

108801

Data Evaluation Record

1. CHEMICAL: Metabachlor (108801)
2. FORMULATION: Technical
3. CITATION: Vilkas, A.G.; (1976) Acute toxicity of CGA-24705 technical to the water flea Daphnia magna Straus. Aquatic Environmental Sciences. Received 11/76 under 100-LIT. (Unpublished report prepared by Ciba-Geigy Corp. Greensboro NC (226955).
4. REASON FOR REVIEW: Generic Standard for Metabachlor
5. REVIEWED BY: H.T. Craven
Biologist
Efficacy and Ecological Effects Branch
Registration Division
6. DATA REVIEWED: 2/2/78
7. TEST TYPE: Fresh water aquatic invertebrate acute 48 hr.
- A. TEST ID: ES H1
- B. TEST SPECIES: Daphnia magna Straus
- C. TEST MATERIAL: CGA Technical
- D. REPORTED RESULTS

The 48 hr LC₅₀ to D. magna is 25.1 (21.6-29.2) mg/l (ppm). The 48 hr. no effect level was observed to be 5.6 mg/l (ppm).

E. SUMMARY OF CONCLUSIONS

The study is scientifically sound and with an LC₅₀ of 25.1 ppm ^{metabachlor} is slightly toxic to aquatic invertebrates. The study does fulfill the requirements for an aquatic invertebrate acute LC₅₀.

MATERIALS AND METHODS

A. Five test levels ranging from 5.6 to 56 mg/l and two controls (acetone and acetone free) were established. Protocol followed that recommended by U.S. EPA (1975).

B. Statistical analysis: The LC_{50} values were calculated according to Thompson (1947).

DISCUSSION/RESULTS

No mortality occurred in any of the four replicates for each of the two controls throughout the test nor in the two lower dosage levels - 5.6 and 10.0 ppm - during the first 24 hours. After 48 hours 5% mortality occurred at 10.0 ppm. The no effect level was reported as 5.6 ppm. The 48 hour LC_{50} with 95% C.L. was 25.1 (21.6-29.2) ppm.

REVIEWER'S EVALUATION

A. Test Procedure

The test complies with the recommended EPA protocol (1975).

B. Statistical Analysis
Validation

1. Category: Core

CONCLUSIONS

The study is scientifically sound and with an LC_{50} of 25.1 ppm is slightly toxic to aquatic invertebrates. The study does fulfill the requirement for an aquatic invertebrate acute LC_{50} .

The Environmental Safety section determined that the testing facility performed a modified Thompson (1947) by discarding the lowest dosage level to make $K=3$ to calculate an t value. The result of this revision yielded a 48 hr. LC_{50} of 25.7 ppm. Further confirmation of the 48 hr. LC_{50} value was done by Finney Probit (see copy of print out). Probit analysis produced an LC_{50} with 95% C.L. of 24.9 (21.4 - 29.1) ppm.

Metadach 5.6
Tech. 21.

Oapline
3/6/78 10.
1.
20.

15.
2.
20.

15.
15.
20.

50.
20.
20.

5.916
2.256
1.476
5.204

YINT
YINT
YINT
CHIE

24.953
21.366
29.115

ED50
LOCL
UPCL

15.151
11.930
19.241

LD10
LOCL
UPCL

41.058
32.431
52.000

LD90
LOCL
UPCL