US EPA ARCHIVE DOCUMENT

(UNDATED)

MRID # 00015534

DATA EVALUATION RECORD

1. CHEMICAL: Metolachlor (108801)

2. FORMULATION: Technical

3. CITATION: Sachsse, K.; Ullman, L. (1974) Acute Toxicity to Rainbow Trout, Crucian Carp, Channel Catfish, Bluegill, and Guppy of Technical CGA 24705. Project No. Siss 3516. Received Sep. 26, 1974 under 5G1553. (Unpublished report prepared by CIBA GEIGY Ltd., Basle, Switzerland; CDL:112840-N).

4. REASON FOR REVIEW: Generic Standard for Metolachlor

5. REVEIWED BY: H. T. Craven
Biologist
Efficacy and Ecological Effects Branch
Registration Division

6. DATA REVIEWED: 12/16/77

7. TEST TYPE: Cold Water Fish Acute 96 hr. (LC_{50})

A. TEST ID: ES F 1

B. TEST SPECIES: Rainbow Trout (Salmo gairdneri)

C. TEST MATERIAL

D. REPORTED RESULTS: 96 hr (LC_{50}) = Approx. 2 ppm. In the report, a general comment was made with regard to all species tested: About 4 to 6 hours after adding the substance, the fish in concentrations where mortality occurred showed hypersensitivity, loss of equilibrium and later apathy.

E. CONCLUSIONS:

The aeration of a static bioassay may result in the volatilization of the toxicant from the medium, therefore it is impossible to assess the validity of the reported LC_{50}. This study does not meet the requirement for a cold water fish acute LC_{50}.

Trout - INVALID

(1)

MATERIALS AND METHODS

A. Test Conditions: The study was described to only a limited extent as it relied on the statement:

> "The procedure for testing followed that prescribed by the United States Federal Department of the Interior Fish and Wildlife Services: 'Procedures for evaluation of acute toxicity of Pesticides to fish and wildlife' 1964."

B. Statistical Analysis: The LC_{50} values were calculated by probit analysis according to Goulden A., 1960, Method of Statistical Analysis, John Wiley and Sons, third printing p. 404-408.

DISCUSSION/RESULTS

Reported Results: 96 hr (LC_{50}) = Approx. 2 ppm. In the report, a general comment was made with regard to all species tested: About 4 to 6 hours after adding the substance, the fish in concentrations where mortality occurred showed hypersensitivity, loss of equilibrium and later apathy.

REVIEWER'S EVALUATION

A. Test Procedure

Several deviations from the recommended protocol described in the proposed 1977 Guideline include: (1) Only four vs. a minimum of five dosage levels were tested; (2) Although acetone controls were run, no acetone free controls were established; (3) The test containers were aerated during the study. It is noted that the loading factor (1.9 g/liter) exceeded the recommended 1.0 g/liter thereby possibly necessitating aeration.

B. Statistical Analysis

The Environmental Safety Section did not attempt to validate the statistics portion of this study because aeration was performed, thereby negating any LC_{50} value.

C. Validation

1. Category: Invalid

2. Rationale: The aeration of a state bioassay may result in the volatilization toxicant from the medium.

3. Repairability Rationale: The rainbow trout section of the study cannot be repaired even to supplemental.

CONCLUSIONS

The aeration of a static bioassay may result in the volatilization of the toxicant from the medium; therefore it is impossible to assess the validity of the reported LC_{50}; it is noted that the loading factor (1.9 g/liter) exceeded the recommended 1.0 g/liter thereby possibly necessitating aeration. This study does not meet the requirement for a cold water fish acute LC_{50}.

8. TEST TYPE: Warm Water Fish Acute 96 hr (LC_{50})

A. Test ID: ES G1

B. Test Species: Crucian Carp (Carassius carassius), Guppy (Lebiates reticulatus , Bluegill (Lepomis machrochirus), Channel Catfish (Ictaluris ameriurus).

C. Test Material Technical metolachlor

D. Reported Results:

Species	96 Hour LC_{50} (ppm)	95% Confidence Limits
Crucian Carp (Carassius carassius)	4.9	3.6 - 6.8
Channel Catfish (Ictaluris ameiurus)	4.9	3.6 - 6.8
Bluegill (Lepomis macrochirus)	15	*
Guppy (Lebistes reticulatus)	8.6	7.4 - 10.5

* No confidence limits were calculable

In the report, a general comment was made with regard to all species tested: About 4 to 6 hours after adding the substance the fish in concentrations where mortality occurred showed hypersenstitivity, loss of equilibrium and later apathy. These symptoms were seen at 2.1 ppm in carp and 6.5 ppm in guppy.

E. Results of Evaluation:

The LC_{50} values reported for the guppy, crucian carp and channel catfish and bluegill sunfish are scientifically sound. These LC_{50} values indicate metalachlor is moderately toxic to warm water fish.

(3)

MATERIALS AND METHODS

Test procedure and method of Statistical analysis was the same as previously cited in the rainbow trout portion of this study.

DISCUSSION/RESULTS

1. Guppy, Crucian carp and Channel Catfish

The 96 hour LC_{50} values and 95% 1.1. are respectively: Carp 4.9 (3.6-6.8) ppm, Channel Catfish 4.9 (3.6-6.8) and Guppy 8.6 (7.4-10.5) ppm. Where mortality occurred, those organisms displayed (after 4-6 hrs. exposure) hypersensitivity, loss of equilibrium and apathy. These symptoms were seen at 2.1 ppm in channel catfish and carp and 6.5 for guppy.

