9/23/82 FORM E

TDMS DATA EVALUATION RECORD PAGE 1 OF

CASE GS 0092 Naled PM 110 1 1

CHEM 034401 Naled

BRANCH EEB DISC

FORMULATION Dibrom 8

FICHE/MASTER ID BAONALO5

CITATION: USEPA. 1971. Fish Toxicity Laboratory Report Test No. 364 ~~No. 11857~~ Animal Biology Laboratory. May 11-17, 1971. (Unpublished)

SUBST. CLASS=

OTHER SUBJECT DESCRIPTORS
PRIM:

DIRECT REVIEW TIME= (MH) START DATE END DATE

REVIEWED BY: Kyle Barbehenn
TITLE: Wildlife Biologist
ORG: HED-EEB
LOC./TEL: CM2-1141/557-1121

SIGNATURE: [signature] DATE: 23 Sept 82

APPROVED BY:
TITLE:
ORG:
LOC/TEL:

SIGNATURE: DATE:

DATA EVALUATION RECORD

1. Chemical: Naled

2. Formulation: Dibrom 8 (58% naled)

3. Citation: USEPA. 1977. Biological Report of Analysis. Static Jar Test # 1061. Animal Biology Laboratory 1/13/77 (Unpublished).

4. Reviewed by: Kyle Barbehenn, Wildlife Biologist
Ecological Effects Branch
Hazard Evaluation Division (TS-769)

5. Date Reviewed: September 23, 1982

6. Test Type: Static Jar acute toxicity - Rainbow Trout (Salmo gairdneri)

7. Reported Results: 96-hr LC_{50} = 215 (185-250) ppb (Total formulation)

8. Reviewer's Conclusions:

This study is scientifically sound and meets guideline requirements for an acute aquatic toxicity test with coldwater fish for a formulated product intended for aquatic use. This product is highly toxic to coldwater fish.

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086802

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

BIOLOGICAL REPORT OF ANALYSIS

1. SAMPLE NO.	2. DATE COLLECTED	3. REGION
107574	N/A	N/A

SAMPLE IDENTIFICATION

4. LOT OR CODE NO(S).	5. EPA REGISTRATION NO.	6. ESTABLISHMENT NO.
N/A	239-1281 → BAONAL05	N/A

7. PRODUCT NAME: Dibrom 8

8. PRODUCER NAME AND ADDRESS *(Include ZIP code)*	9. DEALER NAME AND ADDRESS *(Include ZIP code)*
Helena Chemical Company Memphis, Tennessee	N/A

10. PHYSICAL FORM								
		EMULS. CONC.		PRESS. SPRAY		DUST		GRANULAR
		WET. POWDER		AEROSOL		BAIT	X	OTHER liquid

11. INGREDIENTS

034401 Naled: 58%
086802 Xylene 20%

TEST

12. TYPE OF TEST	13. TEST ORGANISM(S)	14. METHOD NO.	TSD 1.206
Static jar Test #1061	Rainbow trout (Salmo gairdneri) Average weight: 0.40 gm. Source: Wytheville National Fish Hatchery	15. DURATION	96 hr
		16. CONCENTRATION	75-750ppb
		17. DILUENT	Water

18. SUMMARY

All information in this report is based on total formulation.

The 24 hour LC 10 is 190 ppm

The 96 hour LC 50 is 215 ppm ? ✓

19. RESULTS

24 hour LC 10 is 190 ppb (95% confidence limits of 155.79 to 231.72 ppb)
24 hour LC 50 is 240 ppb (95% confidence limits of 203.95 to 282.42 ppb)
48 hour LC 50 is 215 ppb (95% confidence limits of 184.98 to 249.89 ppb)
96 hour LC 10 is 156 ppb (95% confidence limits of 129.53 to 187.88 ppb)
96 hour LC 50 is 215 ppb (95% confidence limits of 184.98 to 249.89 ppb)

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20. TESTER'S INITS.	21. SIGNATURE OF LAB SUPERVISOR	22. LABORATORY	23. DATE
	John R Nelson	Animal Biology	1/13/77

EPA Hq Form 8510-14 (10-76)

REGIONAL OFFICE COPY

SN 107574. test# 1061-R.T.

Conc. in ppt	mortality 24hr	48hr	96hr
750	100%	100	100
560	100	100	100
420	100	100	100
320	100	100	100
240	40%	90	90
180	10%	10	10
140	0	10	10
100	0	0	0
75	0	0	0
0	0	0	0

086802

FISH TOXICITY LABORATORY REPORT

Animal Biology Laboratory
ARS-PR, ARC, Beltsville, Md.

Test Number: 364

I.D. Number: 74517
USDA Reg. No.: 802-427

Product: Miller's Dibrom 8-E

Manufacturer: Miller Products
Portland, Oregon

Active Ingredients: Naled 58%
Xylene 20%
Inert ingredients: 22%

Date Product Received: April 5, 1971

Period of Test: May 12 - 17, 1971.

