DATA EVALUATION RECORD

1. Chemical: HOE-33171 OH EC036 (emulsifiable concentrate 126)

2. Formulation: 12.5%

3. Citation: Fischer, R. (1982). The Effect of HOE-33171 OH EC036 on Daphnia magna (waterflea) in a Static Test. Oekologisches Laboratorium, Pflanzenschutz Forschung Biologie. Frankfurt Hoechst, Federal Republic of Germany. Ref. OEK82/005E. Acc. # 071796.

4. Reviewed by: Carol M. Natella
Wildlife Biologist
EEB/HED

5. Data Reviewed: October 13, 1983

6. Test Type: Aquatic invertebrate 48-hour LC_{50} (Daphnia magna)

7. Reported Results: LC_{50} = 11.15 ppm (95% C.L. 9.38-13.36)

8. Reviewer's Conclusions: This study is scientifically sound and indicates that HOE-33171 emulsifiable concentrate (12.5%) is slightly toxic to Daphnia magna. The study would fulfill the requirements for an aquatic invertebrate 48-hour LC_{50} performed on this product.

MATERIALS/METHODS

Test Procedures

Test Animals: Daphnia magna cultured in the fish maintenance room of the Oekologisches Laboratorium of Hoechst AG, Federal Republic of Germany. Daphnia were < 24 hours old.

Test Water Quality: Filtered, de-ionized water was reconstituted according to EPA guidelines. The water had a pH of 7.83, a total hardness of 46 mg/l as $CaCO_3$, a total alkalinity of 38 mg/l as $CaCO_3$ and a conductivity of 153 umhos/cm. During testing, Daphnia were maintained at 19.6-19.9°C.

Test Containers: 200 ml glass jars with a surface of 64 cm^2.

Exposure: 5 Daphnia per jar; 10 ~~fish~~ Daphnia per concentration. 21 concentrations and a control were used.

Date of testing: 2/16/82 - 2/18/82.

Statistical Analysis

LC_{50} values were determined by probit analysis.

Discussion/Results

Percent mortality at 7 of the 21 concentrations tested was as follows (after 48 hours):

ppm:	24,	18,	13.5,	10.0,	7.5,	5.6,	4.2,	Control
%:	100,	80,	70,	20,	20,	20,	0,	0

The 48-hour observed no effect level was 4.2 ppm.

The following LC_{50} values were calculated:

24-hour LC_{50} = 30.13 ppm (95% C.L. 24.33-37.89)
48-hour LC_{50} = 11.15 ppm (95% C.L. 9.38-13.36)

REVIEWER'S EVALUATION

A. Test Procedure

The test procedure complies with U.S. EPA protocol.

B. Statistical Analysis

The LC_{50} value was verified with Stephan's computer program.

C. Conclusions:

1. Category: Core, should a study on this formulation be required.

2. Rationale: N/A

3. Repairability: N/A

NATELLA HOE-33171 DAPHNIA 2

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
24	10	10	100	.0976563
18	10	8	80	5.46875
13.5	10	7	70	17.1875
10	10	2	20	5.46875
7.5	10	2	20	5.46875
5.6	10	2	20	5.46875
4.2	10	0	0	.0976563

THE BINOMIAL TEST SHOWS THAT 4.2 AND 24 CAN BE
USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT
CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL
ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 12.0027

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

SPAN	G	LC50	95 PERCENT CONFIDENCE LIMITS	
6	.114798	11.0001	9.33007	13.2508

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
5	.147943	1	.419721

SLOPE = 4.73434
95 PERCENT CONFIDENCE LIMITS = 2.91335 AND 6.55532

LC50 = 11.2068
95 PERCENT CONFIDENCE LIMITS = 9.27564 AND 13.6814

LC10 = 6.04269
95 PERCENT CONFIDENCE LIMITS = 3.9282 AND 7.57914

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