2. Bluegill

Four dosage levels were tested (1, 10, 21 and 49 ppm). No mortality occurred at the two lower levels; but the next two levels showed 75% and 100% mortality respecitvely. A 96 hour LC_{50} of 15 ppm without confidence limits was reported.

REVIEWER'S EVALUATIONS

A. Test Procedure

Several deviations from the recommended protocol described in the proposed 1977 Guidelines include: (1) only four vs. a minimum of five dosage levels were tested; (2) although acetone controls were run, no acetone free controls were established, (3) in the case of the carp and the bluegill, the test temperature (14°C $\pm$ 2°C) is below the recommended range (19°C - 26°C $\pm$ 1°C) for warm water species.

B. Statistical Analysis:

1. Carp and Guppy

Finney probit was performed on the guppy portion of the study; the resulting LC_{50} 8.6 (see accompanying printout) is the same as the reported value. The same statistical analysis the Evnironmental Safety Section performed on the Channel Catfish study applies to the carp becasue the dosage levels and 96 hr % mortality are the same for both species (see xerox copy of catfish statistics).

2. Channel Catfish

The Environmental Safety Section performed a Finney probit analysis on the data (see accompanying printout). The determined LC_{50} (4.8) compares favorably with the reported value of 4.9.

3. Bluegill

Environmental Safety Section did not perform a Finney probit analysis as the requirement for two partial mortality levels was not met. Instead, a linear regression line was constructed (see accompanying printout and graph). The LC_{50} of 12.1 ppm cannot be confirmed by a test for Chi^2 and fails the Tab T test.

C. Validation

1. Carp and Guppy

a. Category: Supplementary

b. Rationale: Neither of these species are recommended test test species. Furthermore, in the case of carp, the test temperature (14°C ± 2°C) is below the recommended range (19°C - 26°C) for warmwater species.

c. Repairability rationale: This portion of the study cannot be upgraded to core.

2. Channel Catfish

Core

a. Category: ~~Supplementary~~

b. Rationale: ~~The channel catfish~~ Ictalaurus punctatus is ~~a recommended test species, however, the Environmental Safety Section was not able to determine if~~ Ictalurus ameiurus is ~~the~~ same species.

Personal communication with La-Deigo indicated that the species reported as ameiurus was actually punctatus.

c. ~~Repairability rationale: This portion of the study can be upgraded to core providing~~ Ictalures ameriurus is the same species as Ictalurus punctatus.

3. Bluegill

a. Category: ~~Invalid~~

b. Rationale: Conducting this portion of the study at too low a temperature (14°C ± 2°C) instead of (19°C - 26°C) prohibits this study from being classified as core. Secondly, the LC_{50} value cannot be supported by statistical analysis.

c. Repairability: This portion of the study can be upgraded to supplementary provided an appropriate statistical analysis is performed.

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CONCLUSIONS

Carp and Guppy -

The studies are scientifically sound and indicate that metolachlor is moderately toxic to these species of fish. Neither the carp or the guppy are recommended test species therefore, while the studies augment the required data on a recommended warm water fish they do not serve as a substitute.

Channel catfish - This study indicates that metolachlor is moderately toxic to fish with an LC_{50} of 4.9 ppm (95% C.L. 3.6 - 6.8 ppm). The study on channel catfish is sound and acceptable to meet the requirement for a warm water fish acute LC_{50}.

Bluegill Sunfish - The study on bluegill is not statistically sound. This is due to having too few partial mortality levels.

Table 6
Catfish
56 1553
Done Dec 16

1.
C.
12.

Finney Probit

2.1
1.
12.

Dual

6.5
7.
12.

10.
12.
12.

Tab CHI2 = 5.99 > 2.334

4.478	M
1.984	YINT
1.672	LW M
2.334	CHI²
4.838	LD50
3.633	LOCL
6.443	UPCL
2.503	LD10
1.552	LOCL
4.035	UPCL
9.353	LD90
6.480	LOCL
13.499	UPCL

Test Species Ictalurus ameiurus (?) PROBIT ANALYSIS WORK SHEET Chemical Metolachlor

Source Aquarium Basle, Switzerland Date Tested 4 Jan. 1974

o. Period 96 - hours Analysis by: Sachsse, K., + L. Ullmann; DVM, 1974 (Name) (Title) (Date)

Concentration PPM	No. dead/ /No. tested	Observed % Mortality	Expected % Mortality	O-E	Contributions to Chi (Nomo #1)
10	12/12	100			
6.5	7/12	58			
2.1	1/12	8			
1	0/12	0			

Total Fish Tested = _____

Number of Doses (K) = _____

Degrees of freedom (K-2) = _____

Chi^2 = Total Cont. to Chi $\times$ Total fish / K = 2.334

Chi^2 (p=.05) for 2 deg of freedom = 5.99

DETERMINE fLC_{50}:

LC_{84} _____

LC_{50} _____

LC_{16} _____

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

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

N' (Fish used between 16% and 84% E) = _____

$\sqrt{N'}$ = _____

(Nomo. #2) = _____

DETERMINE fS:

R (Largest/Smallest dose plotted) _____

S (As determined above) _____

A (Nomo. #3 using R and S) _____

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

DETERMINE fLC_y:

