

US EPA ARCHIVE DOCUMENT



2002030

DATA EVALUATION REPORT
 ECOLOGICAL EFFECTS BRANCH

1. Chemical: Tilt
Shaughnessy No: 122101
2. Formulation: 90.7%
3. Study ID: Beavers, Joann B. 1981. Subacute Feeding-
 Reproduction Screening Bioassay Bobwhite Quail, CGA-
 64250. Prepared by Wildlife International Ltd. for
 Ciba-Geigy Corp. Data Acc. #: 072210 Ref #31
4. Study Type: 8-week dietary exposure
5. Review By: Daniel Rieder
 Wildlife Biologist
 EEB/HED
Daniel Rieder
 Date: 10/17/84
 Review Time: 3 Hrs.
6. Reported Conclusions: There was no mortality at any
 levels (54640). Food consumption and weight gain were
 not adversely affected at any levels. Six birds were
 tested at each dose level for 8 weeks. At beginning
 of test was 25 weeks.
7. Reviewer's Conclusions: The study is scientifically sound
 and provides useful information. It does not fulfill
 any guideline requirement. It shows that tilt is
 practically non-toxic to bobwhite quail.

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8. Methods and Materials:

Ten fish were tested per concentration level and in a control. The test material was 90% pure Tilt. The fish were acclimated 20 days and test 96-hours. Test containers were glass 15 liter aquaria. Temperature was $23 \pm 2^\circ \text{C}$. Aquaria were aerated. Nominal concentrations: 1.8, 3.2, 5.8, 10 & 18 ppm.

9. Results:

96-hour LC_{50} = 6.4 ppm 95% C.L.: 5.4 to 7.7 ppm

<u>Measured Conc. ppm</u>	<u>No. Tested</u>	<u>Mortality</u>
control	10	0
solvent cont.	10	1
15.3	10	10
9.5	10	10
4.7	10	3
2.0	10	0
2.5	10	0

10. Statistical Calculation:

The LC_{50} values were calculated according to Spearman-Kaerber: 524-530 in D.J. Finney, London (1964).

11. Reviewer's Evaluation:

This study shows that Tilt is moderately toxic to warmwater fish. Normally aeration is not acceptable but since concentrations were measured in this study, it would not have an effect on the results. See the attached statistical printout for reviewer statistics. The results are similar to those reported.

12. Conclusion:

Category: Core

Worksheet 11
(SUN)

This is for
Bergill on item 2
acute tox

NOTE: THERE WAS CONTROL MORTALITY, BUT AT LEAST ONE
OF THE LOWER CONCENTRATIONS HAD ZERO MORTALITY.
THEREFORE, ABBOTT'S CORRECTION IS NOT APPLICABLE.

122101 TILT OGA-64250 BLUEGILL LC50

CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
15.3	10	10	100	.0976563
9.5	10	10	100	.0976563
4.7	10	3	30	17.1875
2.5	10	0	0	.0976563
2	10	0	0	.0976563

THE BINOMIAL TEST SHOWS THAT 2.5 AND 9.5 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 5.51906

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.
