40354201

DATA EVALUATION REPORT

1. Chemical: Linuron / 035506

2. Test Material: Technical, 96.2%

3. Study Type: Fish 96-hour LC50 with Bluegill sunfish

4. Study Identification: Wetzel, J.W., Static Acute 96-hour LC50 of Linuron (INZ-326-118) to Bluegill sunfish (Lepomis macrochirus)
   Laboratory: Haskell
   Study No/Date: HLR 527-86 / 9-29-86
   Study Submitted to EPA by Dupont

5. Review By: Daniel Rieder, Wildlife Biologist
   Ecological Effects Branch
   Hazard Evaluation Division
   3-31-88

6. Approved By: Norman J. Cook, Head, Section 2
   Ecological Effects Branch
   Hazard Evaluation Division
   3.31.88

7. Conclusion: This study has been reviewed and found to be scientifically sound. It fulfills the guideline requirement for a warmwater fish acute study. The 96-hour LC50= 9.6 ppm with 95% C.L. of 7.9 -11.6 ppm.

8. Recommendations: N/A

9. Background: This study was submitted to support registration.

10. Discussion of Individual Studies: N/A

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11. Materials and Methods:

Test Material: Linuron 96.2% ai

Test Organism: Bluegill sunfish
Source: S P Engineering — No/Level: 10
Length: mean=2.9 cm — Weight: mean=0.718 g
Acclimation: 244 days, 48 hrs without food
Organisms per container: 5 — Loading: 0.24 g/L

Test Containers: glass aquaria, 21 liter
Aerated? No — Replicates: 2
Volume test Solution: 15 Liters

Test Conditions: Static — Photoperiod: 16 hrs/day
Temperature: 21°C — Test Solution: Well Water
Controls: Untreated and Solvent= ?

12. Reported Results: 96-hour LC50=9.6 ppm
95% CL: 7.8 - 11.6 (probit)
slope= 8.3 (probit)

| CONCENTRATION MEASURED PPM | MORTALITY 96-HOUR | CONDITIONS DO | pH |
|---|---|---|---|
| control | 0 | 6.8 | 7.9 |
| solv. cont. | 0 | 7.1 | 7.0 |
| 0.92 | 0 | 6.5 | 7.9 |
| 1.30 | 0 | | |
| 1.87 | 0 | | |
| 2.92 | 0 | | |
| 4.98 | 0 | 6.0 | 7.8 |
| 8.04 | 3 | | |
| 12.59 | 8 | | |
| 18.94 | 10 | 5.7 | 7.8 |

13. Study Author's Conclusions: Under the conditions of this study, linuron was moderately toxic to coldwater fish.

14. Reviewer's Discussion:

A. Test Procedure: The test procedure was acceptable. Test concentrations were measured.

B. Statistical Analysis: Independent statistical analysis was performed, see attached printout.

C. Discussion of Results: The results show that linuron is moderately toxic to fish.

D. Category of Study: Core

15. Completion of One-Liner: Completed

16. CBI Attachments: N/A

Daniel Rieder linuron BLUEGILL SUNFISH 3-31-88

| CONC. | NUMBER EXPOSED | NUMBER DEAD | PERCENT DEAD | BINOMIAL PROB. (PERCENT) |
|---|---|---|---|---|
| 18.94 | 10 | 10 | 100 | 9.765625E-02 |
| 12.59 | 10 | 8 | 80 | 5.46875 |
| 8.04 | 10 | 3 | 30 | 17.1875 |
| 4.98 | 10 | 0 | 0 | 9.765625E-02 |
| 2.92 | 10 | 0 | 0 | 9.765625E-02 |
| 1.87 | 10 | 0 | 0 | 9.765625E-02 |
| 1.3 | 10 | 0 | 0 | 9.765625E-02 |
| .92 | 10 | 0 | 0 | 9.765625E-02 |

THE BINOMIAL TEST SHOWS THAT 4.98 AND 18.94 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 9.584121

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

| SPAN | G | LC50 | 95 PERCENT CONFIDENCE LIMITS | |
|---|---|---|---|---|
| 4 | .1144044 | 9.514274 | 7.718307 | 12.33573 |

RESULTS CALCULATED USING THE PROBIT METHOD

| ITERATIONS | G | H | GOODNESS OF FIT PROBABILITY |
|---|---|---|---|
| 10 | .2843382 | 1 | .9993017 |

SLOPE = 8.317415

95 PERCENT CONFIDENCE LIMITS = 3.882289 AND 12.75254

LC50 = 9.609739

95 PERCENT CONFIDENCE LIMITS = 7.8765 AND 11.57647

LC10 = 6.76114

95 PERCENT CONFIDENCE LIMITS = 4.181158 AND 8.163912