This study is scientifically sound, and fulfills USEPA guideline requirements for a subacute dietary toxicity test using an upland gamebird. With an 8-day dietary LC₅₀ of >20,000 ppm, cypermethrin is practically non-toxic to bobwhite quail.

Materials/Methods

Methods used generally followed USEPA guidelines, as written in the Federal Register, July 10, 1978, Part II, 163.71-2.

Statistical Analyses

Data were not statistically analyzed because of the absence of toxic symptoms and mortalities.

Results

Concentrations (ppm)	No. Dead/No. Exposed
Control	1/30
1756	0/10
2634	0/10
3951	0/10
5926	0/10
8889	0/10
13333	4/10
20000	4/10

Discussion:

Birds fed 8889 ppm or more showed lower bodyweight gains than control birds. There appears to have been lower food consumption among birds fed 5926 ppm or more, but this is difficult to ascertain because of considerable wastage of food by the quail in all groups.

Conclusions:

Validation Category: Core

Category Rationale: N/A

Category Repairability: N/A