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

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

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

LC_1 = _____

Lower Limit (LC_1/LC_y) _____

Upper Limit ($LC_1 \times LC_y$) _____

LC_{50} = _____

Lower Limit (LC_{50}/fLC_{50}) _____

Upper Limit ($LC_{50} \times fLC_{50}$) _____

LC_{99} = _____

Lower Limit (LC_{99}/LC_y) _____

Upper Limit ($LC_{99} \times LC_y$) _____

8

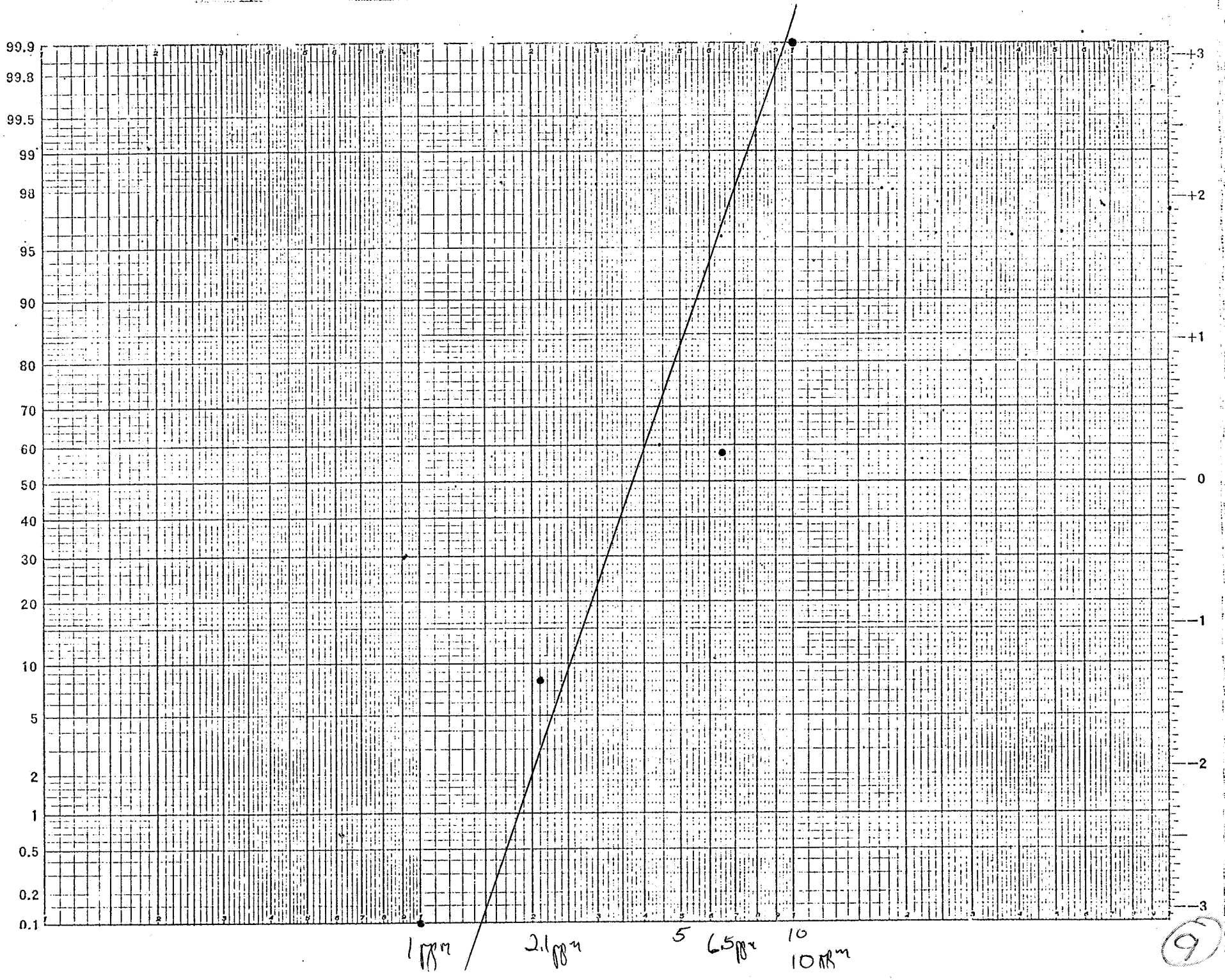

99.9
99.8
99.5
99
98
95
90
80
70
60
50
40
30
20
10
5
2
1
0.5
0.2
0.1
+3
+2
+1
0
−1
−2
−3
1 ppm
2.1 ppm
5
6.5 ppm
10
10 ppm

