

US EPA ARCHIVE DOCUMENT

DATA EVALUATION RECORD
ALGAE OR DIATOM EC₅₀ TEST
GUIDELINE 122-2 OR 123-2 (TIER I OR II)

1. CHEMICAL: 2-chloro-4,6-bis(isopropylamino)-s-triazine PC
Code No.: 080808

2. TEST MATERIAL: Propazine Purity: 98%

3. CITATION

Authors: D. W. Gledhill; J. B. Bussard
Title: Acute toxicity of propazine to *Anabaena flos-aquae*

Study Completion Date: 5/22/95

Laboratory: ABC Laboratories, Inc.

Sponsor: Griffin Corporation

Laboratory Report ID: ABC Labs #41968-9

DP Barcode: D237791

MRID No.: 442873-12

4. REVIEWED BY: Thomas M. Steeger, Ph.D., Fishery Biologist,
EEB, ERB IV, U.S. EPA

Signature: *Thomas M. Steeger*

Date: 10/2/97

5. APPROVED BY: Nicholas E. Federoff, Wildlife Biologist, EFED,
ERB IV, U.S. EPA

Signature: *N. E. Federoff*

Date: 10/9/97

6. STUDY PARAMETERS

Scientific Name of Test Organism: *Anabaema flos-aquae*

Definitive Test Duration: 120 hours

Type of Concentrations: Mean measured/Nominal

7. CONCLUSIONS: This study is scientifically sound and does fulfill the 123-2 guideline requirements for acute toxicity tests for algae. The 120-hour EC₅₀ was estimated to be 0.18 mg a.i./L. After 120 hours, the no-observed effect concentration was 0.068 mg a.i./L.

Results Synopsis

EC₅₀: 0.18 ppm ai

95% C.I.: 0.16-0.20 ppm ai

NOEL: 0.068 ppm ai

Slope: 3.64

8. ADEQUACY OF THE STUDY

A. Classification: Core

B. Rationale: Methodology was consistent with FIFRA guidelines. Conclusions were verifiable.



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B. **Rationale:** Methodology was consistent with FIFRA guidelines. Conclusions were verifiable.

C. **Repairability:**

9. **GUIDELINE DEVIATIONS**

1.

10. **SUBMISSION PURPOSE:**

11. **MATERIALS AND METHODS**

A. **Test Organisms**

Guideline Criteria	Reported Information
<u>Species</u> <i>Skeletonema costatum</i> <i>Anabaena flos-aquae</i> <i>Selenastrum capricornutum</i> <i>Navicula pelliculosa</i>	<i>Anabaena flos-aquae</i>
<u>Initial Number of Cells</u> 3,000 - 10,000 cells/ml	4.1 x 10 ³ cells/ml
<u>Nutrients</u> Standard formula, e.g. 20XAAP	macro/micronutrient stock solutions

B. **Test System**

Guideline Criteria	Reported Information
<u>Solvent</u>	dimethylformamide (DMF)
<u>Temperature</u> Skeletonema: 20°C Others: 24-25°C	24 ± 2°C
<u>Light Intensity</u> Anabaena: 2.2 K lux (+15%) Others: 4.3 K lux (+15%)	4,310 ± 650 Lux
<u>Photoperiod</u> Skeletonema: 14 h light, 10 h dark or 16 h light, 8 h dark Others: Continuous	Continuous

Guideline Criteria	Reported Information
<u>pH</u> Skeletonema: approx. 8.0 Others: approx. 7.5	Range: 7.5 - 7.8

C. Test Design

Guideline Criteria	Reported Information
<u>Dose range</u> 2X or 3X progression	2X
<u>Doses</u> at least 5	control, solvent control, 0.065, 0.13, 0.25, 0.50, and 1.0 mg/L
<u>Controls</u> negative and/or solvent	Control and solvent control
<u>Replicates per dose</u> 3 or more (4 or more for Navicula)	triplicates
<u>Duration of test</u> 120 hours	120 hours
Daily observations were made?	Yes
<u>Method of Observations</u>	hemacytometer/Olympus Model BH-2 microscope
<u>Maximum Labeled Rate</u>	1.2 lb ai/acre

12. REPORTED RESULTS

Guideline Criteria	Reported Information
Quality assurance and GLP compliance statements were included in the report?	Yes
Initial and 120 h cell densities were measured?	Yes (in control and solvent control)
Control cell count at 120 hr \geq 2X initial count?	Yes (512X)

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Guideline Criteria	Reported Information
Initial chemical concentrations measured? (Optional)	Yes
Raw data included?	Yes

Dose Response

Dose (mg ai/L)	Cell Density (x 10 ⁴ cells/ml)	% Inhibition	120-Hour pH
Control	210	--	7.8
Solvent Control	210	--	7.8
0.068	220	+4.76	7.8
0.13	160	-23.81	7.7
0.26	42	-80.91	7.7
0.52	32	-85.45	7.7
1.0	8.9	-95.95	7.6

Other Significant Results:

Statistical Results

Statistical Method: ANOVA (Proc GLM)/multiple means comparison (Dunnnett's); Proc NLIN used to estimate B and EC₅₀.

EC₅₀: 0.18 ppm 95% C.I.: 0.16 - 0.20 ppm

Slope: 3.64 NOEC: 0.068 ppm

13. Verification of Statistical Results

Statistical Method: TOXANAL

EC₅₀: 0.201 ppm 95% C.I.: 0.101-0.370 ppm

Slope: 3.12 NOEC: 0.068 ppm

Adjusted for active ingredient:

EC₅₀: 0.18 ppm ai 95% C.I.: 0.16 - 0.20 ppm ai

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NOEC: 0.068 ppm ai

14. REVIEWER'S COMMENTS: