

US EPA ARCHIVE DOCUMENT

DATA EVALUATION RECORD

1. Chemical: HOE 039866 (Ignite)
2. Test Material: 16.22% ai  
[soluble concentrate 200 (g/L)]
3. Study Type: Freshwater Fish Acute Toxicity  
Species Tested: Rainbow Trout
4. Citation: Fischer, R. (1985) The Effect of HOE 039866 Soluble Concentrate, Identification Code: HOE-039866 OH SL18 A505 to Salmo gairdneri (Rainbow trout) in a Static Test (Sg 342/A, Method EPA). Prepared by Ecological Laboratory, Hoechst AG, Frankfurt 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: *Harry T. Craven*  
Date: *12-3-86*
7. Conclusions:

The study is scientifically sound. With a 96-hour LC<sub>50</sub> of 26.7 ppm (95% C.L. 18 and 56) a 16.22% ai formulation of HOE 039866 is slightly toxic to rainbow trout.

The study would fulfill a Guidelines requirement for an acute toxicity determination for a coldwater fish with the formulated product.
8. Recommendations: N/A.
9. Background: N/A.
10. Discussion of Individual Tests: N/A.

11. Materials and Methods:

- a. Test Animals: Rainbow trout, mean weight 1.91 g, mean length, 5.06 cm. Source: Dr. Mueller, Fredelsloh/Moringen, West Germany.
- b. Test System: 50 L chemically inert tanks holding 50 L of dilution water. Dilution water was deionized and then reconstituted to the desired hardness and pH. It was characterized as having a pH of 7.76, a total hardness of 46.86 mg/L as CaCO<sub>3</sub>, a total alkalinity of 34.48 mg/L as CaCO<sub>3</sub>, and a conductivity of 163 micro mhos/cm. Test temperature was held between 11.7 and 13.1 °C.
- c. Dosing: Static bioassay.
- d. Design: Ten fish per tank, ten fish per concentration, six concentrations plus an untreated control were tested.
- e. Statistics: The LC<sub>50</sub> values were determined by Stephan's computer program.

12. Reported Results:

Nominal Concentration (mg/L)	Percent Mortality			
	24 Hrs	48 Hrs	72 Hrs	96 Hrs
100	100	100	100	100
56	100	100	100	100
32	0	10	80	80
18	0	0	0	0
10	0	0	0	0
5.6	0	0	0	0
Control	0	0	0	0

At the 32 mg/L concentration, the following toxicity symptoms were observed: darting movements, surface swimming, head down swimming, slow reactions.

13. Study Authors' Conclusions:

	Evaluation Time		
	24 Hrs	48 Hrs	72 and 96 Hrs
LC05 mg/L 95% Conf. Lim.	32-56 * range	18-32 * range	18-32 * range
LC50 mg/L 95% Conf. Lim.	32-56 * range	39.91 32-56	26.7 18-56
LC95 mg/L 95% Conf. Lim.	32-56 * range	32-56 * range	32-56 * range

\* The concentrations neighboring the expected LC value are given as LC ranges.

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

- a. Test Procedures: The procedures were in accordance with protocols recommended by the Guidelines.
- b. Statistical Analysis: The 96-hour LC50 value was verified using Stephan's computer program. The binomial test gave an LC50 of 26.7 ppm, the same as that reported by the authors.
- c. Discussion/Results: With a 96-hour LC50 of 26.7 ppm, 16.22% ai formulation of HOE 039866 is slightly toxic to rainbow trout.
- d. Adequacy of Study:
  - (1) Classification: Core, for the formulated product.
  - (2) Rationale: N/A.
  - (3) Reparability: N/A.

15. Completion of One-Liner:

Yes, October 21, 1986.

NATELLA HOE 039866 RAINBOW

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

THE BINOMIAL TEST SHOWS THAT 18 AND 56 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 26.6994

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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