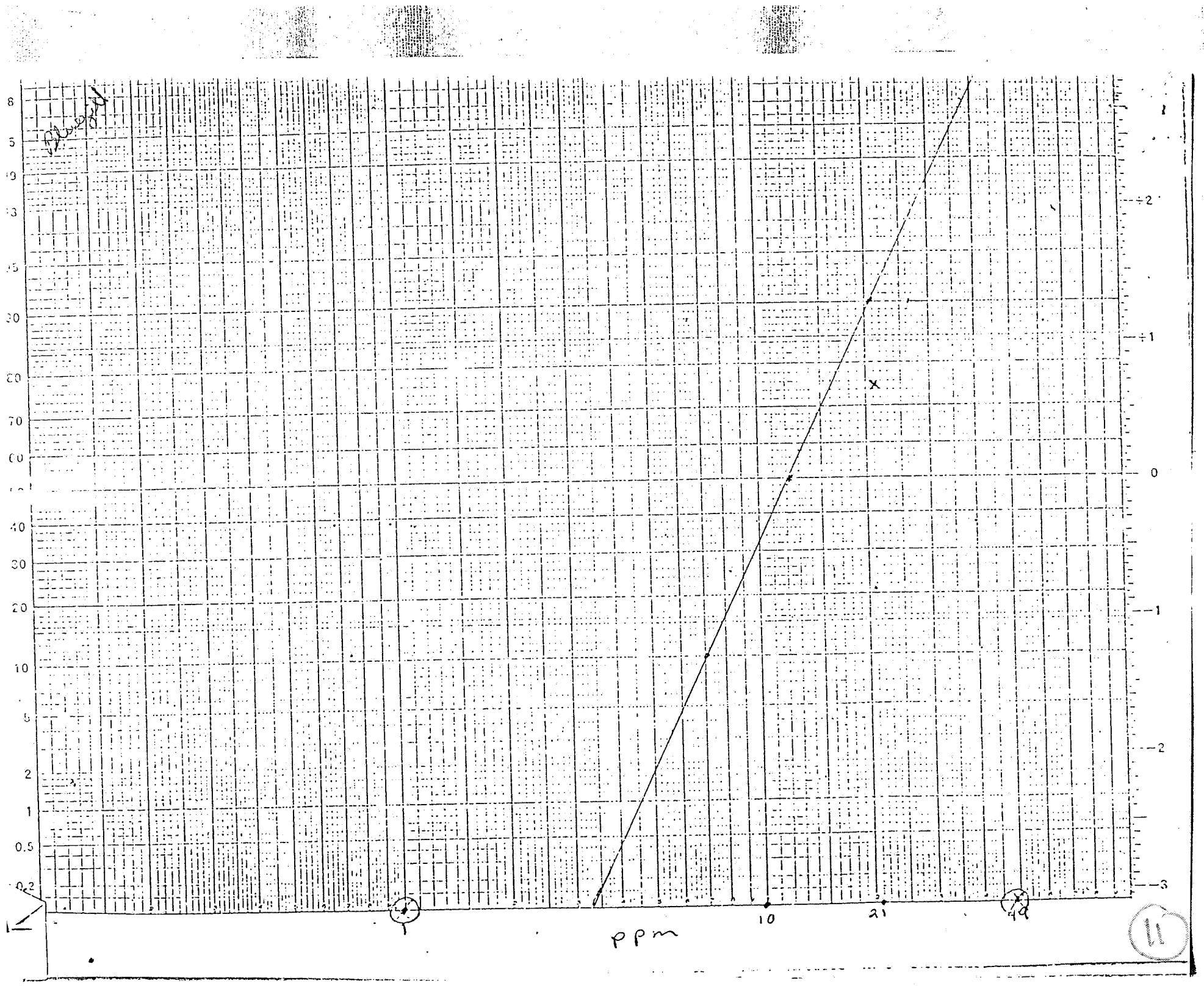
Table 7
Bluegill
Dec 16, 77
Dual

~~[illegible]~~ < Tab T.

Cont
do
Funny
Probit
or
CH1²

1.	
0.	
10.	
0.	
21.	
75.	
49.	
100.	
4.	N
0.671	R²
0.510	S
0.180	M
12.128	LD50
0.042	LOCL
3475.075	UPCL
7.120	LD10
0.024	LOCL
2111.190	UPCL
20.658	LD90
0.060	LOCL
7155.062	UPCL
95.	%CON
2.	DF
4.303	TVAL

2.	×
0.671	÷
1.342	(
1.	-
0.671	=
4.07902"356	
4.07902"356	√X
2.01966"208	≠ +



8
5
30
20
70
60
40
30
20
10
5
2
1
0.5
0.2
÷2
÷1
0
−1
−2
−3
10
21
49
ppm
11

Table 8

~~guppy~~

561553

Done Dec 19

Finney Probit

Dual

1.	
0.	
12.	
6.5	
1.	
12.	
10.	
9.	
12.	
21.	
12.	
12.	

Total Chi² = 5.99 > 0.00

11.001	M
-5.326	YINT
1.233	LW M
0.000	CHI²
8.683	LD50
7.631	LOCL
9.879	UPCL
6.639	LD10
5.420	LOCL
8.133	UPCL
11.355	LD90
9.133	LOCL
14.118	UPCL

slope

108801 VALIDATION SHEET CRF #_____ PAGE 1 OF 1

FORMULATION:		
% a.i.	SC #	CHEMICAL NAME
Tech.		CGA-24705 (Metolachlor)

IA	IB	T	FW	EC	R		

Validator: Labuda

Date: 02 December, 1977

Test Type: Coldwater Fish Acute 96-hour LC_{50}

Test ID.# ESG4

CITATION: Sachesse, K., and L. Ullmann. 1974. Acute Toxicity to Rainbow Trout, Crucian Carp, Channel Catfish, Bluegill, and Guppy to Technical CGA-24705 Ciba-Geigy, Ltd.

VALIDATION CATEGORY: Invalid

RESULTS: 96-hour LC_{50} for Salmo gairdneri was reported to be "approximately 2 ppm".

VALIDATION CATEGORY RATIONALE: Test aquaria were aerated throughout the treatment.

CATEGORY REPAIRABILITY/RATIONALE: No.

13

10350 VALIDATION SHEET CRF #_____ PAGE 1 OF 1

FORMULATION:			IA	IB	T	FW	EC	R		
% a.i.	SC #	CHEMICAL NAME	Validator: Labuda					Date: 02 December, 1977		
Tech.		CGA-24705 (Metolachlor)	Test Type: MRID# 00015534 Warmwater Fish Acute 96-hour LC_{50}							
			Test ID.#ESF5							

CITATION: Sachesse, K., and L. Ullmann. 1974. Acute Toxicity to Rainbow Trout, Crucian Carp, Channel Catfish, Bluegill, and Guppy of Technical CGA-24705. Ciba-Geigy, Ltd.

