DATA EVALUATION REPORT

ECOLOGICAL EFFECTS BRANCH

1. Chemical: Tilt

   Shaughnessy No: 122101

2. Formulation: Two test materials: Tilt 250 EC-(25% a.i.)
   CGA-64250 SCW 125-(12.5% a.i.)

3. Study ID: Buchanan, James. 1980. The Acute Toxicity of 2 Formulations of CGA 64,250 to the Carp and the Rainbow Trout. Performed by the Huntingdon Research Centre for Ciba-Geigy Agrochemicals. Data Acc. No. 072209. Reference 8.

4. Study Type: 96-hour LC50. Carp and Rainbow Trout

5. Review By: Daniel Rieder
   Wildlife Biologist
   EEB/HED
   Date: 11/17/84
   Review Time 3 Hrs.

6. Reported Conclusions:

Species	Test Material	LC50	95% C.L.
Carp	Tilt 250 EC	21	19 - 23 ppm
	CGA 64250 SCW 125	46	40 - 52 ppm
Trout	Tilt 250 EC	8.4	7 - 10 ppm
	CGA 64250 SCW 125	13.2	11 - 16 ppm

7. Reviewer's Conclusions: This study does not meet guideline requirements for a fish 96-hour LC50 because the test chambers were aerated and the test levels were not measured. It does provide some useful information and is scientifically sound.

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8. Methods:

Two test materials, Tilt 250 EC and CGA-64250 SCW 125, were tested on two species of fish, carp and rainbow Trout. Ten fish per level.

Carp Cyprinus Carpio.
Rainbow Trout Salmo Gairdneri
Tilt 250 EC is 25% a.i.
SCW 125 is 12.5% a.i.

The carp were obtained from the Avon Coarse Fish Farm and held 3 weeks. They were acclimated to test conditions for 5 days (length 8.5 cm). Test temperature 22 ± 1° C.

The trout were obtained from Parkwood Trout Farm and held 4 months. They were acclimated to test conditions for 7 days (length 7.9 cm). Test temperature 16 ± 1° C.

Test containers were glass aquaria holding 50 liters. Duplicate aquaria were used at each concentration so the loading was 1 fish per 10 liters.

9. Results

Table 1

Carp/Tilt 250 EC

Conc. ppm Nominal	No. Tested	96-hour Mortality
40	10	10
30	10	10
20	10	4
15	10	0
10	10	0
Solvent Cont.*	10	0
Control	10	0

*Solvent Control was inerts of Tilt 250 EC (40 ppm equivalent).

96-hour LC50 21 ppm
95% C.L. 19-23 ppm

Table 2

Carp/CGA-64250 SCW 125

Conc. ppm Nominal	No. Tested	96-hour Mortality
50	10	8
40	10	1
30	10	0
25	10	0
15	10	0
Control	10	0

96-hour LC50 46 ppm
95% C.L. 40-52 ppm

Table 3

Trout/Tilt 250 EC

Conc. ppm Nominal	No. Tested	96-hour Mort.
40	10	10
20	10	10
10	10	10
7	10	0
5	10	0
Solvent Cont.*	10	0
Control	10	0

*Solvent Control was inerts of Tilt 250 EC (40 ppm equivalent).

96-hour LC50 = 8.4 ppm
95% C.L. 7-10 ppm

Table 4

Trout/CGA-64250 SCW 125

Conc. ppm Nominal	No. Tested	96-hour Mort.
50	10	10
25	10	10
12	10	3
6	10	0
3	10	0
Control	10	0

96-hour LC50 = 13.2 ppm
95% C.L. 11-16 ppm

Exposure to solvent control (Tilt 250 EC blank, 40 ppm) resulted in survival of carp and death of trout.

10. Statistics:

Litchfield and Wilcoxon (1949) J. Pharmacology. Exp. Ther. 96, 99-113.

11. Reviewer's Evaluation:

This study does not fulfill guideline requirements:

1. Aeration was done in test containers, nominal conc.
2. Formulated testing material (not technical product)
3. Test temperature for trout was 1 degree warmer than normally accepted.
4. Carp are not acceptable test organisms.

But it does provide some useful information. It shows that the inert ingredients of Tilt 250 EC are slightly toxic to rainbow trout. The results show that Tilt 250 EC is moderately toxic to trout but that CGA-64250 SCW 125 is slightly toxic to trout. Both products were slightly toxic to carp.

Conclusion:

Category: Supplemental
Rationale: Test containers were aerated
Test temperature for Trout was high
Carp not an acceptable species
Test material was not technical product.
Repairability: Not repairable.