

US EPA ARCHIVE DOCUMENT



2002033

DATA EVALUATION REPORT  
ECOLOGICAL EFFECTS BRANCH

72-1 Bluegill  
acute w/  
T.E.P.

1. Chemical: Tilt  
Shaughnessy No: 122101
2. Formulation: 3.6E (41.8% a.i.)
3. Study ID: Sousa, Joseph V. 1983. Acute Toxicity of Tilt 3.6E to Bluegill (Lepomis macrochirus). Prepared by EG&G Bionomics for Ciba-Geigy Corporation. Data Acc. # 072209, Reference 6.
4. Study Type: 96-hour LC50 with Bluegill
5. Review By: Daniel Rieder  
Wildlife Biologist  
EED/HEB  

<i>Daniel Rieder</i>	Date:	11/17/84	Review Time	3	Hrs.
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6. Reported Conclusions:

96-hour LC50 = 9 ppm (41.8% a.i.)  
95% C.L. 6.7 to 12 ppm  
NOEL < 2.4 ppm (all fish were lethargic at this test level)

Reviewer Evaluation

96-hour LC50 = 3.5 ppm measured 100% a.i.  
95% C.L. = 2.8 ppm to 5 ppm  
(Bionomial Test)
7. Reviewer's Conclusions: This study is scientifically sound and fulfills guideline requirements for a warmwater LC50. It shows that Tilt is moderately toxic to bluegill.

MRID# 0032925

8. Methods and Materials:

Test Material: Tilt 3.6E 41.8%  
(Test Concentrations were measured)

Test Organisms: Bluegill, 10 per level  
mean wet weight 0.47 g (0.27 - 0.74)  
total length 38 mm (33 - 44)

Test Conditions: Containers - 19.6 l glass jar with  
15 liters of test solution.  
Untreated control used  
Temperature - 22 + 1° C  
Light - 16 hrs on, 8 hrs off

See Attached report for details

9. Results:

<u>Measured Concentrations ppm</u>	<u>No. Tested</u>	<u>Mortality</u>
8	10	10
5	10	10
2.8	10	1
1.8	10	0
1.0	10	0
Control	10	0

10. Statistical Analysis:

Stephans computer program generated the LC50 by binomial probability.

11. Reviewer's Evaluation:

Since the test concentrations were measured and an LC50 in ppm a.i. can be generated, this study fulfills guideline requirements for a 96-hour study with a technical test material. The results show Tilt to be moderately toxic to bluegill.

12. Conclusion:

Category: Core for technical a.i. and  
Core for formulated product (3.6E) if necessary.

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122101 DATA ACC NO:072209 REFERENCE 6 TILT CGA-64250 BLUEGILL LC50  
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CONC. <i>Measured</i>	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
8	10	10	100	.0976563
5	10	10	100	.0976563
2.8	10	1	10	1.07422
1.8	10	0	0	.0976563
1	10	0	0	.0976563

THE BINOMIAL TEST SHOWS THAT 2.8 AND 5 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 3.51972

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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