VALIDATION CATEGORY: Invalid ?

RESULTS: 96-hour LC_{50} for Lepomis macrochirus was reported to be "approximately 15 ppm". (No 95% C. I. Was reported).

VALIDATION CATEGORY RATIONALE: Preferred test temperature for the Bluegill is not less than $18^{o}C$. This study was conducted at $14^{o}C \pm 2^{o}$.

CATEGORY REPAIRABILITY/RATIONALE: Yes to supplemental by supplying section with the appropriate statistical method used to derive the LC_{50}.

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~~034004~~ MRID# 00015584 | 0 8 8 0 1

DATA EVALUATION RECORD

1. CHEMICAL: Metolachlor (108801)

2. FORMULATION: Technical

3. CITATION: Sachsse, K.; Ullman, L. (1974) Acute Toxicity to Rainbow Trout, Crucian Carp, Channel Catfish, Bluegill, and Guppy of Technical CGA 24705. Project No. Siss 3516. Received Sep. 26, 1974 under 5G1553. (Unpublished report prepared by CIBA-GEIGY Ltd., Basle, Switzerland; CDL: 112840-N).

4. REASON FOR REVIEW: Generic Standard for Metolachlor

5. REVIEWED BY: H.T. Craven H. T. Craven
Biologist
Efficacy and Ecological Effects Branch
Registration Division

6. DATA REVIEWED: 12/16/77

7. TEST TYPE: Cold Water Fish Acute 96 hr. (LC_{50})

A. TEST ID: ES F 1

B. TEST SPECIES: Rainbow Trout (Salmo gairdneri)

C. TEST MATERIAL: Technical Metolachlor

D. REPORTED RESULTS: 96 hr. (LC_{50}) = Approx. 2 ppm. In the report, general comment was made with regard to all species tested: About 4 to 6 hours after adding the substance, the fish in concentrations where mortality occurred showed hypersensitivity, loss of equilibrium and later apathy.

E. COMMENTS: The aeration of a static bioassay may result in the volatilization of the toxicant from the medium; therefore, it is impossible to assess the validity of the reported LC_{50}. This study does not meet the requirement for a cold water fish acute LC_{50}.

15

MATERIALS AND METHODS

A. Test Conditions: The study was described to only a limited extent as it relied on the statement:

"The procedure for testing followed that prescribed by the United States Federal Department of the Interior Fish and Wildlife Services: 'Procedures for evaluation of acute toxicity of Pesticides to fish and wildlife' 1964."

B. Statistical Analysis: The LC_{50} values were calculated by probit analysis according to Goulden A., 1960, Method of Statistical Analysis, John Wiley and Sons, third printing pp. 404-408.

DISCUSSION/RESULTS

Reported Results: 96 hr. (LC_{50}) = Approx. 2 ppm. In the report, a general comment was made with regard to all species tested: About 4 to 6 hours after adding the substance, the fish in concentrations where mortality occurred showed hypersensitivity, loss of equilibrium and later apathy.

REVIEWER'S EVALUATION

A. Test Procedure

Several deviations from the recommended protocol described in the proposed 1977 Guideline include: (1) Only four vs. a minimum of five dosage levels were tested; (2) Although acetone controls were run, no acetone-free controls were established; (3) The test containers were aerated during the study. It is noted that the loading factor (1.9 g/liter) exceeded the recommended 1.0 g/liter thereby possibly necessitating aeration.

B. Statistical Analysis

The Environmental Safety Section did not attempt to validate the statistics portion of this study because aeration was performed, thereby negating any LC_{50} value.

C. Validation

1. Category: Invalid

2. Rationale: The aeration of a state bioassay may result in the volatilization of the toxicant from the medium.

3. Repairability Rationale: The rainbow trout Section of the study cannot be repaired even to supplemental.

COMMENTS

The aeration of a static bioassay may result in the volatilization of the toxicant from the medium; therefore it is impossible to assess the validity of the reported LC_{50}; it is noted that the loading factor (1.9 g/liter) exceeded the recommended 1.0 g/liter thereby possible necessitating aeration. This study does not meet the requirement for a cold water fish acute LC_{50}.

8. TEST TYPE: Warm Water Fish Acute 96 hr. (LC_{50})

A. TEST ID: ES G1

B. TEST SPECIES: Crucian Carp (Carassius carassius), Guppy (Lebistes reticulatus), Bluegill (Lepomis machrochirus), Channel Catfish (Ictaluris ameriurus).

C. TEST MATERIAL: Technical Metolachlor

D. REPORTED RESULTS:

SPECIES	96 LC_{50} (ppm)	95% CONFIDENCE LIMITS
Crucian Carp (Carassius carassius)	4.9	3.6 - 6.8
Channel Catfish (Ictaluris ameriurus)	4.9	3.6 - 6.8
Bluegill (Lepomis machrochirus)	15	*
Guppy (Lesbistes reticulatus)	8.6	7.4 - 10.5

*No confidence limits were calculable

In the report, a general comment was made with regard to all species tested: About 4 to 6 hours after adding the substance the fish in concentrations where mortality occurred showed hypersensitivity, loss of equilibrium and later apathy. These symptoms were seen at 2.1 ppm in channel catfish and carp and 6.5 ppm in guppy.

E. COMMENTS

The LC_{50} values reported for the guppy, crucian carp, channel catfish and bluegill sunfish are scientifically sound. These LC_{50} values indicate metolachlor is moderately toxic to warm water fish.

