

108801

VALIDATION SHEET

CRF#

PAGE

OF

FORMULATION:			IA	IB	T	FW	EC	R		
% a.i.	SC#	CHEMICAL NAME	Validator:					Date:		
Technical		Metolachlor CGA-24705	R. Balcomb					7/20/78		
			Test Type:							
			Rainbow Trout							
			96-hr LC ₅₀							
			Test ID.# ES-G							

CITATION: Buccafusco, Robert J., 1978. Acute Toxicity of CGA-24705 to Rainbow Trout (Salmo gairdneri). Report #BW-78-6-186. EG & G - Wareham, Mass.

VALIDATION CATEGORY: Core

RESULTS:

LC₅₀ Values (mg/l)

<u>24 hr.</u>	<u>48 hr.</u>	<u>72 hr.</u>	<u>96 hr.</u>
>8.8	>6.0 <8.8	4.7 (4.0-5.5) ¹	3.9 (3.3-4.6)

(¹95% Confidence interval)

PROCEDURE: The study generally follows EPA guidelines. Young Rainbow Trout, mean wt. 0.68 (0.17-1.2) grams - mean length 45 (39-53) millimeters, were held for 14 days prior to testing at the test temperature of 12°C. The testing was performed in 19.6-liter glass jars with 10 fish used per concentration level; the test concentrations (nominal) were: 0.88, 1.3, 1.9, 2.8, 4.1, 6.0, and 8.8 mg/l. Control and acetone-control groups were also tested. The statistical analysis followed a moving average approach (Harris, E.K. 1959. Biometrics, Vol. 4 #3. pp. 157-164).

VALIDATION CATEGORY RATIONALE: The study adheres to EPA guidelines. The statistics were checked by recalculating via the Weil technique (Weil, Carroll S., 1952. Biometric, Vol. 8, No. 3 p. 249-263). A comparable value was obtained: 96-hr LC₅₀ = 3.80 (3.37-4.27) mg/l.

REPAIRABILITY: N/A

SPECIAL NOTE: The report described the test material only as CGA-24705. Dr. Jack A. Norton, Regulatory Specialist for Ciba-Geigy, was contacted by phone (919-292-7100) for a more complete description of the compound. CGA-247-5 is, according to Dr. Norton, technical metolachlor.

no name to Data Evaluation
by R. Balcomb 7/20/78

Species Rainbow trout PROBIT ANALYSIS WORK SHEET Chemical Metolachlor
Date Tested 6/78
Period 96 hrs. Analysis by: Henry T. Craven 9/21/78
(Name) (Title) (Date)

Concentration	No. dead/ No. tested	Observed % Mortality	Expected % Mortality	O-E	Contributions to Chi (Nomo #1)
Control	0/10	0			
1.9	0/10	0 (0)	0.9	0.9	0.009
2.8	0/10	0 (4.7)	1.5	11.3	0.090
4.1	7/10	70	60	10	0.045
6.0	10/10	100 (99.7)	99.9	.2	0.004
8.8	10/10	100 (99.7)	99.9	.2	0.004

Total Fish Tested = 50 Total = 0.152
Number of Doses (K) = 5 Chi² = Total Cont. x Total fish = 1.52
Degrees of freedom (K-2) = 3 to Chi K
Chi² (p=.05) for 3 deg of freedom = 7.82

DETERMINE fLC₅₀:

LC₈₄ _____
LC₅₀ _____
LC₁₆ _____

$$S = \frac{LC_{84}/LC_{50} - LC_{50}/LC_{16}}{2}$$

$$N' (\text{Fish used between } 16\% \text{ and } 84\% E) = \frac{N}{\sqrt{N'}} = \text{_____}$$

$$(Nomo. \#2) = \text{_____}$$

$$fLC_{50} = S^{2.77/\sqrt{N'}} = S \text{ _____}$$

DETERMINE fS:

R (Largest/Smallest dose plotted) _____
S (As determined above) _____
A (Nomo. #3 using R and S) _____

$$fS = A^{10(K-1)/K\sqrt{N'}} = A \text{ _____} (Nomo. \#2) = \text{_____}$$

DETERMINE fLC_y:

$$(fS)^x = fS^{2.33 \text{ or } 1.30} \text{ (Table 3 and Nomo. \#2)} = \text{_____}$$

$$fLC_y \text{ (Nomo. \#4 using } (fS)^x \text{ and } fLC_{50}) = \text{_____}$$

RESULTS (LC_x and Confidence Limits at p = .05):

LC₁ = _____
Lower Limit (LC₁/LC_y) _____
Upper Limit (LC₁ x LC_y) _____

LC₅₀ = _____
Lower Limit (LC₅₀/fLC₅₀) _____
Upper Limit (LC₅₀ x fLC₅₀) _____

LC₉₉ = _____
Lower Limit (LC₉₉/LC_y) _____
Upper Limit (LC₉₉ x LC_y) _____

Acc. No. 234396

