DATA EVALUATION REPORT

1. Chemical: Pyridate (sha. no. 128834)

2. Test Material: Technical Grade, 90% ai

3. Study Type: Mollusc 48-Hour Embryo Larvae Study

4. Study Identification: Dionne, Emily. Acute Toxicity of LX101-01 to Embryos-Larvae of the Quahog Clam (Mercenaria mercenaria). Study performed by Springborn Bionomics, submitted by Gilmore Inc. Study date April 27, 1987, Study No. BW-87-4-2370. Data Acc No. 403038-01

5. Review By: Daniel Rieder, Wildlife Biologist Daniel Rieder 12-2-87
Ecological Effects Branch
Hazard Evaluation Division

6. Approved By: Norman J. Cook, Head, Section 2 Norman J. Cook 12.7.87
Ecological Effects Branch
Hazard Evaluation Division

7. Conclusion: This ~~study~~ has been reviewed and found to be scientifically sound. It does not fulfill the guideline requirement for a mollusc 48-hour embryo larvae study because raw mortality and developmental data ~~were~~ not provided.

8. Recommendations: The registrant should provide the following information, transcripts of the raw data including mortality in each replicate (treatments and controls) relative to the number of live embryos at the beginning of the study and the number of normal larvae at the end of 48 hours in each replicate (treatment and control).

9. Background: This study was submitted to support an EUP request.

10. Discussion of Individual Studies: N/A

7. Conclusions (12-8-89) Test is Core, raw data provided see 5-1-89 review
EC 50 = 145 ppb 95% CL = 38 - 597 ppb. DR
12-8-89

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11. Materials and Methods:

Technical pyridate (90% ai) was tested against embryo-larvae of the quahog (Mercenaria mercenaria). The nominal test concentrations in ppb active ingredient were 48, 82, 137, 228, and 380. An untreated and solvent control were also used. There were 3 replicates per test level and the solvent control and 4 replicates in the untreated control.

Test solution was natural seawater filtered through a 5 um porosity polypropylene core filter. Solvent was acetone. Nine hundred ml of test solution were added to 1 L glass beakers. Each test vessel was inoculated with 18,800 embryos within 3 hours of fertilization. Test temperature was maintained at 19-20 degrees Celsius, photoperiod was 16 hours of light per day.

After 48 hours the larvae were collected with a 37 um mesh sieve and preserved with 1 ml of neutralized formalin. The number of normally developed 48-hour larvae was determined from each replicate.

Statistics involved calculating the percent reduction of normal larvae by subtracting the mean number of normal 48-hour embryos from the number of normal embryos in the controls and dividing that by the mean number of normal embryos in the controls. Linear regression was used to calculate the EC50 value and 95 percent confidence limits.

12. Reported Results:

No raw mortality or developmental data were reported by replicate. The summary data are presented.

Concentration (ppb)	Number of normal 48-Hour larvae Mean	SD	Percent reduction
380	3600	400	74
228	4400	800	68
137	5733	1007	58
82	8667	1007	37
48	13467	1804	2
sol. cont.	13333	3946	NA
control	14100	2364	NA
pooled cont.	13771	2855	NA

13. Study Author's Conclusions:

The EC50=145 ppb (95% CL 38-597 ppb). The NOEL was 48 ppb. This indicates that pyridate is highly toxic to the quahog.

14. Reviewer's Discussion:

A. Test Procedure: The test procedure was acceptable, however, several items of information are necessary to complete the review of the study. These are identified in 8. Recommendations.

B. Statistical Analysis: The reported EC50 appears to be consistent with the reported summary data. Independent statistical analysis may be conducted when transcripts of the raw data have been provided.

C. Discussion of Results: The results suggest that pyridate is highly toxic to mollusc with a 48-hour EC50 of 145 ppb.

D. Category of Study: Supplemental.

Additional data are required as identified in 8. Recommendations.

15. Completion of One-Liner: Completed

16. CBI Attachments: N/A