MATERIALS AND METHODS

Test procedure and method of statistical analysis was the same as previously cited in the rainbow trout portion of this study.

DISCUSSION/RESULTS

1. Guppy, Crucian Carp and Channel Catfish

The 96 hour LC_{50} values and 95% 1.1 are respectively: carp 4.9 (3.6-6.8) ppm, channel catfish 4.9 (3.6-6.8) and guppy 8.6 (7.4-10.5) ppm. Where mortality occurred, those organisms displayed (after 4-6 hrs. exposure) hypersensitivity, loss of equilibrium and apathy. These symptoms were seen at 2.1 ppm in channel catfish and carp and 6.5 for guppy.

2. Bluegill

Four dosage levels were tested (1, 10, 21 and 49 ppm). No mortality occurred at the two lower levels; but the next two levels showed 75% and 100% mortality respectively. A 96 hour LC_{50} of 15 ppm without confidence limits was reported.

REVIEWER'S EVALUATIONS

A. Test Procedure

Several deviations from the recommended protocol described in the proposed 1977 Guidelines include: (1) only four vs. a minimum of five dosage levels were tested, (2) although acetone controls were run, no acetone-free controls were established, (3) in the case of the carp and the bluegill, the test temperature ($14^{o}C \pm 2^{o}C$) is below the recommended range ($19^{o}C - 26^{o}C \pm 1^{o}C$) for warm water species.

B. Statistical Analysis:

1. Carp and Guppy

Finney probit was performed on the guppy portion of the study; the resulting LC_{50} 8.6 (see accompanying printout) is the same as the reported value. The

same statistical analysis the Environmental safety Section performed on the channel catfish study applies to the carp because the dosage levels and 96 hr. % mortality are the same for both species (see Zerox copy of catfish statistics).

2. The Environmental Safety Section performed a Finney probit analysis on the data (see accomanying printout). The determined LC_{50} (4.8) compares favorably with the reported value of 4.9.

3. Bluegill

Environmental Safety Section did not perform a Finney probit analysis as the requirement for two partial mortality levels was not met. Instead, a linear regression line was constructed (see accompanying printout and graph). The LC 50 of 12.1 ppm cannot be confirmed by a test for CHi^2 and fails the Tab T test.

C. Validation

1. Carp and Guppy

a. Category: Supplementary

b. Rationale: Neither of these species are recommended test species. Furthermore, in the case of carp, the test temperature ($14^{o}C \pm 2^{o}C$) is below the recommended range ($19^{o}C - 26^{o}C$) for warm water species.

c. Repairability rationale: This portion of the study cannot be upgraded to core.

2. Channel Catfish

a. Category: Core

Personal communication with Ciba-Geigy indicated that the species reported as ameriurus was actually punctatus.

3. Bluegill

a. Category: Supplementary

b. Rationale: Conducting this portion of the study at too low a temperature ($14^{o}C \pm 2^{o}C$) instead of

($19^{o}C$ - $26^{o}C$) prohibits this study from being classified as core. Secondly, the LC_{50} value has not been supported by statistical analysis.

c. Repairability: Even if an appropriate statistical analysis is performed, this portion of the study cannot be upgraded to core because the temperature was too low.

COMMENTS

Carp and Guppy -

The studies are scientifically sound and indicate that metolachlor is moderately toxic to these species of fish. Neither the carp nor the guppy is recommended test species; therefore, while the studies augment the required data on a recommended warm water fish, they do not serve as a substitute.

Channel Catfish -

This study indicates that metolachlor is moderately toxic to fish with an LC_{50} of 4.9 ppm (95% C.L. 3.6-6.8 ppm). The study on channel catfish is sound and acceptable to meet the requirement for a warm water fish acute LC_{50}.

Bluegill Sunfish -

The study on bluegill is not statistically sound. This is due to having too few partial mortality levels.

H.T. Craven

[illegible] .8
guppy
561553
Done Dec 19
Finney
Probit

Dual

1.
0.
12.

6.5
1.
12.

10.
9.
12.

21.
12.
12.

Total Chi^2 = 5.997 0.00

11.001	M
-5.326	YINT
1.233	LW M
0.000	CHI^2
8.683	LD50
7.631	LOCL
9.879	UPCL
6.639	LD10
5.420	LOCL
8.133	UPCL
11.355	LD90
9.133	LOCL
14.118	UPCL

Table 6
Catfish (carp)
561553
Done Dec 16,
Finney
Probit

1.
0.
12.

2.1
1.
12.

Dual

6.5
7.
12.

10.
12.
12.

Tab (H12 = 5.99)

4.478
1.934
1.672
2.334

4.838
3.633
6.443

2.503
1.552
4.035

9.353
6.480
13.499

Table 6
Catfish
561553
Done Dec 16,
Finney
Probit

Dual

1.
C.
12.

2.1
1.
12.