Biologist Conducting Test: John McCann

Test Species: Bluegill (Lepomis macrochirus)

Condition: Excellent

Average length: 45.45 mm.
Average weight: 1.403 gm.

Source: Harrison Lake National Fish Hatchery

Date received: April 5, 1971 Acclimation temperature: 65 °F

Bioassay Conditions:

Test vessel: 5-gallon glass jar. Water volume: 15 l.
Fish/vessel: 10 Fish/concentration: 10 Concentrations tested: 6

Water Quality:

Test Water: Demineralized water 1,000,000 ohms resistivity reconstituted to U. S. Fish and Wildlife Service Standards.

Temperature: 65 °F
Alkalinity: 41.04 ppm.
Calcium hardness: 37.1 ppm.
Dissolved CO_2: < 10 ppm.
pH: 7.0
Total hardness: 51.3 ppm.
Dissolved O_2: 6.0 ppm.

Purpose:

To determine the toxicity of Miller's Dibrom 8-E containing 58% naled and 20% xylene to bluegill at a water temperature of 65° F.

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Fish Pretest History:

Upon arrival at the Laboratory, the fish were placed in a plastic swimming pool of approximately 570 gallons capacity. Water in the pool was maintained at a temperature suitable for the species of fish and aerated continuously. The water was recirculated through a sand filter approximately once per hour.

The fish were fed commercial trout chow while at the Laboratory. They were not treated with a prophylactic chemical at anytime.

No tests were made on these fish until they had undergone a minimum 10-day-observation period.

Acclimation:

Three days prior to testing, fish from 35 to 75 mm. in length were sorted from the stock tank and placed in acclimation tanks containing the quality and temperature of water to be used during the test. The fish were not fed after being taken from the stock pool.

Test Procedure:

The handling of the fish and the organization of the tests followed procedures described in Doudoroff (1951), Lennon (1964) and the Fish Pesticide Acute Toxicity Test Method as developed by the Animal Biology Staff, Pesticides Regulation Division, ARS in August 1966. Test results were analyzed and the LC 50 concentrations were computed by use of the Litchfield and Wilcoxon (1949) method.

The bio-assay tests were made in 5-gallon-glass jars containing 15 liters of reconstituted water. Fish were placed in each jar one day before the test chemicals were added. Twenty fish were tested at each concentration. The stock solutions* of chemicals were mixed within 1 hour of the start of the test. The aliquot of chemical necessary to obtain the desired concentration of toxicant was added to the test jars and immediately stirred into the water to ensure an even distribution. All toxicity levels presented in this paper are based on the amount of active ingredients** present in the test solutions unless indicated otherwise.

The reaction of the fish to the toxicant was recorded at elapsed times of 3/4, 1 1/2, 3, 6, 12 and 24 hours. Readings were taken at 24-hour intervals after the first day of the test period. Observations made at non-scheduled intervals were also recorded.

* 1.5 ml of I.D. sample in 98.5 ml of water.

** Total formulation.

Test Results:

The analysis of the test results are presented on probit analysis sheets in the appendix. The table below summarizes some of the important information from these sheets.

The lowest limit in the 95-percent confidence interval for LC 10 and the highest limit in the 95-percent confidence interval for LC 90 at various time intervals was used to indicate the range in concentrations of the active ingredient that could be expected to kill from 10-90 percent of the fish 95 percent of the time.

Concentration of Miller's Dibrom 8-E in ppm. expected by computation to kill from 10 to 90 percent of the bluegill at a water temperature of 65° F.

Test Period	Initial Mortality Maybe Expected	Total Mortality Maybe Expected	LC 50
24 hr.	0.688	9.0	2.45
48 hr.	0.524	6.62	1.85
96 hr.	0.445	3.24	1.20

Conclusions:

Miller's Dibrom 8-E containing 39% oxies and 20% xylene can be expected to kill bluegill at a concentration of 0.688 ppm within 24 hours of treatment. The 24-hour LC 50 was 2.45 ppm.

Test conducted by,

John A. McCann
Biologist

Test approved by,

John A. Lufkeman
Laboratory Supervisor

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Sample # 74517 Test # 364 Bluegill

Mortality ~~Effect~~

Conc in ppm	24 hr	48 hr	96 hr
3.2	75%	100	100
2.4	40	70	85
1.8	15	40	85
1.35	10	25	60
1.0	15	25	30
.75	10	10	20
0	0	0	0

24hr LC50	2.45 ppm	(2.00 - 3.00)	
LC 10	1.05	(0.688 - 1.60)	
90	5.90	(3.87 - 9.0)	
48hr LC50	1.85	(1.54 - 2.22)	
LC10	0.77	(0.524 - 1.132)	
LC 90	4.5	(3.06 - 6.62)	
96hr LC50	1.2	(1.018 - 1.415)	x.58 - .70 (.59 - .82
LC 10	0.6	(0.445 - 0.810)	
LC 90	2.4	(1.78 - 3.24)	

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