113501

4.6.81

DATA EVALUATION RECORD

1. Chemical: Metalaxyl (Shaughnessy #113501)

2. Formulation: Ridomil Tech. (95.1% a.i.)

3. Citation: U.S. E.P.A. 1979. Biological report of analysis -static jar test #2413. OPP/BFSD/CBIB (Beltsville). 1p. [within Accession #244183].

4. Reviewed by: James D. Felkel
Wildlife Biologist
Ecological Effects Branch/HED

5. Date Reviewed: 4/6/81

6. Test Type: 96-hr. fish LC_{50}

A. Test Species: Bluegill (Lepomis macrochirus)

7. Reported Results: 96-hr LC_{50} is 139 ppm for the technical material.

8. Reviewer's Conclusions: Although D.O. levels were below those prescribed by the 7/10/78 guidelines, these guidelines do not require a specific LC_{50} if it can be shown that the LC_{50} is greater than 100 mg/l. Given the lack of mortality at 108 ppm, even with the stress of low D.O., it appears that the intent of the guidelines has been met. An LC_{50} greater than 100 ppm indicates that the technical material is "practically non-toxic" to bluegills.

Materials/Methods

The test material was described as a brown powder, sample #MB576. The bluegills were obtained from the Harrison Lake National Fish Hatchery. Acetone was used as a diluent. A control and six (6) concentrations (24, 40, 65, 108, 180, and 300 ppm) were tested. Method # TSD 1.206 was followed. Ten fish were used per concentration. Fish had an average weight of 0.88 grams and the loading rate was 0.59 g/liter of water.

Results

Mortality in the test concentrations at 96 hours is shown in the appended table (Reviewer's analysis). There was no control mortality. Dissolved oxygen levels fell to ca. 20% saturation in the control and ca. 15% saturation in the 108 ppm vessel during the first 48 hours and ca. 8% and ca. 4% in these two vessels, respectively, during the second 48 hours. A 96-hr. LC_{50} of 139 ppm is reported.

Reviewer's Evaluation

Methods

Methods used were generally consistent with approved protocols.

Statistics

The appended table shows the results using Stephan's Program. The LC_{50} results are consistent with those reported.

Results

Although D.O. levels were well below those prescribed by the 7/10/78 guidelines, these guidelines do not require a specific LC_{50} if it can be shown that the LC_{50} is greater than 100 ppm. Given the lack of mortality at 108 ppm even with the stress of low D.O., it appears that the intent of the guidelines has been met.

Conclusions

1. Category: Core

2. Rationale: See Reviewer's Evaluation of Results above.

3. Repairability: N/A

Ridomil Tech vs Bluegill; CBIB test #2413

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
300	10	10	100	9.76563E-2
180	10	10	100	9.76563E-2
108	10	0	0	9.76563E-2
65	10	0	0	9.76563E-2
40	10	0	0	9.76563E-2
24	10	0	0	9.76563E-2

THE BINOMIAL TEST SHOWS THAT 108 AND 180 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS SINCE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 139.427

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.

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UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

EPA

BIOLOGICAL REPORT OF ANALYSIS

1. SAMPLE NO. MB 576
2. DATE COLLECTED N/A
3. REGION N/A

SAMPLE IDENTIFICATION

4. LOT OR CODE NO(S). None
5. EPA REGISTRATION NO. None
6. ESTABLISHMENT NO. None

7. PRODUCT NAME Ridomil Tech

8. PRODUCER NAME AND ADDRESS *(Include ZIP code)*

Ciba-Geigy
Greensboro, North Carolina

9. DEALER NAME AND ADDRESS *(Include ZIP code)*

10. PHYSICAL FORM

	EMULS. CONC.		PRESS. SPRAY		DUST		GRANULAR
	WET. POWDER		AEROSOL		BAIT	x	OTHER brown powder

11. INGREDIENTS

N-(2,6-dimethylphenyl)-N-(methoxyacetyl)-alamine methyl ester)

Technical Ridomil 95.1%

Metalaxyl

TEST

12. TYPE OF TEST
Static jar
Test #2413

13. TEST ORGANISM(S)
Bluegill (Lepomis macrochirus)
Average weight: .88 gms.
Source: Harrison Lake National Fish Hatchery

14. METHOD NO. TSD 1.206
15. DURATION 96 hr
16. CONCENTRATION 24-300 ppm
17. DILUENT Acetone

18. SUMMARY

Information based on total formulation.
96 hr LC50 is 139 ppm.

19. RESULTS

Concentration ppm (percent mortality given below)

Time	300	180	108	65	40	24	C
24 hrs	10	0	0	0	0	0	0
48 hrs	100	100	0	0	0	0	0
72 hrs	100	100	0	0	0	0	0
96 hrs	100	100	0	0	0	0	0

Ten fish per concentration.

Concentration of Ridomil	Dissolved O_2 levels in ppm 0 hrs	24 hrs	48 hrs	96 hrs
Control	6.0	3.8	1.8 20%	0.8 8%
108 ppm	6.1	3.1	1.4 15%	0.4 4%

Loading rate of fish 0.59 g/liter of water.

20. TESTER'S INITS. DN
21. SIGNATURE OF LAB SUPERVISOR John A [signature]
22. LABORATORY Terrestrial & Aquatic Biology
23. DATE 7/24/79

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