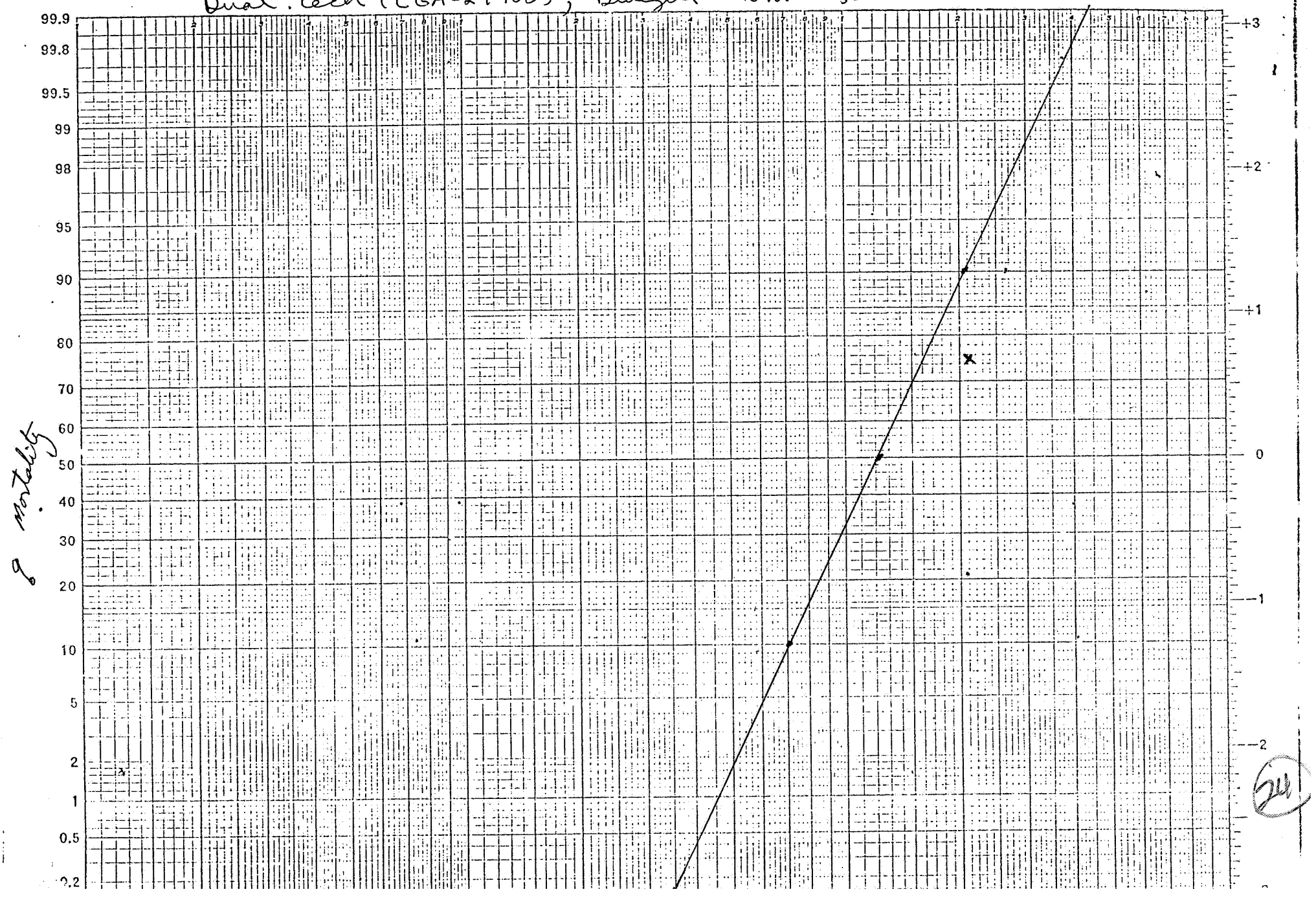
6.5
7.
12.

10.
12.
12.

Tab CHI2 = 5.99 > 2.334

4.478	M
1.934	YINT
1.672	LW M
2.334	CHI²
4.838	LD50
3.633	LOCL
6.443	UPCL
2.503	LD10
1.552	LOCL
4.035	UPCL
9.353	LD90
6.480	LOCL
13.499	UPCL

