DATA EVALUATION RECORD

1. Chemical: HOE 039866 (Ignite)

2. Test Material: 16.22% ai
[soluble concentrate 200 (g/L)]

3. Study Type: Aquatic Invertebrate Acute Toxicity

Species Tested: Daphnia magna

4. Citation: Fischer, R. (1985) The Effect of HOE 039866 Soluble Concentrate 200 (g/L). Identification Code: HOE 039866 OH SL18 A505 to Daphnia magna (Waterflea) in a Static Acute Toxicity Test (Dm 593/A, Method EPA). Prepared by Ecological Laboratory, Hoechst AG, Frankfort Hoechst, Federal Republic of Germany. Submitted by American Hoechst Corp. EPA File Symbol 8340-EUP-RN. Accession No. 263027.

5. Reviewed By: Carol M. Natella
Wildlife Biologist
EEB/HED
Signature: Carol M. Natella
Date: 11-20-86

6. Approved By: Harry Craven
Supervisory Biologist
EEB/HED
Signature: Henry T. Craven
Date: 12-3-86

7. Conclusions:

The study is scientifically sound. With a 48-hour LC_{50} of 15 ppm (95% C.L. 10 to 32) a 16.22% ai formulation of HOE 039866 is slightly toxic to Daphnia magna.

The study would fulfill a Guidelines requirement for an acute toxicity determination for an aquatic invertebrate with the formulated product.

8. Recommendations:

The Registrant should be informed that according to protocol recommended by the Guidelines, Daphnia are to be tested at 17 °C.

9. Background: N/A.

10. Discussion of Individual Tests: N/A.

11. Materials and Methods:

a. Test Animals: Daphnia magna, cultured in the fish maintenance room of the Ecological Laboratory of Hoechst AG. Daphnia 2 to 24 hours old were used for testing.

b. Test System: 200 mL chemically clean glass jars holding 200 mL of test solution. Dilution water was deionized, then reconstituted to the desired hardness and pH. It was characterized as having a pH of 7.84, a total hardness of 44.86 mg/L as $CaCO_3$, a total alkalinity of 32.87 mg/L as $CaCO_3$ and a conductivity of 161 micro mhos/cm. Test temperature was held between 19.5 and 20.3 °C.

c. Dosing: Static bioassay.

d. Design: Five Daphnia per jar; ten Daphnia per concentration [except for the 100 mg/L concentration which had 30 Daphnia (tested in triplicate).] Nine concentrations plus an untreated control were tested.

e. Statistics: The LC_{50} values were determined by Stephan's computer program.

12. Reported Results:

Nominal Concentration (mg/L)	Percent Mortality 24 Hrs	48 Hrs
Control	0	0
100	97	100
56	40	100
32	60	100
18	60	80
10	0	0
5.6	0	0
3.2	0	0
1.8	0	0
1.0	0	0

"Test criterion was the death of the animals. The animals were counted as dead when they were not able to swim for another 15 seconds after gentle agitation of the test container."

13. Study Author's Conclusions:

	Evaluation Time	
	24 Hrs	48 Hrs
LC_{50} mg/L 95% Conf. Lim.	29.7 14.1-53.9	15.0 10.0-32.0

14. Reviewer's Discussion and Interpretation of the Study:

a. Test Procedures: Generally, the procedures were in accordance with protocols recommended by the Guidelines except for the following deparature:

- The temperature of the test solution was held at 20 °C rather than 17 °C as recommended.

b. Statistical Analysis: Statistical analysis was verified by Stephan's computer program. The binomial method gave an LC_{50} of 15 ppm.

c. Discussion/Results: With a 48-hour LC_{50} of 15 ppm, a 16.22% ai formulation HOE 039866 is slightly toxic to Daphnia magna.

d. Adequacy of Study:

(1) Classification: Core, for the formulated product.

(2) Rationale: In accordance with recommended protocols except for test temperature.

(3) Reparability: N/A.

15. Completion of One-Liner:

Yes, October 22, 1986.

NATELLA HOE 039865 DAPHNIA

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
100	30	30	100	9.31321E-08
56	10	10	100	.0976563
32	10	10	100	.0976563
18	10	8	80	5.46875
10	10	0	0	.0976563
5.6	10	0	0	.0976563

THE BINOMIAL TEST SHOWS THAT 10 AND 32 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 14.9598

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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