Dual Tech (CGA-24705), Bluegill 96 hr. LC_{50}



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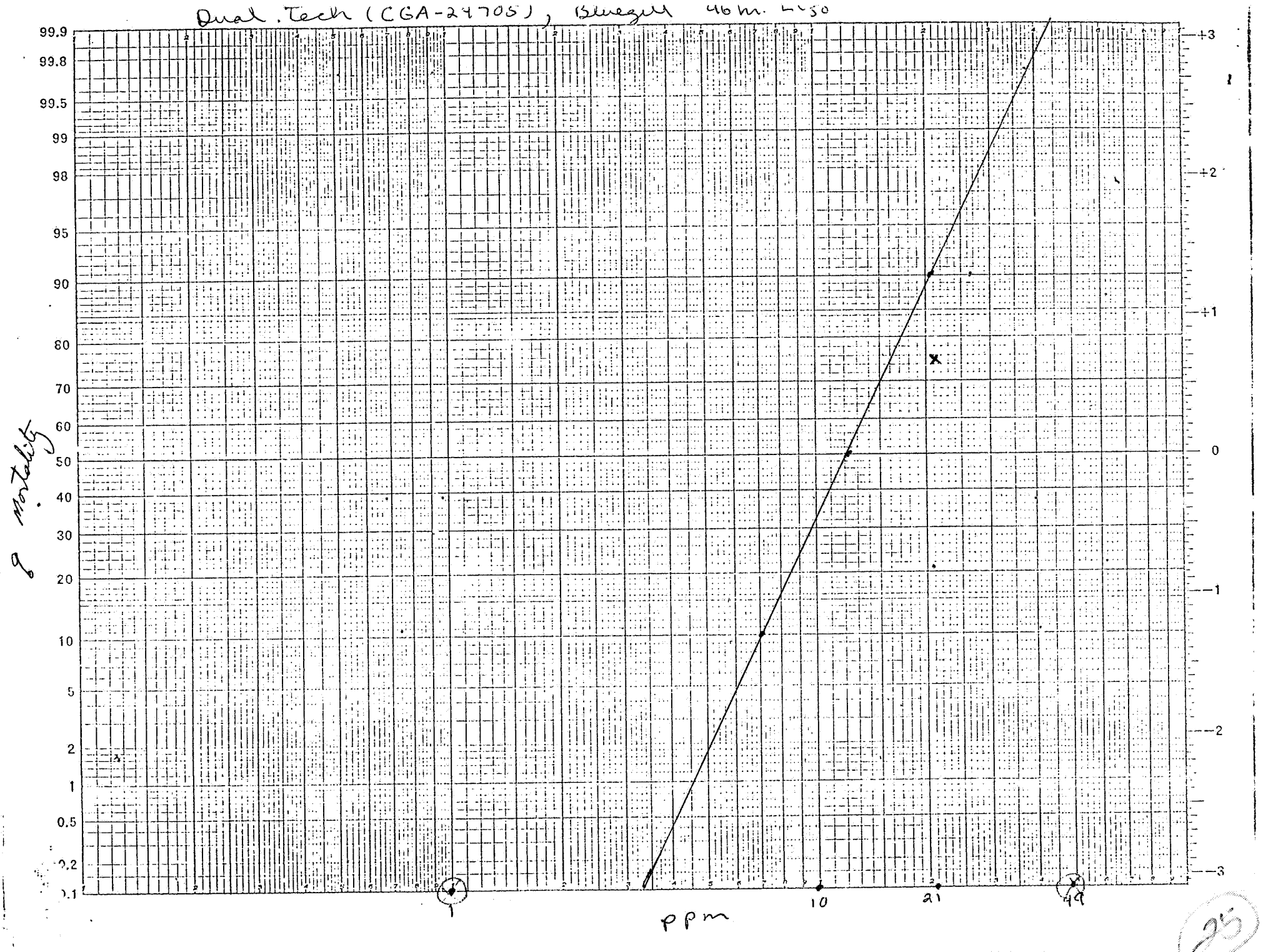
Dual. Tech (CGA-24705), Bluegill 96 hr. LC50
% mortality
99.9
99.8
99.5
99
98
95
90
80
70
60
50
40
30
20
10
5
2
1
0.5
0.2
0.1
+3
+2
+1
0
−1
−2
−3
1
10
21
49
ppm

10831 VALIDATION SHEET CRF #_____ PAGE 1 OF 1

FORMULATION:		
% a.i.	SC #	CHEMICAL NAME
Tech.		CGA-24705 (Metolachlor)

IA	IB	T	FW	EC	R		

Validator: Labuda

Date: 02 December, 1977

Test Type: Warmwater Fish Acute 96-hour LC_{50}

MRID # 00015534

Test ID.# ESF6

CITATION: Sachesse, K., and L. Ullmann. 1974. Acute Toxicity to Rainbow Trout, Crucian Carp, Channel Catfish, Bluegill, and Guppy of Technical CGA 24705. Ciba Geigy, Ltd.

VALIDATION CATEGORY: Supplemental

RESULTS: 96-hour LC_{50} for the guppy, Lebistes reticulatus, was reported to be 8.6 ppm (95% C.I. = 7.4-10.5 ppm).

VALIDATION CATEGORY RATIONALE: Lebistes reticulatus is not an acceptable test species for studies submitted in support of pesticide registration.

CATEGORY REPAIRABILITY/RATIONALE: No.

26

10880?

VALIDATION SHEET CRF #_____ PAGE 1 OF 1

FORMULATION:

% a.i.	SC #	CHEMICAL NAME
Tech.		CGA-24705 (Metolachlor)

IA	IB	T	FW	EC	R		

Validator: Labuda

Date: 02 December, 1977

Test Type: Warmwater Fish Acute 96-hour LC_{50}

MRID# 00015534

Test ID.# ESF-4

CITATION: Sachesse, K., and L. Ullman. 1974. Acute Toxicity to Rainbow Trout, Crucian Carp, Channel Catfish, Bluegill, and Guppy of Technical CGA-24705. Ciba-Geigy, Ltd.

Validation Category: Core

RESULTS: 96-hour LC_{50} for Ictalurus punctatus (?) was reported to be 4.9 ppm (95% C.I. = 3.6-6.8 ppm).

VALIDATION CATEGORY RATIONALE: The species tested was Ictalurus punctatus rather than Ictalurus ameiurus as reported.

CATEGORY REPAIRABILITY/RATIONALE: NA

27

12583

VALIDATION SHEET CRF #_____ PAGE 1 OF 1

FORMULATION:		
% a.i.	SC #	CHEMICAL NAME
Tech.		CGA-24705 (Metolachlor)

IA	IB	T	FW	EC	R		

Validator: Labuda

Date: 02 December, 1977

Test Type: Warmwater Fish Acute 96-hour LC_{50}

MRID # 00015534

Test ID.# ESF3

CITATION: Sachesse, K., and L. Ullmann. 1974. Acute Toxicity to Rainbow Trout, Crucian Carp, Channel Catfish, Bluegill, and Guppy of Technical CGA 24705. Ciba Geigy, Ltd.

VALIDATION CATEGORY: Supplemental

RESULTS: 96-hour LC_{50} for Carassius carassius was reported to be 4.9 ppm (95% C.I. = 3.6 - 6.8 ppm).

VALIDATION CATEGORY RATIONALE: Crucian carp, considered a warmwater species, should not be tested at temperatures less than 18°C. In this study they were tested at 14°C ± 2°.

CATEGORY REPAIRABILITY/RATIONALE: No.

38